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## From the Publisher's Desk

#### Dear Readers,

The August/September issue of *Concrete Decor* traditionally promotes our annual Concrete Decor Show, and many of our advertisers and editorials focus on what you have to look forward to. Built into those messages is the hope that you will set time aside early this fall to join your colleagues and the manufacturing community to learn new things while also sharing your goals and challenges as concrete professionals.

The 2015 Concrete Decor Show takes place in Indianapolis, Indiana, the week of Sept. 28 through Oct. 2, and it's here decorative concrete industry professionals come together to form strategies, gather business tips, learn new technical skills, size up new products and get an insider's view of where the industry is heading. I believe this is critically important to your business' success because, believe it or not, your success greatly contributes to this industry's long-term success.

In Indianapolis this fall, prepare to be wowed by the debut of the brand-new Concrete Decor RoadShow — a custom 4-by-4 truck and 32-foot-long trailer that you've got to see to appreciate. The RoadShow is a contractor's dream rig stocked full of all the best products, tools and equipment for doing virtually any type of decorative concrete work. After the Concrete Decor Show, the RoadShow will hit the highway, providing demonstrations and training for contractors at supply stores and ready-mix plants nationwide. Supported by industry experts, some of whom are trainers at this year's Concrete Decor Show, the RoadShow's goal is to promote decorative concrete as the preferred building solution for all types of building and renovation projects.

The well-received Brawl in the Fall, an artisan competition with lots of prize money and products at stake, returns again to this year's Concrete Decor Show. New to the show's 2015 lineup is the Paint Decor Annex which includes workshops by some of the finest artisans across the U.S. and Europe. If you want to learn new skills or tap into a market that will show you new ways to apply and manipulate colors, you'll love what we have in store for you. Just search for the Paint Decor Annex under Education on the Concrete Decor Show's home page to see the full listing of workshop opportunities.

These are just some of the highlights of what to expect at this year's premier event. Register to participate and you'll discover there is a whole lot more in store for you at this year's Concrete Decor Show.

We can't wait to see you in Indy.



Publisher











**On the cover:** The hardscape around the Melvin and Bren Simon Cancer Center in Indianapolis includes a concrete wall that meanders and straightens along the building's perimeter. Photo by Jhennifer Sanchez; pictured wall by artist Jeff Laramore



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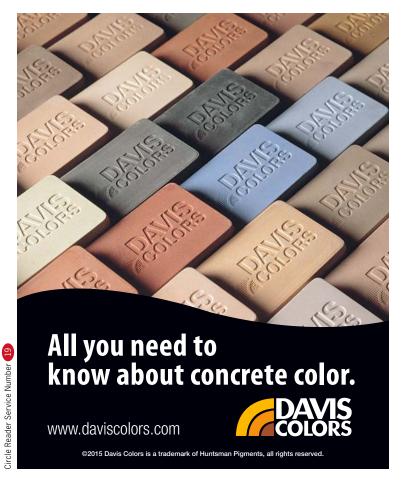
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## concrete DECOR® EXPERTS



**Jennifer A. Faller** has been in the surface preparation and concrete polishing and chemical industries for two decades. She is Diamatic USA's national account director for Ultraflor architectural polished concrete system. Contact her at jennifer.faller@diamaticusa.com. See Jennifer's article on 76.



**Jeffrey Girard** is founder and president of The Concrete Countertop Institute and a pioneer of engineered concrete countertops. He can be reached at info@concretecountertopinstitute.com. See Jeffrey's article on page 66.



Gaye Goodman is an artist who fell in love with acid staining 20 years ago. She and her company, based in the high desert of New Mexico, work on decorative projects across the Southwest. Contact her or see training materials on staining at gayegoodman.com. See Gaye's article on page 84.



**David Stephenson** owns Polished Concrete Consultants, based in Dallas, Texas. As a consultant, he offers decorative concrete programs for retailers and troubleshooting for a wide range of clients. Contact him at david@ polishedconsultants.com. See David's column, "The Polishing Consultant," on page 80.



**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 64.



**Jay Thompson** is a founding partner of And Update My Website LLC, a company that helps other businesses succeed with Internet marketing. His expertise comes from more than 25 years in marketing, advertising and commercial photography. Reach him at jay@ andupdatemywebsite.com. See Jay's article on page 26.



Karen Van Heukelem wears many hats at Denverbased 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 28.



Steve VandeWater, a former decorative concrete contractor, is the creator of the Indiana Decorative Concrete Network website www.indecorativeconcrete. com. He currently manages The Concrete Store at Sagamore Ready Mix in Fishers, Indiana. See Steve's article on page 72.

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#### Decorative surface group addresses efficiency and quality standards

Several long-time industry veterans in both the flooring industry and the polished concrete industry have launched the Decorative Surface Solutions Group with the intent to connect the industry's best suppliers with premier contractors across several channels. DSSG serves the hard surfaces market, which includes pourable overlays, epoxies, polished concrete, resins and terrazzo. Though many of these technologies have been around for years,

their use in the flooring industry is still relatively young.

These high-growth categories are gaining market shares daily and the DSSG will help bring some needed consistency in product placement standards and maturity to the marketing of these solutions to a much larger client base. The company also will help suppliers efficiently reach what is a fairly fragmented market.

Based in California, the DSSG team has been actively involved in developing and revolutionizing the concrete polishing industry over the last 20 years. Major players are already lining up to participate in the program as they have long seen a need to help this part of the industry take the next step.

If you would like more information about DSSG, you can contact Curt Thompson, president and CEO, at ct@ dssgteam.com.

**(**925) 964-6377

www.dssgteam.com

## **TRANSITIONS**

Cemen Tech has hired Connor Deering as president and CEO. Mark Rinehart has been named director of sales and marketing. Deering was most recently vice president of sales and marketing of Apache Inc., a Cedar Rapids, Iowabased belt and hose manufacturing firm. Rinehart was most recently director of technology for Ziegler Caterpillar.

L. M. Scofield Co. has appointed William B. Dubé as regional manager of sales and service, responsible for Southern California and Arizona in addition to duties throughout the Western region. Dubé previously served as vice president of sales for Ramco Recycled Aggregates Materials Co., vice president of ready mix products for Elementis, vice president and national sales manager of Solomon Colors and sales manager for CL Pharris Ready Mix.

Stephen J. Rissi with L. M. Scofield Co. has transitioned to the leadership position of division manager of sales and service. In his new role, Rissi manages sales and service, business development and thought leadership for Scofield in the Mid-Atlantic and Southeast regions.

Atlas Copco appointed Matt Cadnum as vice president of sales for its rental channel. Cadnum was formerly Atlas Copco Construction Equipment's aftermarket vice president.

Faisal Saleem has been promoted to vice president of the Laticrete International Division. Saleem now oversees international sales, strategic planning and business development, marketing and the company's international research and development services program.

**Tim Hobbs** has been appointed Penetron Specialty Products' sales representative for the Carolinas. An experienced construction industry sales expert, he will help spearhead PSP's ongoing expansion into the Southeast.

Several personnel updates took place at Husqvarna. Larry Anthony joined as district manager for distribution sales in Alabama, Mississippi and the Florida Panhandle. Matthew Higgins joined Husqvarna as the district manager for distribution sales in Arizona. Jonathan Papp became the company's district manager for distribution sales in central and northern Florida. Matt Younginer was recently promoted to national account manager - heavy user sales. **Tom Luburic** accepted the position of district manager for heavy user sales in Georgia and South Carolina. **Christophe Delavoye** joined as the new district manager for heavy user sales serving Northern California (Visalia to the Oregon border) and North Nevada (Reno). Kevin Galbreath began his new position in distribution sales as district sales manager serving New York.

Robert J. Risser, who has more than 20 years of executive association management experience, has been named president of the Precast/Prestressed Concrete Institute. Prior to joining PCI, he was president and CEO of the Concrete Reinforcing Steel Institute in Schaumburg, Illinois.

L. M. Scofield Co. recently welcomed William L. Collester to its Orlandobased sales team as sales and service representative for Florida and the Caribbean. Collester has 23 years of experience in the construction industry, most recently as the Southeast regional contractor manager for Ariens Co.

**Raymond Hicks** — who has spent the last seven years in various leadership positions at Koster American, including two years as vice president of sales — was recently appointed company president. Technical Director Howard Kanare was appointed vice president and Jenilee Lucero was named assistant to the president/marketing director. In addition, Koster American welcomes its newest member to the technical department, Matthew Sorensen, a civil engineer who is educated in concrete materials chemistry. He has extensive experience in targeting optimal solutions for the installation and repairs of saunas and pools.

#### Super-Krete revamps website

Super-Krete recently updated and redesigned its website, www.super-krete. com, to give it a fresh, mobile-friendly look and to make it more user-friendly to navigate. Site visitors now can easily browse for the latest information about Super-Krete products and systems, learn about upcoming events, get inspired with an all-new photo gallery, register for training classes and easily click to take Super-Krete's AIA CEU course.

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#### **Europe's first solar concrete wall** debuts at Reckli's headquarters

Europe's first solar-active concrete wall, the result of a joint development project of Reckli and Heliatek, was inaugurated at Reckli's headquarters in Herne, Germany. The facade, designed by Reckli to fit the solar HeliaFilm from Heliatek, represents a novel approach to Building Integrated Organic Photovoltaic (BIOPV).

Reckli, a world leader in the design and manufacture of elastomeric form liners. and Heliatek are demonstrating the next step toward a sustainable, net-zero energy building. With an installed power of 1kWp, the southwest-oriented wall will supply around 500 kWh of electricity per year. The energy produced will be used directly by Reckli.

Reckli and Heliatek have been working together for three years on smart facade solutions, which combine various concrete structures and HeliaFilm. By using different colors, concrete facades can be aesthetically enhanced and simultaneously supply energy to meet urban power requirements. Europe's BIOPV is able to make an important contribution to urban power needs by significantly improving the carbon footprint in large cities. One major advantage of using HeliaFilm is that it doesn't need ventilation or cooling systems to operate effectively.

Reckli and Heliatek have additional pilot projects in the pipeline for 2016. Market entry is planned for the second half of 2017.

Heliatek was spun off in 2006 from the Technical University of Dresden and the University of Ulm. The company, a leader in the field of organic electronics energy, holds the world record efficiency of 12 percent. Through both its leading-edge material development and its proven capability for

volume manufacturing, Heliatek is the first company to begin commercialization of large-area OPV solar film. Its business model is to supply the custom-designed HeliaFilm to partners in industries such as building and construction materials, automotive and light architectural structures.

Heliatek maintains a staff of around 75 specialists at its facilities in Dresden and Ulm, Germany. Investors in Heliatek include leading industrial and financial companies such as BASF, Bosch, Innogy Venture

Capital, Wellington Partners, eCapital and Aqton SE. Research and development work, as well as the installation of production technology, has been funded by the free state of Saxony, the Federal Republic of Germany and the European Union.

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#### California honors Surtec as Small Business of the Year

Surtec Inc. was one of about 80 small businesses in California that were honored June 10 at the California Small Business Day event in Sacramento. Twenty-five small business organizations and chambers joined state and local legislatures to sponsor the "Salute Small Business" event where California legislators recognized a small business from their district. Statewide there are about 3.3 million small businesses.

Founded in January 1975, Surtec develops and produces highquality chemicals, equipment and programs for the cleaning and maintenance industry. Since the early 1980s it has been recognized as an industry leader in the area of "green" cleaning products and complete maintenance programs. The company has also developed and patented green maintenance equipment with vacuum systems that improve indoor air quality and save labor dollars.

In the spirit of giving back to the community, Surtec's president, Bill Fields, founded the nonprofit Surtec Adopt-A-Family Program Inc. in 1991. The mission is to provide a happier Christmas to children of needy families in the Tri-Valley, Central Valley and Bay areas. All funds and goods go directly to the needy families. On the Saturday before Christmas, volunteers deliver wrapped gifts for the children, along with extra-large food boxes.

To date 6,191 families and 17,615 children have been recipients of the program. This year the number of families benefitting from the program will increase to 400.

**(209) 820-3700** 

www.surtecsystem.com





## The Ins and Outs of CSDA's ST-115 Standard

by Vanessa Salvia

N Monday, May 4, I joined a dozen or so contractors from all over the country as they attended a Concrete Polishing and Drilling course to become certified in ST-115. The course was led by Chris Swanson, owner of Colour in Placerville, California.

Over nearly five hours, Swanson made sure that everyone understood what ST-115 was, what it meant, what possible objections people might hear about it and how to respond to those objections. His knowledgeable and friendly attitude allowed everyone to get their questions answered — including the people who, like me, were there only for education — as well as the installers who needed to be deeply familiar with these processes.

ST-115 was implemented in October 2013 and involves the practice of using a profile meter to measure the surface texture value of concrete surfaces. This is important because it allows a level playing field among bidders on a project. Swanson gave several anecdotes of contractors that were underbid by outfits that promised to deliver a certain finish at much less than the actual costs. Poor specifications are often a cause of this, and ST-115 gives contractors and architects a tool to be in total agreement about what kind of finish is desired and possible.

Swanson covered some of the technical difficulties with the standard, such as the fact that a contractor can achieve a desired finish, but can't get the meter numbers to prove it because of flaws in the concrete. Again, the language of this standard and Swanson's experienced advice gave contractors the vocabulary and knowledge to respond to these types of situations.

Taking the recommended number of readings — eight readings per roughly 1-foot-square area every 500 feet — and averaging them provides the contractor with what is known as "statistical confidence" that their work meets the desired and specified finish. It also gives contractors the job confidence to proceed knowing the data will back up their skilled work.

#### **Acme Tools expanding headquarters**

Acme Tools, a leading authorized online retailer of tools and equipment, is expanding its corporate headquarters in Grand Forks, North Dakota. The project includes a newly constructed addition that will feature a new entrance, executive offices, boardroom, a large employee training room and a new employee lunch room.

In addition to remodeling the current offices, new offices, conference rooms and open work areas will be added. The expansion will increase the size of the corporate headquarters building to 15,000 square feet.

The new 35-person training room, specifically designed to provide a unique learning environment for employees, integrates advanced training technology. The project also repurposes previous warehouse space to create new parking spaces and new green space.

Construction began late last year and is scheduled to be completed in early September. The new corporate headquarters building is collocated with an Acme Tools store and Acme Rents.

Founded in Grand Forks in 1948, Acme Tools has more than 65 years of industry experience. Today, it's a major tool distributor and premier retailer of tools and equipment with 10 retail stores in North Dakota, Minnesota and Iowa, and a leading authorized online retailer offering more than 26,000 products online.

(\$) (877) 345-2263

www.acmetools.com

#### **Quikrete celebrates 75th anniversary**

On May 22 The Quikrete Cos., a leading manufacturer of packaged cement and concrete products, turned 75. Widely recognized for establishing the premixed packaged concrete category in the marketplace, Quikrete helped shape the building and do-it-yourself home improvement industries with thoughtful product innovations, extraordinary customer service and a dedicated staff of associates.

Quikrete offers professional-grade and consumer products including concrete mixes, mortar mixes, cements, concrete repair products, stuccos, waterproofing products, tile-setting systems, hardscapes, blacktop products, floor underlayments, sand and aggregates. Today, the Quikrete family of companies also features leaders from related industries including Pavestone, Custom Building Products, Spec Mix,

Target Technologies, Daubois and QPR, which provides customers with a single source for product and service support.

Collectively, Quikrete manufactures and distributes products from nearly 150 facilities in the U.S., Canada, Puerto Rico, Panama and Peru.

In addition to introducing the iconic vellow bag of premixed packaged concrete, Quikrete is credited with a number of other industry firsts including Vinyl Concrete Patcher, Quikwall Surface Bonding Cement, Fast-Setting Concrete, Concrete Resurfacer

and Green Concrete. Quikrete also proudly boasts a portfolio of high-profile, landmark building and restoration projects including the Statue of Liberty, Frank Lloyd Wright House, National Museum of the American Indian, the U.S. Capitol, George W. Bush Presidential Center, San Francisco Bay Bridge and Alcatraz Island.

**(**0 (800) 282-5828

www.quikrete.com



#### Western Waterproofing Co. rebrands as **Western Specialty Contractors**

Owned and operated by third-generation family members, Western Waterproofing Co. celebrated its 100th anniversary May 16, 2015. To mark the occasion, it unveiled its new name, logo and tagline.

Today, the Western Construction Group — with more than 30 branches and member companies that had been doing business under their original names of Western Waterproofing Co., Brisk Waterproofing, Peoria Roofing, Western Facades and Harry S. Peterson Co. — will be known as Western Specialty Contractors - Confidence Through Performance.

Western's new logo is an evolution of the former logo, keeping the Western name and a refreshed water drop icon with an updated blue color. The company was founded in 1915 in Chicago with the invention of a cost-saving product called Ironite, developed to waterproof concrete foundations from the inside. The customary process for waterproofing basements and foundations at the time was expensive and time-consuming, requiring that the

walls around the foundation be dug out, a membrane applied and fill-dirt put back in. Ironite was simply applied to the inside of the basement walls with a brush.

In 2014, Western achieved a .55 Experience Modification Rating and an OSHA total recordable rate of 2.73 — both safety ratings are well below industry averages and extremely difficult to attain. Western has worked on numerous landmark buildings in its 100-year history, including New York's Chrysler Building, California's Rose Bowl Stadium in Pasadena, Disney's Epcot Center in Florida and the National Gallery of Art in Washington, D.C. Western is headquartered in St. Louis, Missouri, with branch offices nationwide.

www.westernspecialtycontractors.com

#### Mapei sponsors USA Pavilion at Expo Milano 2015

The Mapei Group, parent company of Mapei SpA and the U.S. subsidiary Mapei Corp., has become a sponsor of the USA Pavilion at Expo Milano 2015.

Designed by American architect James Biber, the environmentally sustainable

USA Pavilion is a multifloor structure characterized by open spaces evoking the lines of the traditional American barn. The pavilion guides visitors through a series of spaces, paths and exhibitions developed to entertain and inform. Each element of the pavilion tells tales and stories about innovation, technology, variety and ingenious Americans to communicate the dramatic story of American agriculture.

Founded in Milan in 1937, Mapei produces adhesives and complementary products for installing floors and walls of all kinds. It also specializes in such chemical products for the construction industry as waterproofing products, special mortars and admixtures for concrete, and products to restore historic buildings. Currently, Mapei operations include 69 subsidiaries with 65 production facilities in operation in 31 countries on five continents. Mapei generated revenues of 2.3 billion euros in 2014, and it employs more than 7,500 people globally.

www.mapei.com



#### Wooster Brush revitalizes website

The Wooster Brush Co. has redesigned and launched its corporate website, www.woosterbrush.com. The renewed site uses the company's 164 years of industry experience to help painters of all skill levels.

The online catalog, which has always been a focal point of the website, was overhauled the most. Now the brush section's full product lines are easily explored on one screen. New sortability allows visitors to narrow the field of brushes with as few as three mouse clicks. Corresponding literature and video content are now included throughout the catalog for maximum visibility and better product education.

Similar features to those mentioned above also bring value to the revised roller and paint equipment sections. Several additional new site features include an adviser for selecting the correct paintbrushes and roller covers, a retailer locator and an enhanced search feature offering predictive results.

Established in 1851, The Wooster Brush Co. is the oldest independent manufacturer of paint applicators in the country. Based in Wooster, Ohio, the privately held company with 545 employees produces more than 2,000 products for both professional and DIY painters.

www.woosterbrush.com

#### Formulators receives patent for moisture mitigation system

Formulators has been issued patent protection for its waterproof adhesive technology marketed as the Aquaflex moisture mitigation system.

The patent covers an adhesive mixture suited for flooring installations over concrete with a combination of unlimited moisture and pH. Additionally, Aquaflex installations become waterproof to topside moisture intrusion from sources like maintenance water, leaking pipes and standing water. Aquaflex has also been proven effective for installations over concrete backfill less than 10 days old.

Formulators works through its nationwide network of commercial contractors, independent sales representatives and Aquaflextrained technicians. Aquaflex is now specified by several major national retailers and hospital networks in part because it has been independently certified and contributes LEED points.

The patented adhesive has several formulation variants for different flooring types including VCT, rubber, carpet, tile, luxury vinyl tile and plank, sheet vinyl, ESD tile, quarry tile and even artificial turf. Aquaflex is sold by the square foot as a complete moisture mitigation system that includes proprietary waterproof cementitious self-leveling, concrete prep and crack repair products, application trowels and a specialty formulated adhesive remover for clean-up.

Formulators, based in Southern California, was founded in 2000 as a research/development/manufacturer focusing on niche products to address failures in conventional solutions. Formulators produces Aquaflex, a specialty building products line of flooring installation and repair products centered on its patented waterproof adhesive technology.

**(**0 (800) 359-3201

www.formulators.com





#### Penetron opens Belarus production facility

Penetron Belarus, a joint venture of The Penetron Group, recently opened a new production facility in Gomel, Belarus. The site is now ramping up production of the full line of Penetron crystalline waterproofing products for concrete.

Founded in 2014, Penetron-Bel is headquartered in Gomel. The company is outfitting the new production facility to meet rising demand in the region.

As part of Penetron's efforts to stay ahead of global demand for its products, the new Gomel plant will manufacture the full range of Penetron cementitious capillary waterproofing products. The first products are set to roll off the production line in Gomel by mid-summer 2015. Output will be used initially to meet domestic needs in Belarus. The next phase will include exports to Ukraine and the nearby Baltic countries of Lithuania, Latvia and Estonia.

The Belarussian production line in Gomel is almost identical to the Penetron facility in Kazakhstan. This greatly simplifies the ramp-up to full production and helps ensure the manufactured products meet the same strict quality parameters.

The Penetron Group is a leading manufacturer of specialty construction products for concrete waterproofing, concrete repairs and floor preparation systems. The group operates through a global network, offering support to the design and construction community through its regional offices, representatives and distribution channels.

**(**631) 941-9700

www.penetron.com

#### Need replacement parts for your original SP Systems sprayer??

As the exclusive U.S and Canadian distributor of SWISSMEX hand held and backpack sprayers, RL Flo-Master stocks a complete assortment of replacement parts for SP Systems sprayers as well as Swissmex sprayers. For more product information, please contact our sales department at tbarry@rlflomaster.com or dlongfield@rlflomaster.com



Flo•Master



Root-Lowell Manufacturing Co. 1-800-748-0098 email: service@rlflomaster.com

## **EVENT** CALENDAR

#### Concrete Sawing & Drilling Association Fall Board and Committee Meetings

Sept. 10, Denver, Colorado

👣 www.csda.org

#### American Coatings Association Industry Suppliers Fall Committee Meeting

Sept. 15-16, Washington, D.C.

www.paint.org

#### **National Ready Mixed Concrete** Association's ConcreteWorks & Board of Directors' Meeting

Sept. 20-22, San Antonio, Texas

www.nrmca.org

#### Louisiana Civil Engineering Conference & Show

Sept. 23-24, Kenner, Louisiana

💲 www.louisianacivilengineeringconference.org

#### American Society of Concrete Contractors Annual Conference

Sept. 24, Dallas, Texas

www.ascconline.org



#### Concrete Decor Show & Paint Decor Annex

Sept. 28-Oct. 2, Indianapolis, Indiana

👣 www.concretedecorshow.com

#### Tilt-Up Concrete Association Convention

Sept. 29-Oct. 1, New Brunswick, New Jersey

www.tilt-up.org

#### American Concrete Institute, Virginia Chapter Concrete Conference

Oct. 7, Williamsburg, Virginia

👣 www.concrete.org

#### Eiffel Trading Co. launches redesigned online marketplace

Eiffel Trading Co., a centralized site for buying and selling used heavy equipment and construction materials, has unveiled its revamped online marketplace. The new site allows contractors nationwide to list their heavy civil, marine and oilfield used equipment and materials free of charge and nonexclusively.

Co-founder Andrew Norman developed Eiffel Trading Co. to counter the limited options available to contractors who wanted to buy or sell used equipment and materials. The online marketplace update allows contractors to easily search by location, price and equipment or material type.

Norman and his partners realized how difficult it was for contractors to find buyers for their highly specialized used or surplus materials upon completion of a project, leading many to send materials like steel beams and piling to the scrap yard. Also, contractors in the heavy civil, marine and oilfield industries were limited to selling their used equipment for pennies on the dollar at auction.

Knowing there had to be a better way

for buyers and sellers of used construction equipment and materials to connect, Norman and his partners devised a hightech solution to the distinctly low-tech problem: a centralized, one-stop online marketplace where contractors could easily buy and sell for fair prices.

An Eiffel Trading representative facilitates every transaction, making it simple and hassle-free to sell even large lots of materials or highly specialized equipment. Brokers also are welcome to list, and all listing rights remain with the equipment owner or broker. Should a listed product be sold elsewhere, there is no fee or commission due to Eiffel Trading.

www.eiffeltradingcompany.com

#### Atlas Copco adds two new dealers

Clairemont Equipment of San Diego, and Scott Equipment of Fontana, California, now carry Atlas Copco road construction equipment. Clairemont Equipment offers pavers and asphalt and soil rollers at three of its locations: Escondido, Imperial and San Diego. Scott Equipment offers the product line at its one location in Fontana.

Throughout Southern California, Clairemont Equipment sells, rents and services new and used equipment, serving customers in the agriculture, construction, landscape, rental and road building industries. Since 1970, it has supplied a diverse selection of equipment from heavy machinery and compaction to paving machines and garden equipment.

Scott Equipment is a 43-year-old, familyoperated company that sells and services a wide range of new and used equipment, as well as equipment parts, to customers in the agriculture, construction, maintenance and recycling industries.

www.atlascopco.us/usus

www.clairemontequipment.com

👣 www.scottequip.com

#### Correction

Due to a staff error in the July issue of Concrete Decor, photos of a winetasting table and a fireplace mistakenly ran with the Final Pour feature on Keefe Duhon. Duhon's friend and teacher, Troy Lemon of Cornerstone Decorative Concrete, crafted the pieces. We apologize for the mix-up.



#### Hairline Crack Sealer joins Thermal-Chem lineup

Hairline Crack Sealer is the newest addition to Thermal-Chem's concrete repair and restoration line. It is a two-component, very low viscosity epoxy resin system that deeply penetrates and bonds cracks in concrete structures.



The new product is designed for filling hairline cracks up to as small

as 0.002 of an inch in structural concrete slabs, parking decks, bridge decks, runways and industrial and commercial floors. This unique, non-shrinking system penetrates into the smallest fissures, structurally bonding the concrete into a monolithic unit. It stops moisture and chemical penetration through the crack, providing a waterproof seal that protects concrete-reinforcing steel from further corrosion. This gravity-fed material is easily applied on dry or moist surfaces by conventional tools such as squeegees or rollers.

Thermal-Chem has been a proven leader in advanced polymer technology since 1976, with some of the most sophisticated and innovative floor protection products on the market today.

**(**800) 635-3773

www.thermalchem.com

#### New Equotip 550 Leeb U perfect for roll hardness testing

The Equotip 550 Leeb U from Gardco, the direct successor of the Parotester, enables users to quickly and precisely diagnose roll imperfections, hardness inconsistencies and uneven winding, thereby preventing problems for printing and converting operations.

Portable, lightweight and durable, the Equotip 550 Leeb U is perfect for roll hardness testing in warehouses or on production floors, providing an immediate visual assessment of the hardness profile.



The new generation Equotip Touchscreen Unit offers an elaborate interface

designed by industry experts for increased efficiency. The enhanced software provides an interactive wizard, automatic verification processes, personalization options and custom report functions.

Compatible with existing Parotester impact devices, the unit has a full-color display to better obtain measurements and analyze the collected data. The specially designed housing optimizes the on-site usage of the device in harsh environments. Battery lifetime lasts more than eight hours. The unit boasts 8GB flash memory (more than 1,000,000 measurements).

**(800)** 762-2478

www.gardco.com



## JNLEASH VIBRANCE

Aggretex® is the innovator in embedded aggregate material for concrete surfaces. Aggretex® offers a line of concrete additives that are cementitious slurry matrix compositions, to which decorative aggregates are added to provide beautiful, cost effective, easy-to-place decorative surfaces. Our experienced team of concrete specialists skillfully blend sophisticated combinations of chemical admixtures, fibers, supplementary cements, aggregates and vibrant pigments to support our customer's design innovations. The possibilities are limitless—UNLEASH VIBRANCE.







TO LEARN MORE CALL 800.350.6021 OR VISIT AGGRETEX.COM



#### Solo Inc. offers intelligent lubrication saw system

Solo Inc., a worldwide leader and innovator in the production of backpack, hand-held and one-hand compression sprayers, offers saws with the patented iLube engine. The company's innovative saws are effective for cutting materials such as concrete, steel, asphalt, castings or stone.



Most gasoline-

powered equipment runs on a 50:1 mixture of gasoline and twocycle engine oil. Users must know the proper way of mixing the fuel in order to keep the equipment running effectively. Improper mixing can damage the engine, causing expensive repairs.

With the 881 Cut-off Saw series, Solo Inc. introduced its patented iLube engine. iLube, which stands for "intelligent lubrication," eliminates the need for premixed gasoline. Solo Inc.'s 880 Cut-off Saws offer all the same features as the 881, but with traditional oil/ gas mixing. Both lines are available in 12-inch (300 mm) and 14-inch (350 mm) models, powered by an 81cc Solo German-designed and German-manufactured two-stroke high-performance engine.

From a separate oil tank with a volume capacity of 10.8 ounces (0.32 liters), an electronically controlled pump adds the correct quantity of two-stroke oil, metered to suit the engine speed, to the fuel. There is no need to premix fuel and oil. If there is insufficient oil in the tank, the engine automatically switches to a fault mode that reduces the engine speed to just above idling. This will also prompt a change in the engine sound compared with normal operation. This is the signal to replenish the oil tank. Instead of having to use expensive, premixed two-stroke fuel, users simply use standard fuel and oil.

A demo of the Solo Cut-off Saws is available here at http://bit. lv/1G9rbKh.

**(757) 245-4228** 

www.solousa.com

#### New tool/laptop backpack designed for tradesmen

Veto Pro Pac's new Tech Pac LT is the ultimate laptop backpack tool bag designed specifically for professional tradesmen who need tools and technology storage on the go.

The Tech Pac is designed to enable tradesmen to safely and comfortably carry tools, a laptop and/or tablet and other business accessories when servicing equipment accessible by extension or cage ladders, where walking long distances is required and where going up and down stairs and/or ladders frequently is part of the job.

The LT features a center panel, heavy-duty construction and a stabilizing, injection-molded waterproof base that allows technicians to protect, organize and access their tools quickly. It has 27 pockets inside and out.

**(**0 (877) 847-1443

www.vetopropac.com



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#### New portable air compressor features small footprint

Atlas Copco's portable XAS 90 air compressor is a cost-effective option for utility and pneumatic-tool applications demanding as much as 88 cubic feet per minute of air power.

The company's HardHat canopy, made of highly durable, weatherresistant polyethylene, protects the compressor's 24-horsepower Kubota diesel engine from dust and debris. The canopy also resists corrosion and fading, virtually eliminating the need to repaint.

A two-stage air intake filter with service indicator also prevents dust and dirt from flowing into the engine and, ultimately, the compressor. A service indicator alerts the operator when the filter needs changing.

The engine meets Tier 4 Final emission standards without requiring any exhaust after-

treatment components or filters. The compressor optimizes fuel consumption with its automatic regulator that continuously adjusts the engine's speed to accommodate air demand. The compressor's spillage-free frame contains all of the unit's fluids if a leak occurs, eliminating the risk of accidentally contaminating jobsites.

Operators can easily maneuver the XAS 90 through narrow, cramped workspaces thanks to its small footprint. The compressor requires less than 40 square feet of working space, giving operators more space to move around while using pneumatic tools. Its small footprint also makes storage easier.

The 1,165-pound compressor is mounted to a single-axle trailer for maximum portability and can even be towed by small automobiles. The trailer axle can be removed to accommodate a support frame that can be mounted to a truck bed, trailer or any other platform, making the compressor ideal for utility and smallscale sandblasting applications.

The XAS 90's controls are grouped on a single panel to provide quick, hassle-free operation. Atlas Copco uses similar controls on all of its compressors, which makes it easy for operators to switch between models. A durable cover protects the controls against harsh worksite conditions and weather.

Atlas Copco also offers a wide range of optional features for the compressor, including wheel chocks, a loose ball coupling and an Occupational Safety and Health Administration-rated valve that automatically shuts off the air flow if a surge occurs. This prevents a loose hose from whipping and minimizes the risk of injuries.

www.atlascopco.us/usus

#### Cantilever forming system offers cost-efficient solution

The Brackit Form System by Mortex Manufacturing Co. Inc. is a new cantilever forming system for pools, concrete walls and countertops that are free from the constraints of current form options. Since 1962, Mortex has pioneered disposable cantilever forming and claims Brackit Forms are simpler to apply and remove than any of its predecessors. The forms come in five popular profile shapes, with stone and embedded lighting options available.



**(800) 338-3225** 

www.brackitform.com

#### Bend test instrument made to assess coating resistance

New from Gardco, the Cylindrical Bend Test instrument indicates the elasticity, elongation and adhesion of a paint film at bending stress. The tool is designed to perform tests according to the latest ISO 1519 standards for "assessing the resistance of a coating, paint, varnish or related products to cracking and/or detachment from a surface when subjected to bending around a cylindrical mandrel under standard conditions."

The instrument is made of anodized aluminum and stainless steel, and features an ergonomic clamping device for test panels, a large knob on the bending arm for smooth and easy bending and a desk-top mandrel holder which can also be mounted to the wall for convenience. The instrument will bend test panels up to 150-by-100 mm.

SP1820 includes the Cylindrical Bend Test 100 mm, a desktop mandrel holder with a set of 14 mandrels of diameters 2, 3, 4, 5, 6, 8, 10, 12, 13, 16, 19, 20, 25 and 32 mm.

SP1822 includes the Cylindrical Bend Test 100 mm, a desk-top mandrel holder with a set of seven mandrels with diameters of 1/8, 1/4, 3/8, 1/2, 5/8, 3/4 and 1 inch.

The SP1820 complies to ISO 1519. Look up the appropriate standard for a correct execution of the test. Also refer to ISO 1512-ISO 1514-ISO 2808-ISO 3270. SP1822 complies to ASTM D522.

**(**054) 946-9454

👣 www.gardco.com

#### **Custom mortar product renamed**

Marble, Granite and Travertine Mortar from Custom has been renamed Natural Stone and Large Tile Mortar. This premium product is part of Custom's comprehensive family of modified dryset mortars for large and heavy tile.

The product renaming comes in response to the industry trend toward larger-size field tiles. While Natural Stone and Large Tile Mortar was first conceived to specifically address the unique installation challenges of natural stone, the new name more clearly communicates its capabilities to successfully hold and support a wider variety of tile products on vertical and horizontal surfaces.

This premium mortar is engineered to support the weight of large and heavy ceramic or porcelain tile measuring 15 inches or greater on one or more sides, as well as all inherently heavier natural stone tiles. It can also be used with clay pavers and other thin or medium bed applications. Custom's Natural Stone and Large Tile Mortar is available in white or gray.

Custom also offers MegaLite Crack Prevention Mortar with lightweight performance and crack isolation, ProLite Rapid Setting Tile & Stone Mortar, Complete Contact-LFT Rapid Setting Mortar, FlexBond LFT Crack Prevention Medium Bed Mortar and VersaBond LFT Fortified Medium Bed Mortar.

**(800) 282-5828** 

www.custombuildingproducts.com

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The Scan Combiflex 650 features a 26-inch grinding path, so it can easily handle large commercial jobs, while the 330 is your go-to unit for edge grinding. The shroud rotates in seconds, so you can switch easily between left- or right-side edgework.

#### **SCANMASKIN ADVANTAGES**

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- « Perfect for edge grinding right up next to a vertical surface
- « 13-inch grinding path
- « Productivity rates of 270-430 square feet per hour
- « 230V, single-phase
- « 600 RPM
- « Direct gear reduction system; holds 9 tools
- « Weighs 143 lbs

#### **SCAN COMBIFLEX 650**

- « Ideal for grinding on big jobs with large open areas
- « 26-inch grinding path
- « Productivity rates of 650-970 square feet per hour
- « 230V, single-phase
- « 300-950 RPM
- « 3-head planetary drive system; holds 18 tools
- « Weighs 705 lbs

## Scanmaskin machines are built to WORK, not to be worked on.

Find out what else sets Scanmaskin machines apart at www.jondon.com/scanmaskin.

#### Waysay Tile introduces two new brands

More than six decades after one of the nation's leading manufacturers of concrete, terrazzo and metal architectural products was founded in a two-car garage, it's time for a fresh start. Industry giant Wausau Tile is rebranding itself to chart a clear course to better serve architects, landscape architects and building professionals of all stripes.

Wausau Tile will no longer be a marketfacing brand name, making way for its two new architectural products brands, Tectura Designs and Wausau Made. Each brand has a distinct look and unique product portfolio for serving distinct audiences within the architecture and construction industries.

Tectura Designs offers a diverse selection of premier architectural products, including site furnishings, concrete pavers, custom precast concrete, custom precast terrazzo and terrazzo tile. The introduction includes the launch of a brand-new Collaboration Series, which includes exclusive site furnishings designed by architects.

Wausau Made offers affordable, durable and low-maintenance concrete, metal

and plastic site furnishings including benches, chairs, tables, bollards, planters, waste and recycling containers, and other furnishings for projects that demand added perimeter security.

Products for both brands will continue to be made by skilled American craftsmen at the 480,000-square-foot facility in central Wisconsin. Tectura Designs and Wausau Made also offer environmentally friendly products, including composites made with recycled porcelain and glass.

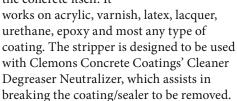
- **(**0 (800) 388-8728
- www.wausautile.com
- www.tecturadesigns.com
- www.wausaumade.com

#### Clemons stripper container now green in an environmentally friendly way

Although the new 5-gallon container for Clemons Concrete Coatings' Super Sealer Stripper will no longer be green in

color, it is "green" in the environmentally friendly sense because it's made with recyclable materials.

Super Sealer Stripper is designed to quickly remove any type of coating from concrete surfaces without harming the concrete itself. It



SUPER SEALER STRIPPER

- **(**015) 872-9099
- www.ccc-usa.com

#### New concrete curing compound doesn't require UV exposure to work

A new dissipating resin cure for freshly placed concrete, EZ Strip Cure DR from ChemMasters is a water-based, low-VOC, low-odor compound that cures concrete to ASTM C309 and AASHTO M 148 standards. Unlike other dissipating cure products, it does not require UV exposure, making it ideal for indoor and outdoor use. It is easily removed with light mechanical or hand abrasion after curing is complete. Outdoors, it can be removed with a lowpressure water spray.

The compound is applied with standard spraying equipment. Because it will not clog or load diamond-polishing tools, it doesn't



#### Why is Diamabrush™ a revolution in floor restoration technology? Versatility.

The Diamabrush™ By Malish Floor Restoration System is ideal for professional floor resurfacing, as it does not require the use of heavy equipment or harmful chemicals. Designed to be used on standard floor machines or auto-scrubbers, The Diamabrush™ By Malish Floor Restoration System makes rejuvenating your concrete surfaces fast and easy.



need to be removed from substrates that are going to be diamond polished.

EZ Strip Cure DR dissipates quickly and can be removed early on with a low rpm floor buffer, walk-behind or riding floor cleaner with stiff bristle



pads, 100-grit sandpaper or 100-grit abrasive screen, or stiff bristle hand-held brushes. Its easy removal makes it an ideal choice for surfaces that will receive subsequent treatments with dustproofers, liquid hardeners and densifiers, penetrating water repellent, polymer coatings or other floor coverings.

ChemMasters Inc. is a 59-year-old manufacturer of specialty concrete chemicals used to improve, repair and protect concrete and masonry. The company is a leader in the formulation and manufacturing of low-VOC solvent-based products for use in the states that require them.

**(800)** 486-7866

www.chemmasters.net

#### A-Frame cement tile design perfect for random patterns

A-Frame from Tesselle are new 8-inch hexagonal cement tiles

that feature a geometric pattern of dark lines on a gray background. The surface pattern can be randomized by rotating rhombi, tilting trapezoids, distributing diamonds, positioning parallelograms and tossing triangles.



The tiles can be installed indoors and outdoors in temperate climates on floors, walls and countertops. A-Frame is a

copyrighted design, available exclusively from Tesselle. Durable and eco-friendly, they are available in any color combination in Tesselle's palette of 50 colors and are custom-made to order.

**(**051) 781-3000

www.tesselle.com/a-frame-cement-tiles

#### Large capacity XL Cart minimizes number of trips

When it's time for a cart on the jobsite, the adage "bigger is better" still applies. The Bosch XL Cart sports a large cargo platform that minimizes the number of jobsite trips, an asset in any work environment. Large boxes and odd-size materials can be moved from work trucks and small vehicles in one trip with two-wheel

This lightweight cart folds into a flat profile for easy storage and portability, allowing the cart to be used anywhere for loading and unloading.

Rugged tubular steel construction ensures the cart can withstand large loads, heavy use and heavy capacity. Handles move out of the way for stowing, but are large enough to offer better maneuverability when in use. Additionally, handles can be moved into flat profile for transport and storage.

In the U.S., Canada and Mexico, the Bosch Group manufactures and markets automotive original equipment and aftermarket products, industrial drives and control technology, power tools, security and communication systems and a variety of technology and software solutions.

**(**0 (877) 267-2499

www.boschtools.com

#### Engrave-A-Crete Introduces ReCharger Sprayers

**R**ECHARGER sprayers are Engrave-A-Crete's latest addition to their product line designed for coloring cementitious surfaces. The environmentally friendly sprayers are available in 24 oz., 16 oz. and 8 oz. sizes and are quickly and easily recharged using compressed air.

The complete portability of ReCharger sprayers makes them ideal for decorative concrete dye or water-reducible concentrate stain applications where limited amounts of color are needed, for interior or exterior acrylic sealers, or for other tasks. They are not suitable for spraying acid stain.



ReCharger sprayers are refillable and reusable. The 24 oz. ReCharger is equipped with an adjustable nozzle allowing for extra fine mist up to a pin stream. The 8 oz. and 16 oz. ReChargers include an extra valve and nozzle assortment ranging from fine to pin stream.

ReCharger sprayers are an intelligent solution to aerosols, requiring no hazardous propellants and eliminating single-use spray cans.

**(800)** 884-2114

👣 www.EngraveACrete.com





## The Art of a Successful Rebranding Campaign

## Sometimes established companies or products need a new image to generate growth.

by Erik Pisor

IKE people, businesses often need a reset of sorts to re-energize and better position Lathemselves for the future. For concrete contractors and suppliers, rebranding their company name or product logo can provide this fresh start.

Successful rebranding can ultimately equate to greater market relevance and growth. However, the process often involves hurdles and a lengthy, phased undertaking that can be costly. The scale of various rebranding efforts will vary, but there are a number of common checkpoints: creating a new logo or name, launching a new website, reprinting decals for all equipment and trucks, printing new work shirts and increasing marketing efforts.

"The difficulties with rebranding are being bold, relevant and timeless while not alienating your existing customer base," says Michael Doyle, principal of Michael Doyle Partners, a business development firm that aided PolishedCrete, a Californiabased polishing contractor, in rebranding its logo to better highlight its name.

The new logo incorporates a large "P" and "C" over the company's spelled out name. The previous logo, which was designed in 2000, featured **PolishedCrete** two curved www.polishedcrete.com arrows meant to symbolize spinning diamonds. "We

the PC so it would be distinguishable from a distance," Doyle says. "When you have a large crew of 20 or 30 (trucks/equipment) at a large jobsite — like the 49ers' Levi's Stadium — people know we're there."

wanted to highlight

Rebranding carries the most risk for smaller contractors. Investing \$5,000 for a website or hiring a consultant to develop a logo and new name can represent a

significant financial commitment. To compensate, a number of decorative concrete artisans will try to handle most of the rebranding on their own or seek the assistance of a current employee.

#### Look before you leap

Troy Lewis learned the hard way that rebranding can equate to unproductive expenses. After operating in Orlando, Florida, as Exquisite Floors and receiving barely any monthly website hits, he hired a marketing company to help him rename the company.

"They failed miserably," Lewis says. Even though he specifically expressed that he didn't want his name affiliated with the new company name, the firm proposed names like "Troy Concrete." When all was said and done, he had dropped \$5,000 and was still at square one. Unfortunately, Lewis warns, marketing/business development firms will not refund fees if the clients are unsatisfied with the work.

Lewis paid a high price for that firm's services, Doyle says, as companies can typically get a logo done by outside consulting firms for roughly \$2,500. A logo, he stresses, is one of the most important pieces of a branding campaign. "It can make a huge impact on the growth prospects of the business, setting the proper image in people's minds."

After being burned, Lewis was doing a Web search and his attention was grabbed by an image of a red-eyed tree frog. He adopted the image and today his company goes by Red Eye Concrete and sports a logo featuring a green tree frog with red eyes. Two years removed from toiling in

obscurity, he was invited to four mixers at the most recent World



of Concrete. "I'm not used to getting invited to mixers," he says.

With the help of a friend and another \$5,000, Lewis launched a new website and reports receiving at least five site hits a day. His rebranding efforts also propelled the company to \$1 million in sales during 2014. Previously restricted to small jobs around Orlando, Red Eye Concrete has nabbed work for Flippin' Pizza, an expanding pizza chain. A growing client list has allowed Red Eye to purchase new equipment including prep masters, self-propelled machines, vacuums, trailers and grinder pads.

Upcoming steps in Red Eye's rebranding include launching a mobile show room and putting videos on YouTube.

#### Set in stone

An employee of contractor Ryan Van Horn has played an integral role in transforming the Modesto, California-based company from Creek Stone Flooring & Design into Creek Stone Resurfacing. This employee handled the renaming, logo and website and also crafts all marketing efforts while working onsite.



Where Van Horn's previous company focused on hardwood floor installation, a market he feels is oversaturated, CS Resurfacing will primarily focus on decorative concrete, which is reflected in its new logo. "Bringing in someone (like this employee) gets me re-energized about the company," says Van Horn.

For smaller companies like Red Eye and CS Resurfacing, Doyle says a website designed for mobile devices is key, as roughly 25 percent of overall traffic stems from mobile visitors.

(Continued on page 25)

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youtube.com/user/trinicllc



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#### **Examine an underused product**

Reviving an existing product used by a limited contractor base represents additional difficulties. When purchasing Aggretex earlier this year, AGGRETEX Mike Price acquired a roughly 10-year-old product that had yet to hit the mainstream.

His initial response: Change the brand's logo and establish a webpage to highlight the product, which allows contractors to incorporate various aggregate into cement slurry when topping off a slab.

A yellow trowel was incorporated into Aggretex's A-like logo and for roughly \$5,000 a website was built. While essential to the rebrand, these accomplishments didn't represent the most costly or time-consuming aspects of the endeavor.

Price, who is also president of Bay Area Concretes in Livermore, California, instead points to building relationships, the cost of travel and additional staff as the largest expenses associated with expanding the product's reach outside of California. "Click-through advertising will get you initial contacts but you have to have that face-to-face," he says.

Responsible for achieving Price's expected market growth will be newly acquired CEO Curt Thompson, who has a background in the flooring industry and connections with various networks of contractors. His salary alone represents a noticeable portion of the product's rebranding budget. "He's the most expensive cost really," Price says. "You have to invest in your people."

#### **Extend global reach**

For companies with a global presence, rebranding isn't so much overhauling a company as it is a way to build a more cohesive organization.

Thomas Concrete Group AB, with 122 plants spread throughout the U.S., Sweden, Germany and Poland, recently adopted the name Thomas Concrete across all operating sectors to coincide with its 60th anniversary in 2015. Thomas Concrete is one of the largest independent suppliers of ready-mix concrete and the firm is bracing for a global rise in demand for its services. The rebranding effort "puts an emphasis on our heritage and history," says Alan Wessel, president and CEO of Thomas Concrete.

One aspect of the rebranding involves refreshing the decals on roughly 750 heavy-duty trucks and producing new work shirts and signs for the more than 1,300 employees the company maintains worldwide. The new logo features a CONCRETE truck-mounted mixer with a spinning concrete drum in blue, red, gray and black

to symbolize water, environment, commitment, concrete and solidity. The rebranding also is intended to influence employees and business units to work more closely together through cooperative marketing activity and more generally integrated operations.

Initially, a new name, logo or service should bring attention to any contractor or supplier that executes a proper rebranding strategy. However, the long-term success of any new brand strategy lies with a company's employees.

"Everyone needs to know what the brand stands for and what the expectations and requirements of them will be in order to fulfill the new brand's image," says Doyle. "The way people look, the way they answer phones and the professionalism on the job site are the real determinants of the brand."



Franmar

## A Clearer Picture:

### Understanding Image Resolution

by Jay Thompson

ONCRETE is a material with great strengths but portability is not strengths but portue. photography helps overcome this obstacle.

You can hire a photographer, but that gets expensive and requires discipline to photograph each project during and after completion. You're already on the jobsite, so you're in the best position to document your work.

Our goal with this article is to help you better market your business by becoming a more skilled photographer, starting with understanding image resolution.

#### **Imaginary tiles and pixels**

A camera captures a pile of information when you click the shutter. That pile — like a batch of concrete — is a fixed amount. You can use that batch to make a thick slab that covers a small area or a thinner slab that covers a larger one.

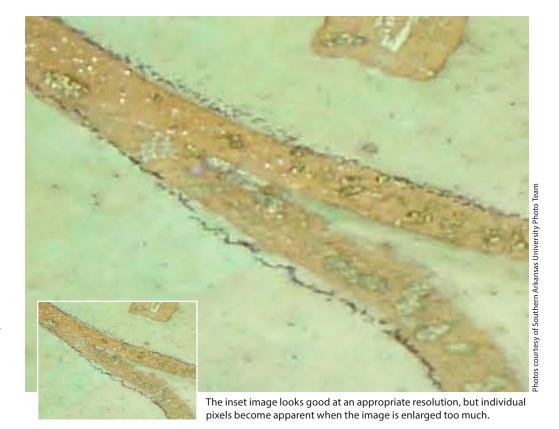
In digital photography, image clarity depends primarily on the amount of information recorded. Image resolution, or total amount of information in a photo, is most commonly expressed in megapixels, or a million pixels (1,000 by 1,000, width by height). Image size in pixels is a measurement of the amount of information it contains. A small number of pixels, low information. A huge number of pixels, a higher amount of information. The goal is to get enough pixels at the start and not lose them.

Digital photos are essentially long strings of numbers describing the color and brightness of each tile in a large grid of spots. Each spot, which can be thought of as square, is called a pixel, short for PICTure ELement.

If this grid is displayed at a small size, the image can appear to be sharp, with lots of information. But enlarge it and, well, it doesn't look so good.

#### Begin with the end in mind

Today, images can go everywhere online, printed on photo paper, in newspapers, magazines and brochures,



billboards or display booths. You can even have them printed on vinyl and mounted on the sides of your trucks.

You are likely to be asked for a "highresolution" image, but what meets that criterion depends on its intended use. High resolution for a computer screen might be 1,920 pixels wide by 1,080 pixels high, or about 2.1 megapixels. For most online uses, your web designer would probably be happy with an image that size.

High resolution for a magazine refers to images that have 300 pixels per inch when printed on paper. So an 8-by-10-inch image, as printed in a magazine, would require the original image to be 8 x 300 (or 2,400) by 10 x 300 (or 3,000) pixels, for a total of 7.2 megapixels.

#### Camera up

You will need a camera capable of taking images with enough pixels for the intended use. Some smartphone cameras are good enough for posting images on a website. Do you intend to print a glossy brochure or compile a portfolio of images for prospective clients? You'll need a much better camera for that.

Take your pictures at the highest resolution the camera allows, and if possible in a lossless format (such as TIFF or RAW). If your camera only saves in JPEG format, choose the largest file size it has. Larger images require more storage space, so be prepared to add storage to your computer and have several image storage cards on hand. Also, don't use a time stamp on your images. This looks unprofessional and is difficult or impossible to digitally remove.

When an image is taken and digitally saved, it has a fixed number of pixels. Two megapixels of information can't be magically converted to eight megapixels. You can make the image bigger, but the detail won't improve in the process. For this reason, you can't grab a small image off your website or

cell phone and successfully enlarge it for printing purposes in a magazine or a brochure. It simply doesn't have enough information to look good in print.

Lastly, buy and learn to use professional software. Adobe Lightroom is extremely powerful and quite affordable. It can be a bit daunting to learn, but it's easier than many tools.

### What about the photos you already have?

Assuming you've already taken some photos, how can you tell if they are usable? The best thing to do is determine if the images are big enough.

To save storage space on computers, various methods are used to reduce image file sizes. So simply looking at the file size on your computer

won't tell you how much information is contained in the image.



Pixel dimensions can be found in Image Properties on Windows or the Get Info window on a Mac.

To see how much information is in a digital image, look in your image software for menu items such as "Image Size" or "Image Properties." These let you see how many pixels are in the image. If you can't find this menu, you may need to use your Windows or Mac operating system to get that information.

In Windows Explorer, or in any window with your photos in it, right-click on the image you are considering and from the drop-down choose "File Properties" or "Image Properties." Here you will find the pixel dimensions of the image, listed among other items like date taken or camera model. Remember, the dimensions are width times height.

In the Finder on a Mac, you can use "Command+i" to "Get Info" about the file. Image size is part of that

information displayed.

Tools like iPhoto and other free bundled or built-in image organizing programs can hide the size of the image and make it hard to know what you're going to get as output. For this reason, use professional software instead.

Avoid things like resizing, cropping, rotating and re-saving your images more than once. It's best to keep your images as close to original as possible and let the graphic artist, printer or web designer manipulate them as needed.

Preserving the information in your images will give you richer, more detailed photos that will help show the quality of your work. If you take pride in the quality of the finish of your concrete, take pride in the quality of your images. It will result in solid returns for your business.

Jay Thompson is a founding partner of And Update My Website LLC, a company that helps other businesses succeed with Internet marketing. His expertise comes from more than 25 years in marketing, advertising and commercial photography. Reach him at jay@andupdatemywebsite.com.



#### Concrete in Colorado:

## **Beyond Decorative Concrete**

by Karen Van Heukelem

**■** HE phrase "decorative concrete" means many things. Depending on your operation, it may mean specializing in one facet, such as concrete countertops, or it may mean everything from stamped concrete to polished concrete. Regardless of all the options within the world of "decorative concrete," we tend to push the boundaries, with our clients' demands and requests pushing these boundaries the most.

We, as Colorado Hardscapes, push ourselves in the decorative concrete arena when it involves plain concrete, site furnishings and water features. Other concrete contractors include pavers within their hardscape offerings, as well. So, when does it make sense for concrete contractors to do more than their specialty? Shouldn't all of us just stick to what we do best, which is decorative concrete in one shape or another?

Technically, yes. However, as a result of our specialty in one area, the transition into another is simple and natural, such as providing uncolored concrete and site furnishings. Water features, on the other hand, require more complex involvement. But each of these additions to our provided services stems from the same place: General contractors or owners turn to us for help because the additional service ties into the decorative services we provide. Either that or they didn't know who else to turn to.

#### Non-decorative concrete

Like many of you, I find standard gray, broom-finished concrete a bit boring. However, we have lost jobs in the past because we didn't want to do the boring concrete. Now, we talk to general contractors to see if they would like us to package all of the concrete or just focus on the decorative concrete.

Most of the time, they want us to package everything together. They reason that it makes their life easier and they know the level of quality we deliver. Typically, the conversation is frank and I tell them we will be more expensive on the gray concrete than other contractors. Setting those



Colorado Hardscapes installed decorative concrete, standard gray concrete, tree grates, benches, planters and bollards at Saint Joseph Hospital in Denver.

expectations early helps with the discussion, as some are chasing the low dollar and will request we just focus on specialty concrete. Others appreciate the package deal and, as a result, specialty decorative concrete contractors like us are placing some of the finest non-decorative concrete out there.

#### Site furnishings

Setting a bench here or there may sound simple, but if you're involved in the process, you know site furnishings mean more than bolting down a bench to your new slab of concrete.

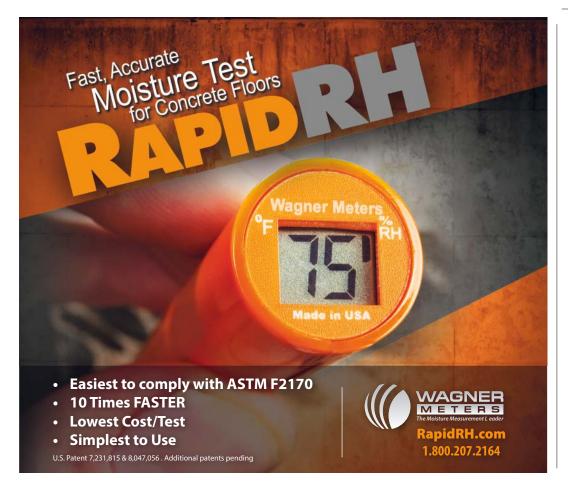
We recently completed a project here in Denver for a new hospital complex. Our scope included the decorative site concrete, boring gray concrete and installing the site furnishings. Originally, I had the same mindset many of you have and told the general contractor we would rather not install the site furnishings and just stick to our specialty, namely concrete flatwork. But after several meetings, it became clear we had to do the site furnishings as well, for three reasons:

• The site furnishings were to be installed on or in our freshly placed concrete.



The demand for one contractor to provide the site package drove Colorado Hardscapes to include site furnishings as well as the standard gray concrete flatwork and curbs.

- The furnishings were high quality and required the same level of perfectionism and management as our concrete to be installed correctly.
- Us doing the install meant there was one less major item the general contractor had to worry about and one less contractor on the already-complex jobsite.



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As a result, we worked through the sitefurnishing package with them. We helped price out each item, explored the options, and purchased and installed an extensive site furnishing package that encompassed bollards, tree grates, trench drains, benches, tables, umbrellas and chairs.

I could argue both ways whether installing site furnishings makes sense for us or not, but it certainly worked in this case. I also think it's important for exterior concrete contractors to know how to install bollards, trench drains and tree grates

as they integrate comprehensively with concrete paving. This project also worked well for us as it ran through winter. So, on days the weather limited our concrete pours, our men installed site furnishings.

#### **Water features**

It seems logical for us to also handle a project's uncolored concrete and site furnishings since they are usually near decorative concrete. However, water features are another story and I don't recommend delving into this area unless you understand how they can get complicated.

We started doing water features 20some years ago as they integrated with the rock we create. Back then, it was a matter of figuring out the weir height, sheet flow, recirculating pump size and splash zone. These days our water features are much more complex. What has really expanded our water feature division and made us "dive right in" are interactive splash pads.

After we had installed a few concrete pads for splash features, we realized general contractors hated to have to deal with so many entities — the electrician, plumber, concrete contractor, utilities contractor, health department and water feature designer — to get the feature completed. Because water features are so complex, if one thing goes wrong, it can be a disaster.

Everyone we talked to wished someone would just take the water feature and run with it. So, that's what we did and now we install turn-key water features. We work with designers and owners on the front end, and then provide the installation, including all of the mechanical work, testing, concrete (of course) and start-up.

Water features entail the same mindset as many high-end decorative concrete projects. They require a lot of work before we connect anything in the ground. But my favorite part, as a concrete contractor, is the early-on involvement with the decorative concrete finishes. We suggest colors, design and layout that work best for each situation. Everyone involved takes pride in the end result: Designers are thrilled their design intent is reality; owners are thrilled they have a water feature as promised; general contractors are thrilled they only had to write one subcontract for the feature and manage one sub throughout the entire process; and we are thrilled to have control over every aspect to ensure a quality project.

Last year, we had the opportunity to work on the historic Denver Union Station. Although the iconic water feature project was void of decorative concrete, it came our way because no one else in the city had the expertise to install a complex water feature. Consequently, Colorado Hardscapes installed an intricate, 92-nozzle, interactive water feature in the heart of Denver. Despite the lack of decorative concrete on the project, we're proud of our involvement as a result of our willingness to open our doors to more than decorative concrete.

I'm not saying you should try to land







By understanding the elements that go into water feature design and construction, Colorado Hardscapes installed this remarkable feature in the heart of Denver.

every plain concrete, site furnishings or water feature project you can, but I recommend listening to your clients. If certain requests continue to come your way, most likely there's an unmet need in your area and an opportunity for your company to fill that need as the go-to contractor.

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

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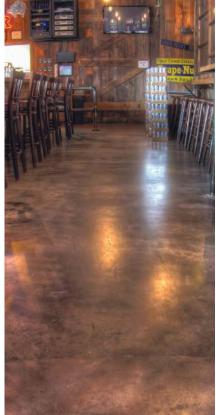
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## ARTISAN IN CONCRETE

## Nolan King, King Architectural Concrete and Construction LLC

### River Falls, Wisconsin

by Vanessa Salvia

■ OLAN King, owner of King Architectural Concrete and Construction LLC in River rails, who construction business at the age of 23 after Construction LLC in River Falls, Wisconsin, started graduating from college in 2001 with an engineering degree. His business focused primarily on home remodeling work.

"I started my own company probably three months after

graduating from college," says King, now 38. "And then probably within six months of that I discovered concrete."

He took classes offered by Minnesota ready-mix leader Cemstone to familiarize himself with the material. Also at that time, one of his employees was working in Seattle with another concrete company and reported it was doing a lot of stamped and colored concrete and staining. "He convinced me that we needed to try

it. Sure enough we tried one project and I fell in love with it."

First up: patios

That initial project was a stamped patio, and as soon as King completed it he added decorative concrete to his repertoire. "On top of my engineering degree I also studied art," he says, "and concrete was more of an art form than the framing process. I enjoyed the ability to manipulate the concrete surface and create different stone textures. It just

opened up a new world of being creative in my work."

Since then, King has continued with framing and general construction — work he often performs during the Wisconsin area's harsh winters. While King Architectural Concrete and Construction has been known to undertake concrete countertops, King primarily enjoys building

> hardscapes, landscaping and one-of-a-kind outdoor living projects. "Retaining walls, patios, pool decks . . .," he says, "anything we can get our hands on that's interesting in the backyard."

> In the early to mid-2000s in the Midwest, King says, decorative concrete was fairly new and unfamiliar, but once people saw what could be done they got onboard.

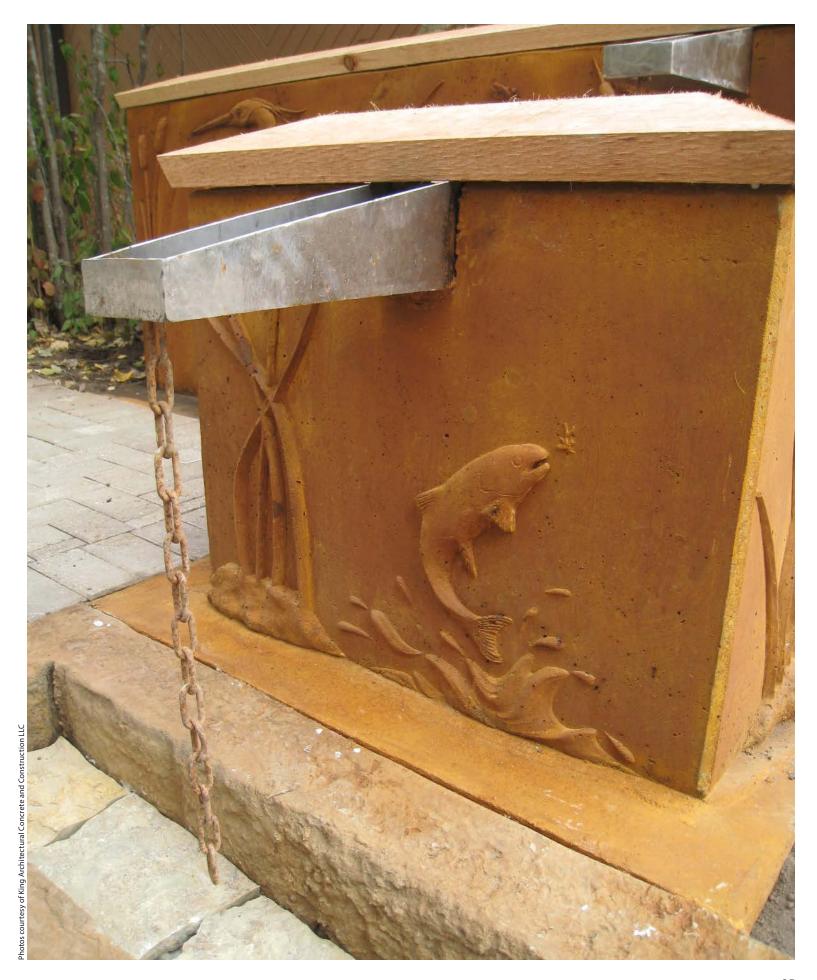
Early on after starting his business, King connected with a

local pool company in Hudson and started doing its stamped concrete pool decks. "Most of my early work started out as backyard patios and the pool decks, and the people were very eager for it," he says. "Everybody was loving it."



One of those early interesting projects, from 2008, was a stamped concrete sidewalk that turned into a threedimensional sculpture of a snake. His clients had recently





### ARTISAN IN CONCRETE



returned from Brazil, where they had seen a sidewalk that was painted to look like

"This is where her idea left off and I jumped onboard," says King. "I developed a stamp to create the skin texture and made a positive image out of clay and then sprayed it with rubber so we could use it as a rubber stamp. We convinced the owners to let us sculpt the snake head and bring it up out of the ground instead of doing a flat sidewalk the whole way."

King focused on cement mixes allowing for about four hours of working time. He created a perimeter form of the shape he

wanted along with some rebar grid, sculpted the exposed surface and then stripped the forms and undercut the snake to get the shape he wanted.

The snake's glass eyes were created in King's glass studio he built himself. "During college I also studied glass blowing and one of my final classes was how to build a glass furnace," he says. "Shortly after college I decided to build my own studio from scratch." He's so busy now with concrete that he rarely gets to use the space himself. Instead, he rents it out to other artists and to college students.

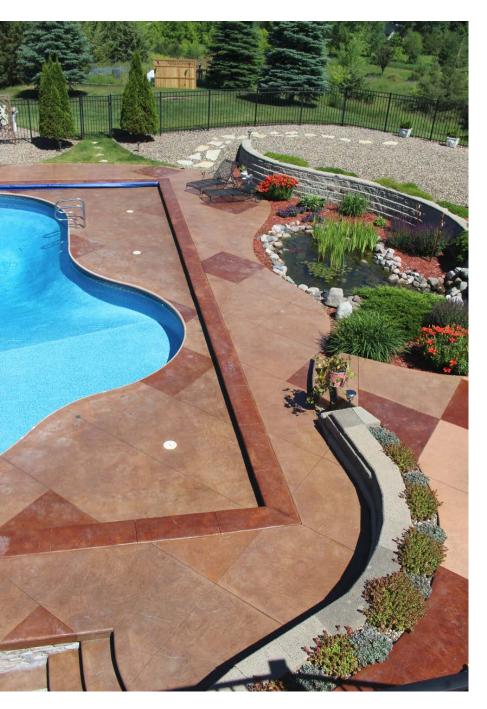
Since the success of that snake pathway

and another similar one, King has completed other jobs with three-dimensional elements such as frogs. The client who wanted the frogs chose him because of the snake pathways, but she made it clear she was afraid of snakes and would not abide a "snake anything" in her yard.

### Conquering challenges

With snakes out of the picture, King dreamed up a few lizards, a frog and a handsculpted turtle for her yard, as well as a dogwashing station with relief accents.

"The challenge with those was that we had to make a positive image, make a mold









and then cast those and keep the legs from breaking off," King recalls. To reinforce the legs and make them stronger, he used fiber mesh that's typically part of the mix design for projects in earthquake-prone areas. "And we were able to keep the legs attached," he says.

While those three-dimensional projects are eye-catching, they're not the most cost-effective projects to work on. One profitable stand-out project was creating the seal of the University of Wisconsin at River Falls. "It was extremely rewarding, being an alumni and being able to work at the university," he says. "They gave me an 8-by-

11 piece of paper that had the seal on it and told me they wanted it 30 feet in diameter. I had to figure out how we would blow that up to scale and make it exact."

King has continued on with the framing and general construction work and is currently working on renovating a turn-ofthe-century barn on western Wisconsin's Rush River into a fly-fishing retreat. The barn had a crumbling stone foundation, which was lifted to pour a new t-mass foundation (a foundation with polystyrene sandwiched in the middle).

The property owner likes the fact that the t-mass has an insulating factor without having to finish the inside or outside, which added to the overall look of the project. The foundation walls will be acid stained to complement the Corten steel siding. The lower-level floor will be acid stained as well. with the color chosen to best showcase the custom-welded staircase leading to the main and second-story levels.

www.nolanking.com

See more photos from this feature online at ConcreteDecor.net



# A Whislwind Tour of

## **Decorative Concrete in the Greater Indianapolis Area**



by Stacey Enesey Klemenc

■ROM a concrete fountain topped off with a metal corn sculpture to a healing garden for cancer patients, here's a round-up of a few decorative concrete projects that we thought may be of interest to Concrete Decor Show 2015 attendees who have a little downtime while in Indianapolis. Some are walkable but all are auto-accessible if you don't mind a 40-minute drive.

### **Greenwood Park Mall**

The lifestyle center addition to the Greenwood Park Mall on U.S. Highway 31 North in Greenwood was completed in spring 2008. The project, which involved more than 1,000 cubic yards of concrete, is significant because it reflects the growing use of concrete in Indiana's public spaces.

Smock Fansler, the concrete finisher, used special mixes for the 32-foot-diameter base of the main fountain and bevel-cut the joints to give the fountain a more refined look. In the center of the fountain, a cylinder's bottom section was cast-in-place while the upper concrete portion was precast on site and placed by a crane. A metal corn sculpture tops it off.

The main fountain's outer areas were shaped with radial forms lined with texture and



Lexan. The Lexan formed a smooth and shiny finish while the texture imprinted the recessed areas.

Other areas of the mall's hardscape project included sand matrixfinished walks, colored and stamped crosswalks, and Greenwood's first decorative roundabout. There's also colored decorative concrete outside BI's Restaurant & Brewhouse.





### JW Marriott Art Plaza

Catty-cornered northwest of the Indiana Convention Center, the JW Marriott Art Plaza has become a city landmark and a tribute to Hoosiers statewide since its grand unveiling in March 2010. The primary developer, White Lodging, commissioned this plaza in Marriott Place Indianapolis as a tribute to its home state of Indiana.

The project, which took six months to complete, was constructed on a mere half acre in this bustling downtown area. While the project was underway, clandestine work took place behind black drapes to block the public's prying eyes. Integrally colored concrete with an exposed sand-matrix finish contributes to the plaza's high-quality look. More than 400 cubic yards of concrete were used in 10,300 square feet. Smock Fansler Construction was the general contractor and concrete finisher.

The plaza's signature piece is a 36-foothigh, 50-foot-long bright-red metal sculpture symbolizing a cardinal, Indiana's state bird. Designed by Indianapolis-based artist Jeff Laramore and fabricated and installed by Linel Architectural Glass & Metal Solutions, when viewed from above, the bird is supposed to look as if it's resting on a branch of a tulip tree, Indiana's state



Near a large urban state park, the likeness of a northern cardinal, Indiana's state bird, "perches" in a tulip poplar, Indiana's state tree. Some of the leaves form a stage in the plaza.

tree. Tree leaves are etched into the plaza's concrete and some sections are elevated as a dimensional backdrop for this popular songbird.

The plaza's massive concrete foundation conceals large utility areas that service four hotels nearby. Custom-

formed curved concrete retaining walls and sharp-angled precast stairs, all with embedded lights, contribute to this showpiece plaza's appeal. A water-wall, also designed by Laramore, is made out of more than 1,000 pieces of granite and marble to represent peonies, Indiana's state flower.

### **Castleton Square Mall**

Located at 6020 East 82nd St. in Indianapolis, the Castleton Square Mall had a lifestyle addition completed in 2008 that featured decorative concrete. The new area features sand-matrix-finish walkways with bevel saw cuts and a colored and stamped central plaza. Custom-made frieze panels fashioned out of GFRC add to the mall's visual appeal, especially when they're spotlighted at night.

The project, which used 980 cubic yards of concrete, was run on a tight schedule. Decorative pads at the mall's entrances were installed after the new addition was opened. Crosswalks were completed in phases to minimize street closings. The concrete finisher was Smock Fansler.

An interesting tidbit about this work is that an all-female crew installed all of the curbing for this lifestyle addition.





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### **Hoosier Patriot Memorial**, Washington Park East Cemetery

Dedicated to the brave men and women who have served in the Indiana National Guard, the Hoosier Patriot Memorial at 10800 E. Washington St. inside Washington Park East Cemetery in Indianapolis was completed in fall 2007. It features three distinct concrete patterns and colors in its focal point area which includes a largerthan-life statue of a modern-day soldier, a revolutionary minuteman etched in glass and the Indiana state seal on a granite disk.

"Such memorials are meant to last generations into the future and the willingness of the design community to use decorative concrete in this fashion is almost a firm testament to the materials used as it is to the great causes the memorial itself is honoring," notes Jhennifer Sanchez, director of design and sustainability with Smock Fansler, the project's general contractor and the hardscape's concrete

The project involved close attention to detail. along with a tight construction



schedule of 60 days. "An immovable dedication date meant all parties had to work in diligent unison," Sanchez says. "Of particular concern was a tight tolerance placed on the combination

of a curved retaining wall set in a lake, a custom-built rail and light system, and custom-fabricated glass panels involving five contractors."

### Tilt-up building

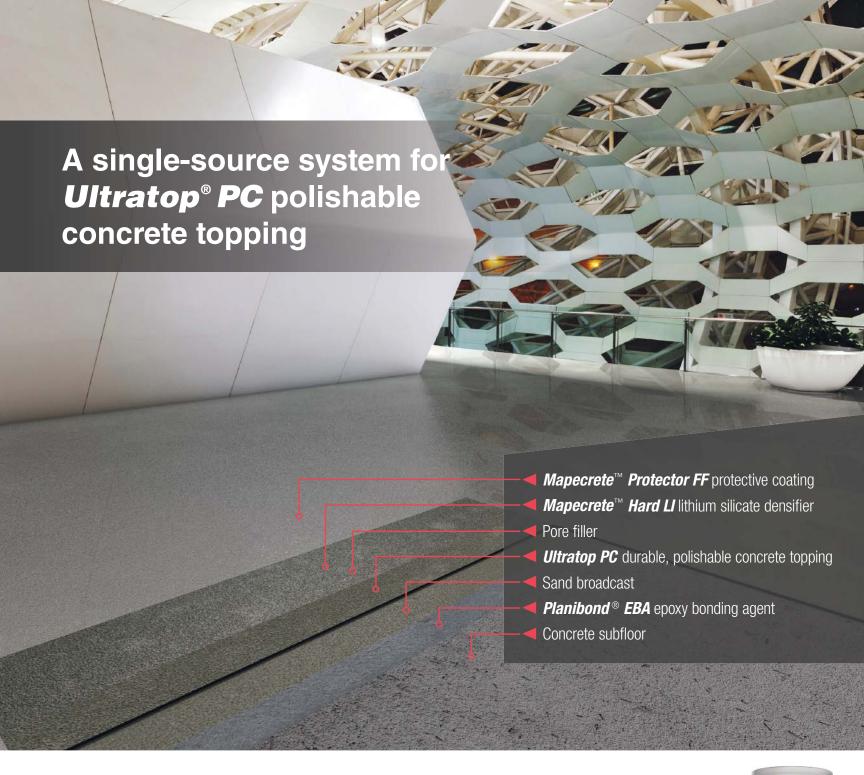
finisher.

Within walking distance of the convention center, this tilt-up building at 620 N. Delaware St. was originally Miller Photography Studio when it was poured and erected by Smock Fansler back in 2004. Today, it is occupied by Brenner Design, an architecture, interior design, construction management firm.

Described as "industrial modern," the tilt-up building with its unusual textures and bright colors demonstrates the wide range of possibilities the tilt-up method offers. The triangular shape of the building, designed to follow the layout of the property lines, is within 5 inches of an adjacent building. The small worksite required the panels to be cast in two phases.



Tilt-up concrete can be configured as a system designed to work with an owner's needs and a designer's intent. Unlike many tilt-up "boxes," this building is three-sided.



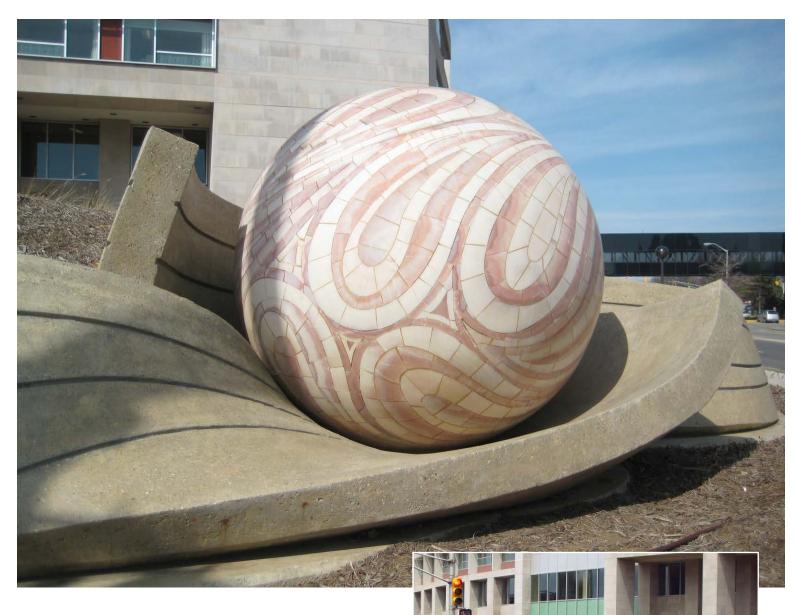
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### Melvin and Bren Simon Cancer Center, IUPUI

The hardscape around the Melvin and Bren Simon Cancer Center at 535 Barnhill Drive is a beautiful addition to the Indiana University – Purdue University Indianapolis (IUPUI) campus. Consisting of more than 15,000 square feet of concrete pavement and almost 1,100 lineal feet of wall, the project

features many finishes including exposed aggregate, broomed finishes and sand matrix, as well as integral and topically stained colors.

The mostly serpentine walls were designed in a consistent horizontal pattern that meanders and straightens along the building's perimeter. The hardscape, in a very busy part of campus used every day by students, faculty, medical personnel, patients and families, provides a feeling of continuity, a strong barrier for plantings and durable seating options for passers-by.

Located on the IUPUI campus near a very busy intersection, the center was built while traffic was constant, making working conditions often chaotic. The job, which involved 780 yards of concrete, was completed in summer 2008. Smock Fansler was the concrete finisher.





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### Benesse Healing Garden, Benesse Oncology Center

Benesse Healing Garden at the Benesse Oncology Center, part of the Major Hospital system in Shelbyville, is an integral part of Benesse's mind-body-soul treatment philosophy. The almost one-acre park has four water features, meandering walkways, lush plantings and several seating areas that allow for social interaction or privacy.

Concrete was chosen as the base building material because of its long life span, easy maintenance, versatility and beauty. Besides being beautiful to behold, the garden was designed to surpass ADA accessibility standards. It is not only extremely walkable but it can accommodate patients confined to hospitals beds that can be wheeled out so they can enjoy the peaceful garden. It also can be enjoyed from indoors, through floor-to-ceiling windows in the center's treatment bays.

The garden includes:

• A Greek mythological-influenced labyrinth with a sand-matrix finish. Saw cut by hand and stained in contrasting colors, it melds a deep, saturated brown with a sand-colored tan. A polished granite boulder in the center serves as the focal point.

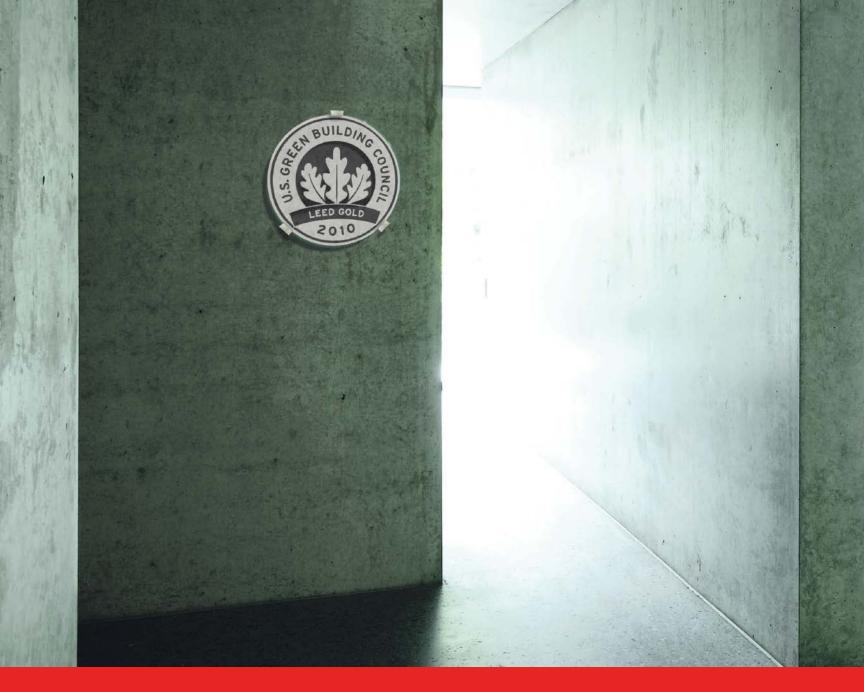
A leaf plaza with large leaf patterns hand-drawn in the wet concrete.
 The leaves are hand-stained in various colors to create a random pattern. To make the colors more vibrant, the plaza was sealed with an acrylic sealer.

- An obelisk water feature made from a recycled concrete urn, slumped glass and stainless steel. An escutcheon ring for the urn's base was custom-made out of concrete.
- The Spirit Garden contains a seating area similar to a Native American kiva pit, a sacred place for storytelling and meditation.

While this is the furthest project away from downtown, you may find this stop

both soothing and magnetic. It's in close vicinity to the Indiana Grand Racing & Casino, which has newly placed decorative concrete in its deli area and – most appropriately – a long-established area in its winners' circle.





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# Children's Museum of Indianapolis Features Mud at Its Finest

by Stacey Enesey Klemenc

THE Children's Museum of Indianapolis, one of the largest children's museums in the world, debuted a 7,400-square-foot exhibit in 2011 that features a replica of the tomb of ancient Egyptian pharaoh Seti l. Aptly named National Geographic Treasures of the Earth, the permanent exhibit is floored with what resembles old mud or earthen sandstone throughout the passageways and burial chamber. And this time around the "mud" is none other than concrete.

Mike Shepherd of Shepherd's Construction Co. Inc., who has done significant amounts of work over the years for the Children's Museum of Indianapolis, was responsible for the floor of the exhibit, which also houses replicas of China's renowned Terracotta Warriors, a collection of sculptures depicting the armies of the first emperor of China, dating to around 200 B.C.

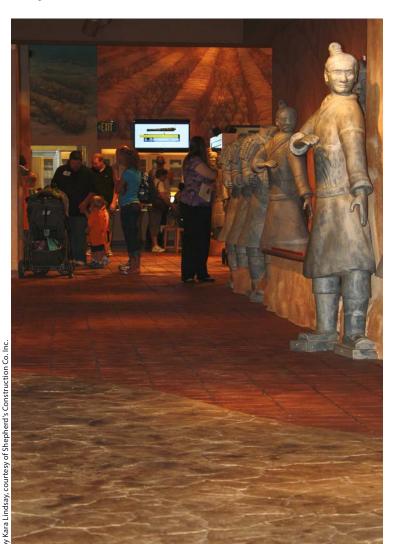
"They wanted something unique and interesting," says Shepherd, a long-time Bomanite licensee. "We used Bomanite thin-set material

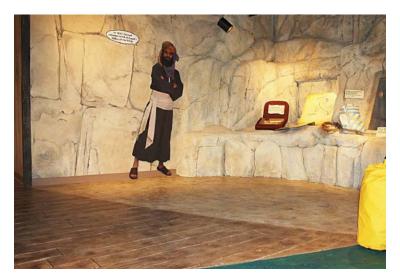
at 3/8 of an inch that we imprinted with a cracked earth pattern. It looked like old dirt on a riverbed."

Shepherd also used a stacked bond oversized brick pattern and did some decorative flake epoxy flooring for the same exhibit. "It's unique," says Shepherd, "and it's worth visiting." All totaled, he and his firm installed 2,000 square feet of the Bomacron

imprint system's Dried Earth texture along with another 4,500 square feet of the Bomacron Coquina Texture, Bomacron San Ysidro Brick, Bomanite Florspartic 100 and Bomanite Custom Polishing Systems.

He says there are other examples of decorative concrete work in the museum, such as sand matrix at the entrance to the museum and some intermingled imprinted work.













During 2008 and 2009, Smock Fansler constructed a hardscape at the museum as part of a new entry facility. The company provided decorative and structural site concrete and infrastructure along with natural stone landscaping elements.

According to Joe Davee, a project manager and Smock Fansler vice president familiar with the job, the project presented a challenging combination of decorative and standard finishes.

"Narrow detail strips of stamped concrete, stone slabs and boulders that blended seamlessly with cast-in-place concrete walks, and large sculpture foundations had to be fully functional to support the life-sized dinosaur statues while remaining invisible," he says. "The end result was an immersive landscape full of family-friendly access to the new entry facility with numerous areas to explore on the grounds outside."

Vanessa Salvia contributed to this story.





## Automobile Museum in Auburn Replaces Waxed Floor with Polished System

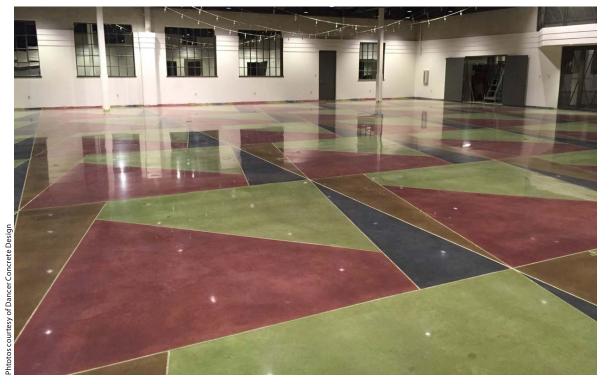
by Vanessa Salvia

Automobile Museum in Auburn, Indiana, is dedicated to preserving cars built by Auburn Automobile, Cord Automobile and Duesenberg. The building, at 1600 Wayne St., was a factory where cars were hand-built during the 1930s. The museum houses about 125 cars that relate to this period of automobile history.

In 2000, the museum installed a concrete floor sealed with a wax topcoat. "They were waxing the floor to maintain the shine which was expensive," says Nick Dancer. "The wax was also soft so when they would bring in tables and chairs for events, they found it would scuff and scratch and

the concrete didn't look good long term."





Dancer's company, Dancer Concrete Design, offered another solution to waxing the scuffed-up floor in the events center — polished concrete. "We proposed a polished concrete floor system using diamond abrasives and subsurface sealers," he says. "The floor looks like it has a thick lacquer or epoxy on the surface but it's actually subsurface. It won't mark up or scratch and this can hold up to forklift traffic."

The museum chose a design for the floor that mirrored the art-deco style terrazzo found in the front of the building in the original office area. Dancer's crew cut 3/8-inch grout lines and used nearly two miles of tape and plastic



to keep the penetrating dye separate while it was applied to each section of the 7,000-squarefoot rectangular room.

"This extra effort was worth it when you see the completed space, with clean lines, clear color and a great overall shine," Dancer says. The floor was finished to a Level 2, 800-grit finish. Four colors of penetrating concrete dye were used along with Ameripolish 3DHS Concrete Densifier (applied after dye) and Ameripolish SR2 Concrete Sealer (applied after polish).



## **New Tulip Trestle Observation Deck** Solidly Extends the View

by Steve VandeWater

N the hills of Southern Indiana lies a massive steel and concrete structure steeped in history. The Viaduct — also known locally as the Tulip Trestle, the Richland Creek Viaduct, the Green County Viaduct and officially, Bridge X75-6, according to Bloomingpedia was once the largest railroad trestle in the United States. At 2,295 feet long (a bit under a half mile) and 157 feet high, it lies on a stretch of track between Solsberry and Tulip. Even from a distance, Tulip Trestle is an impressive sight to see.

According to long-time Solsberry resident and history buff Larry Shute, terrain clearing for the trestle began in summer 1905. The Indianapolis Southern Railroad, with "quiet" financial support from the Illinois Central Railroad, hired 50 teams of horses for \$3.50 per day, and the drivers/handlers were paid a daily wage of \$1.50. Common laborers earned 13 cents per hour, while more skilled laborers, mostly Italian immigrants, were paid 30 cents per hour to erect the steel — those wages were considered above average for the times. The work could be dangerous, Shute notes, and several men are reported to have died during construction.

The entire cost of the project, which was completed in December 1906, was \$246,504. In today's economy, a Chicago bridge engineer estimates, the cost to build this type of bridge would be more like \$20 million. More than a century later, the Tulip Trestle is still open for business and is now owned by Indiana Railroad.

When Shute learned of plans to erect a platform for viewing the trestle, he jumped at the chance to help. The viewing platform had been in the planning stages since 2011, but progress was slow and seemed to be at a standstill. In November 2014, the Tulip Trestle Community Restoration (TTCR) board asked Shute to solicit community support for the project. So Shute and his friend



The platform edges were stamped to mimic the grain of aged timbers.



Thanks to community involvement and a host of volunteers, the historic Tulip Trestle can now be viewed from a stamped concrete platform.

Mike Lindsey, also of Solsberry, went into high gear and quickly obtained volunteers and donations. Within two months of being approached, they had secured all the funds and labor needed to make the trestle observation platform a reality.

"Solsberry is a very tight-knit community. We often come together as a town to help our neighbors with work they need done. From building wheelchair ramps for a local man, to pouring a concrete slab for the local volunteer fire department, the community always pitches in," says Shute. "Local citizens and businesses, and even some from outside the area, were happy to help us out with the trestle project."

Instead of the planned wooden structure, which would have required continuous maintenance and possibly been the target of vandals due to its remote location, Lindsey envisioned a stamped concrete structure. Little wonder, since he is a long-time concrete stamper who knows the benefits and possibilities that decorative concrete provides.

For the platform, he chose a pattern simulating weathered planks. That way, the structure would blend with its rustic setting while being extremely durable and nearly maintenance-free. To make the project truly unique, Lindsey and a friend collaborated to fabricate a custom concrete stamp which depicted No. 1504, the last steam locomotive to cross the trestle. This stamp was placed in the center of the platform.

Built on donated land with donated materials, the base of the platform sits on a hillside overlooking the trestle. The concrete block base was filled with compacted stone in preparation for pouring. On a perfect Saturday morning in June, a group of concrete finishers and laborers came together to install the platform. They were joined by TTCR board members, a volunteer grill cook, photographers and an assortment of interested onlookers.

Amid stories, joking and camaraderie reminiscent of an old-time barn-raising, the slab was placed. The field was colored with Walnut dry shake color hardener and a custom blend of powdered antiquing releases, and stamped with Butterfield Color's Gilpin's Falls Bridge Plank stamps. When the concrete had set sufficiently, the outside

forms were stripped and the edges were stamped to mimic the end grain of aged timbers. For the safety of visitors, powder-coated railings were installed around the platform.

A concrete entrance ramp was finally placed in late July and was stamped with customized stamps resembling a railroad track, complete with rails, timbers and spikes. Unusually rainy weather had slowed the completion of the project, which also involved acid staining these components and sealing the ramp with a solvent acrylic sealer.

A storyboard detailing the trestle's history will be erected atop a concrete base covered with vertical overlayment and textured to resemble a tree trunk. Inclement weather has also impeded this part of the project's progress.

The Tulip Trestle observation deck, a prime example of community involvement and volunteerism in the Midwest, is sure to serve as a lasting monument to Indiana's railroad history. For the 72-year-old Shute, the project hits a little closer to home. "I now feel that I have given something back to the community and believe that I have lived a very satisfying and productive life here in Solsberry, Indiana," he says.

Rather than a plain-Jane sidewalk, a stamped concrete train-track walkway leads visitors to the Tulip Trestle observation deck.



Concrete Streetscapes in Carmel Improve Safety

by Vanessa Salvia

N 2011, the city of Carmel, Indiana, revamped its major roadway, the Keystone Parkway, as part of a multiphase project to lower the grade under six major intersections. This created new interchanges and no traffic lights for north-south traffic over a five-mile stretch, while six new roundabouts managed east-west traffic.

Six new interchanges were created using a double-teardrop shape. Mike Shepherd of Shepherd's Construction Co. Inc. completed work on four of the traffic roundabouts and their associated walkways. Decorative concrete was included as part of the plan to make the new walkways, medians and parklike features visually striking and to improve safety.





Shepherd has been in business since 1972 offering general construction (though his company did its own concrete) and became a Bomanite licensee in 1984. Since then, he has done only decorative concrete work. This job was designed for three Bomanite patterns and three colors: ashlar slate for the main body of work, running bond Belgian block for the medians and hexagonal tile for the walkways. Tile was colored Tile Red with Brick Red release, the ashlar slate was Nickel Gray with a Buff release and the running bond was Autumn Brown with a Tile Red release. Shepherd's work took approximately six full days on each section.

•

## A Concrete Tree Celebrates the Branches of a Family-Owned Business

by Stacey Enesey Klemenc

BEING next door to the Artistry in Concrete competition at the World of Concrete 2015, Steven Ochs knew he Concrete competition at the World of had to bring his A game to the Smith Paint Products booth. Ochs, a decorative concrete artisan and chairman of the department of art and design for Southern Arkansas University, presented several designs to the Brunners, owners of the family-run business.

"They liked the idea of a family tree branching out in different directions," Ochs says. "Plus they wanted me to do something standing up rather than being on my hands and knees all day." The four main branches represent the four generations of the Brunner family involved with the business and the "Smith's" logo carved into the massive trunk is the company's original name.

He acknowledges there is a fifth hand in the sculpture that he added purely for aesthetics. "Odd numbers are better numbers to work with in an active composition," he says. In hindsight, it also could signify a future generation of Brunners.

### Give them a hand

To emphasize the company's very hands-on approach to business and to draw attention to the fact that they make all their own products, Ochs outfitted the Smith's family tree with subtly colored branches, five of which were equipped with their own porcelain hand made before the show. The hands, holding a paint brush or related tool, were made to look as if they were "creating and recreating" the piece of art at the show.

Ochs says even though he used the young and unwrinkled hands of his 16-year-old son as his model, he grossly exaggerated the scale, muscles and tendons. "I wanted to

create strong, powerful hands. I thought about taking a mold from actual hands, but I didn't want them to look realistic. I wanted them to look like chiseled wood."

To make the exhibit ever more client-specific,





Half-inch hardware cloth (19 gauge) on the surface is used to build up the tree's form. Half-inch rebar supports for the trunk of the tree and limbs were prefabricated before the show.



Rather than building up a thickness and then carving, Stephen Ochs models and applies ropes of stiff material into the desired patterns. When it's hard enough, he uses a razor to shave off the tops to simulate bark.

Ochs modeled the tree after the eastern cottonwood, a species native to Harrisburg, Pennsylvania, where Smith Paint Products is headquartered. The backdrop depicts the Blue Ridge Mountains also in the vicinity. "I made the exhibit all about them — who they are, where they are and what they do."

### Addition versus subtraction

The technique Ochs used to build the tree involved an additive process rather than the "subtracting" method used by most carvers. "Most people do carving where they build up a product nice and thick and then carve it," he says, but not him. To create the bark, he applied individual pieces of material, which resembled fat lengths of rope about 1 inch in diameter, with negative spaces



For high-relief areas such as the trunk and limbs, thick pancake-like slabs of Smith's 4-n-1 Overlay are padded out and pressed onto the mesh.



Ochs airbrushes Smith's water-based concrete stain onto the surface. Since Smith Paint is known for its colors, he went with rich hues for the branches rather than using the natural colors of a cottonwood.

"All I had to do was wet the surface, press on the coil and hold it for a few seconds and it bonded to the previous layer," he says. When dry, he just shaved off the rounded tops so the flattish pieces better resembled cottonwood bark.

"There was very little mess and no wasted materials," says Ochs. "I got a lot more random movement in twisting and turning (with this method) than what I would have gotten if I had carved the traditional way." Plus, he adds, leaving the negative space between coils saved carving time.

### 4 In 1 formula

The tree bulges out about a foot to a foot and a half, which Ochs constructed on site with rebar and wire mesh. Once the armature was in place, he pressed



At this stage, you can see all of the colors used, but once the natural grays and whites are dry brushed across the surface (below), the colors between the bark are only realized as the viewer walks from one side of the tree to the other.



The background of the Smith's logo was left untouched except for lightly spraying the trunk colors upward from a low angle to make it look like an overhead light was illuminating the logo.



"pancakes" made out of Smith's 4 In 1 Overlay on top for his scratch coat. "Other people would have sprayed this on but I built it up to a 1/2 inch thick to give me a very strong structure. The 4 In 1 has a lot of polymer in it," he says. "It's really hard stuff — like 5,000 psi."

It was the first time Ochs used the 4 In 1 product, a single-bag dry mix that only requires water to produce a permanentbonding cement for interior and exterior installations. He troweled it on very thin and smooth for the mountain and sky background, made it thicker for the pancakes and stiffer yet for the bark. "The material can be used as a topical coating for vertical modeling and for stamping as well," he says.

It's such a versatile product, Ochs says, that he plans to introduce it to his sculpture class for a project involving making a sculpture over wire mesh. "It's my way of introducing the young ones into the field of decorative concrete."

### **Colorful touches**

As for coloring the tree, Ochs thought about going natural but knew gray wouldn't be the best color to represent a company that makes products in a wide array of colors. So, he first airbrushed five sections of the tree with dark red, blue, purple, green and blue again, with the colored sections starting at the bottom of the trunk. "As the colors come up the tree, each of the five hands becomes one of those colors," he says.

Next, he used a 4-inch house paint brush to dry brush the top and outside edges of the bark gray and white. "But I left the colors deep inside the crevices so when you walked around the sculpture, the colors were revealed to you. You can't see them all at the same time," he says. The water-based concrete stains, he adds, are from Smith's Color Floor Classic Series. Ironically, one of the only colors he didn't use was Bark Brown.



## Tiki Bar is Open

### Complete with cascading waterfalls and a spa in a glass Margaritaville, Falmouth, Jamaica

by Vanessa Salvia

OU'RE in port and want to disembark the cruise ship for a while and head to town for a little fun. Tropical heat, island music, yummy appetizers and of course those salt-rimmed beverages are all part of Jimmy Buffett's Margaritaville experience in the restaurant chain's newest Caribbean location in Falmouth, Jamaica. This pictureperfect setting is chock full of decorative concrete treatments, from a spa shaped like a margarita glass to a 30-foot bridge and waterfalls cascading into a pool.

You don't have to be a Parrothead to enjoy this pirate-themed bar that's only open when a ship is in port. "The world's largest cruise ships were often docked 20 feet from where we worked," says Bruce Riley, managing director of RicoRock Inc. in Orlando, Florida, and one of the project's contractors. "We always had the sense of someone watching us."

RicoRock Inc., a leading manufacturer of residential pool waterfalls in the U.S., has hundreds of dealers, but Margaritaville's

#### Project at a Glance

Client: Jimmy Buffett's Margaritaville, Falmouth, Jamaica

Contractor: RicoRock Inc., Orlando, Florida

www.ricorock.com

Pool concept: Bruce D. Robinson, BDR Design, Cincinnati, Ohio

www.bdrdesign.com

**Scope of project:** Create a tropical-themed resort destination with walkways, swim-up bar, lounging decks and a 2,500-square-foot pool

**Products used:** Shotcrete from local ready-mix plant; Caribbean Blue pool finish by CL Industries; Spider Tie concrete wall-forming system for pool perimeter; color hardener and stamps by Increte; stamp release agent by Sure-Crete; RicoRock's rock castings; RicoRock Waterproofing and Acrylic Stains, Stegmeier forms for pool coping and bar top; Quickspray Carrousel Pump for volcano textures, pool pumps by Hayward

Most challenging aspect: Working with hardworking but inadequately trained local crews, acquiring the right materials, accommodating language and cultural differences



Lounge in a 10-foot-high margarita glass made out of concrete at this resort pool with extensive decorative concrete finishes.

owners wanted to work directly with RicoRock because of the scope of the project and the company's more than 30-year history of creating waterfalls.

"Margaritaville bars are famous for being a great place to relax and most of the Caribbean locations have waterfalls as part of the resort atmosphere," says Riley, who only installs a few projects a year, mostly in the Caribbean. "Many homeowners return home from visiting resorts like this and want these same features in their own backyard."

### Piece of work

RicoRock knows how to work with the locals. "You get an appreciation for American know-how working out of the country but the local workers have a real enthusiasm for doing creative concrete treatments," says Riley. "Over my many years of working in the Caribbean I've seen how local Jamaican laborers become enthusiastic about learning how to do decorative concrete."

RicoRock Inc. contracted for this entire

Margaritaville installation and was familiar with the work environment in Iamaica because of work done the previous year for another phase. Riley, the project manager, supervised local crews with usually only one on-site American tech-support person.

About 350 yards of concrete were used for the pool and deck areas and about 40 yards of masonry materials. The concrete decks had three textures but all used color hardener and texture mats by Increte. Work on the pool phase at Margaritaville began in October 2013 and the pool opened two months later. The pool, designed by Bruce Robinson of BDR Design, is 2,500 square feet and only 3 1/2 feet deep.

"BDR designed the whole Margaritaville resort and the elaborate themed design is a critical part of the destination's success," says Riley. "Detailed plans also made construction go more smoothly, rather than a design/build approach that is less predictable."

The pool coping and bar top have a steel-reinforced concrete core and both



Stegmeier forms provided a bullnose finish on the pool coping and bar top. A steel-reinforced concrete core was capped with a white cement mortar mixture.



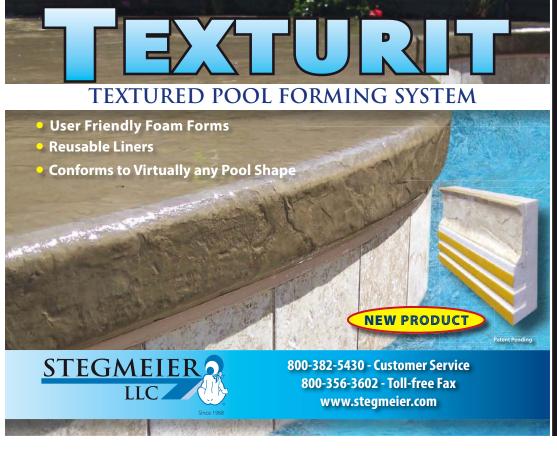
The bridge was formed with a plywood form, 2-by-4s and wood poles for support. A double layer of 5/8-inch rebar and 8 inches of concrete were specified.

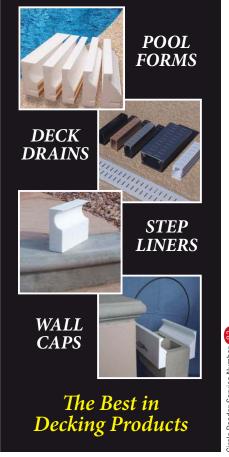
were capped with a rich white-cement mortar mixture. Hundreds of man-hours of grinding and polishing created a smooth and cool marble-like finish, making it nicer to elbow up to the bar. "The blue mosaic tiles on the barstools for the swim-up bar look great," says Riley. "The barstools were poured concrete and we used a foam mold specially made for this project."

Forming the pool with Spider Tie, a temporary framework that plywood attaches to for concrete placement, allowed for a smooth radius and uniform wall thickness. "This requires a level pad to secure plastic forms," says Riley. "And because the pool was built in fill dirt, the engineer required a double layer of #5 rebar and 12 inches of 3,000 psi concrete for the

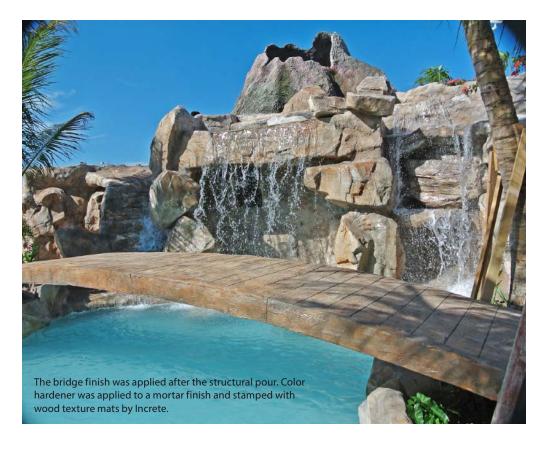
floor." To achieve a monolithic pour of 200 yards, a boom pump was used for the floor and shotcrete was applied to the walls. The entire shell was finished in 10 hours.

The bridge was specified to have a double layer of 5/8-inch rebar and 8 inches of concrete, and to be 7-foot high at the center and 6 feet 2 inches at the pool edge. The shape was created using 2-inch PVC pipe for









the arc, a plywood form, 2-by-4s and wood poles for support. "For the bridge finish, color hardener was applied to a mortar finish and stamped with wood texture mats by Increte," says Riley.

### **Volcano included**

Aside from the whirlpool in the shape of a margarita glass, the other astounding features are the volcano, waterfall and rock wall.

RicoRock castings were hung on concrete walls to create the waterfalls. Rock planters were created using steel-reinforced concrete walls and rock veneer. The volcano took shape thanks to rebar

Bar stools were poured concrete using a foam mold specially made for this project. Sea shells were embedded in the bar top for a subtle pattern.

and metal lath. "The volcano structure used SteelTex as an internal form," says Riley. "Waterfall areas received two coats of cementitious waterproofing prior to the finishing textures and the volcano texture was achieved with a spray texture using a Quickspray Carrousel Pump."

The pool coping also was a large job. "The coping mix was a white sand, white cement and an acrylic hardener from SCL Trinidad," he says. "Some fibers were added and a paddle mixer used and sea shells were embedded for a subtle pattern."

Fifty bags of cement that were ruined by rain were used as forms for the seat wall

with poultry netting and 3 inches of concrete over the cement bags. Hand-textured seat walls were in a castle stone style. Stegmeier forms were used for a bullnose finish on the pool coping and bar top.

Riley says to make no mistake about what hard work it is to create a resort atmosphere like this. Despite the fact the work was done in a tourist's dream destination, the crew worked hard and fast, although they did get to enjoy some of Jamaica's scenic natural beauty on the weekends.

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## Stonehaven, Julian, California

# Decked-out vacation getaway also doubles as a job saver and sales tool

by Gail Elber

A BOUT five years ago, when the construction industry was languishing nationwide and tilt-up concrete commercial jobs in Southern California were rare, Gregg Hamann of Hamann Construction in El Cajon, California, needed a project to keep his skilled workers employed between jobs.

His solution was for them to build Stonehaven, his vacation home that's a showplace of residential concrete construction, with poured and tilt-up elements, a concrete roof, polished floors and a pervious driveway.

For five years, Hamann kept his employees on the payroll with this personal "filler work" project that sometimes sat idle for months at a time when they had "real" jobs to do. The house was completed about a year ago.



# Photos courtesy of Hamann Con

### **Project at a Glance**

**Decorative concrete contractor and general contractor:** Hamann Construction

www.hamannco.com

Client: Gregg Hamann

**Design:** Gregg Hamann and Paul Giese, Hamann Construction

**Project scope:** A house showcasing concrete construction techniques

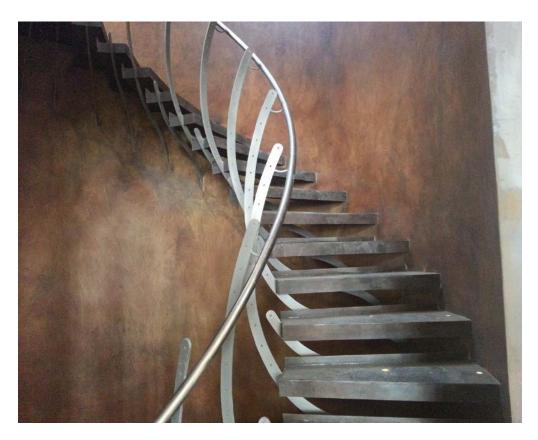
Ready-mix supplier: Hanson Aggregates

Pervious concrete consultant: Concrete

**Management Solutions** 

**Products used:** Solomon Colors color admixture, HydroMax super absorbent polymer by ProCure USA, Recover hydration stabilizer by W.R. Grace, PerviouShield surface curing agent by Concrete Management Solutions, Tridipanels foam insulation system by Hadrian Tridi-Systems, K-Form USA forms for driveway, Lightning Strike Roller Screed by Lura Enterprises

**Challenges:** One hour and 45 minutes travel time from ready-mix plant, with 4,200-foot increase in elevation; pervious driveway formed in curved sections, colored to match the house; portico formed in midair on a casting slab; 24-foot-high walls poured in lifts of different colors with curved interfaces, waterproof concrete roofs poured with Type K concrete.



### Layers of color

Hamann and Paul Giese, the company architect, collaborated on the design. The walls were poured in place in colored layers that match the area's rocky landscape, looking "as if somebody found this great knoll of sedimentary rock and carved the house out of it," Hamann says. An S-shape in the roof and walls pays homage to the contour of nearby Volcan Mountain.

The house's roof is made of Type K shrinkage-compensating concrete, containing a compound that expands as it cures to make up for portland cement's tendency to shrink. That means Type K can be placed to create large, waterproof slabs that don't need control joints. This expansive concrete also enabled the crew to form irregular window openings accurately to size.

For the 24-foot-high walls, the crew erected vertical forms, using hardboard on the outside and Hadrian Tridipanels (foaminsulated panels) on the inside, and poured five layers of concrete in different colors. Because Hamann wanted layers that were contoured, not flat, the Tridipanels were installed to the height of one 4-foot lift at a time so the crew could see what they were doing instead of having to peer down into a 24-foot-deep cavity. After each lift was poured, the next course of Tridipanels was installed.

Seashells were added to one of the layers as an accent visible on an interior and exterior wall. To get them to stay put during vibration, they were attached to the form with double-sided carpet tape.

### Curves in the air

The curved portico was cast in midair. On scaffolding, Hamann's crew first built a form for a thin "casting slab" — a 1- to 3-inch-thick disposable concrete slab with



Type K shrinkage-compensating concrete enables accurate forming of irregular window openings, such as these.



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### PROJECT PROFILE



The crew pours a section of the pervious driveway, compacting it with an aluminum roller screed.



The pervious driveway is colored with five different colors to match parts of the house.

a curved top that served as a form for the underside of the portico. Next, the crew placed the rebar for the portico and drilled holes into the casting slab to hold fiber for fiber-optic lighting tied off to the rebar. Quartz from the job site was set into the top of the casting slab so it would protrude from the underside of the portico. After the crew poured the portico, the casting slab was dropped away.

But it wasn't wasted. The slab was broken up for "urbanite" (broken concrete) walkways. Test slabs from other parts of the house were cut up into picnic tables and meditation benches for the yard.

The roofs were cast in place, except the tower roof, which was cast on the ground and lifted into place — a precise operation, since the top of the tower is not flat and the tower is not round. The concrete roofs are textured for safe walking. "Everybody who visits my house spends some time on the roof, unless they're really afraid of heights," Hamann says. "It's beautiful up there."

Other tilt-up elements in the house are the front door surrounds and the fireplace mantel. The kitchen island was poured in place.

The floor was colored with a charcoal stain, ground till the aggregate showed through and then polished. Hot water circulates through the slab, heated via a heat exchanger connected to solar hot water panels on the roof. The solar heat is one of the features that contribute to what Hamann terms a zero carbon footprint for the house.

### Pervious driveway to match

Another green feature of the house is the pervious circular driveway. The water that

trickles down through the pervious slab is collected in a 14,000-gallon cistern and used for toilet flushing and irrigation.

To design the driveway, Hamann consulted Bob Banka of Concrete Management Solutions, a firm in Medina, Ohio, specializing in pervious concrete. He asked Banka to come up with pervious mixes for five different colored sections to match the walls of the house.

Banka used a pervious mix based on a 1/4-inch stone aggregate from Hanson Aggregates in San Diego. The stone had 41 percent voids, and 21 percent cement paste was added to that.

"A lot of people are afraid of pervious," Banka says. Pervious concrete used to have a reputation for low strength and durability because typical mixes contained too much cement and did not have enough water designed into the mix to fully hydrate the cement. To eliminate that problem, Banka adds HydroMax, a superabsorbent polymer admixture for internal curing, to the pervious mix. It absorbs the extra water designed into the mix and releases it slowly as the cement paste cures. The mix, he says, discharges faster, finishes easier and hydrates more completely than one without HydroMax.

To form the curved sections of the driveway into which the different colors were poured, Banka used K-Form PVC forms. The flexible forms have a top cap strong enough to support an aluminum Lightning Strike roller screed. In this case, after screeding, the top cap was stripped off, leaving a control joint.

Banka conducted a five-hour class to train Hamann's crew on how to install

pervious concrete. He followed that with a half-day, hands-on session at one of their local jobsites where he showed them how to finish and finesse pervious.

One of the challenges the crew faced was that the ready-mix plant was at sea level almost two hours away from the 4,200-foothigh jobsite. But with the proper dose of hydration stabilizer, the crew still had more than an hour of working time to level the mix with a roller screed and edge it after the concrete was placed.

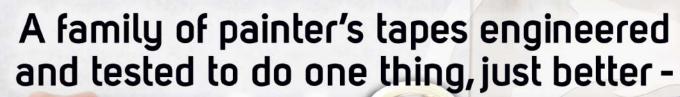
To properly cure the surface of the newly installed pervious, the crew sprayed it with PerviouShield, a curing compound blended with a densifier that helps hold in moisture during curing and then biodegrades after 28 days to allow rainwater to permeate the finished slab.

#### House of a different color

The house was not only built to conserve water and electricity but also to withstand wildfires. Metal shutters drop over the windows to protect them in the event of a fire. When fire approached the property last summer, the pervious driveway proved its strength by bearing the weight of firefighting equipment.

In addition to being a pleasant getaway for Hamann's family, the house serves as his sales tool. Prospective concrete home customers can spend the night and see what features they might like on their own projects.

Hamann estimates 60 of his employees worked on the house at one time or another. "They lived up to my expectations," he says. "You can see why I didn't want to send them off to the unemployment line."





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## How Do You Combat Efflorescence on a Stained, Sealed Floor?

by Chris Sullivan

uestion: In our home in Houston, we have a stained concrete slabon-grade floor covered with white powder. We had the floor tested and the white powder was identified as salts escaping and clouding the floor. During the three years we've lived in the house, our builder has tried various things to fix the floor. First, he tried redoing the stain and sealer, but the same discoloration happened. Recently, the builder removed the sealer and waxed the floor to allow it to breathe and the salts to rise through the floor. The salts are now easily wiped away, but the wax is wearing off and sticking to our socks, shoes and dog's paws. Can anything be done to salvage the floor? We have thought about tiling over it, but want to know if any special preparations are necessary.

 INCE you have had this issue for three years, it sounds like you have a chronic and ongoing efflorescence problem. Efflorescence is salt deposited on surface concrete and masonry. It is created when water carries free salts out of concrete or masonry and they react with the atmosphere, producing insoluble salts typically white in appearance.

Water is the trigger that makes efflorescence happen. Do you have a high water table, flood plain or other situation that's causing water to get under your concrete foundation? Anything you can do to minimize water migration under your concrete will help. This would include installing French drains or possibly regrading the slope of your property to carry water away from the foundation. The fact that you live in a coastal area does

not help, as the water table is probably high, along with the salt content in the soil and water.

Efflorescence will not only cause problems with a stained and sealed concrete floor, it can also delaminate tile and warp wood floors. The best approach would be to strip the sealer from a small area and perform a moisture test — either a calcium chloride moisture test or an electronic surface moisture test — so you can get an idea of how much moisture is in the slab.

The calcium chloride test will show the amount of moisture moving through the top section over a period of time. A simple math calculation provides a rate of moisture movement in pounds per square foot. The electronic surface moisture test will show the amount of moisture on the



surface at a given time. The test results will dictate your next step.

If the moisture movement or content is low, a penetrating sealer designed to stop or slow efflorescence can be used. Some of these penetrating sealers can be applied directly over the stain without issue. After the sealer is applied, you can reapply a stain or dye to the floor as needed.

If the moisture movement is high, a more drastic and aggressive topical waterproof coating may have to be used. If you then want to re-stain the floor, you need to apply a polymer-modified cement-based topping to create a new canvas on which to apply the stain. If you want to tile over the floor, the same water mitigation procedures would have to be completed.

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.



White efflorescence caused by high water movement pushes salts out of a residential stained and sealed concrete floor slab.



## Concrete Lounge Chair Design

### Comfortable, cool poolside lounging is possible

by Jeffrey Girard

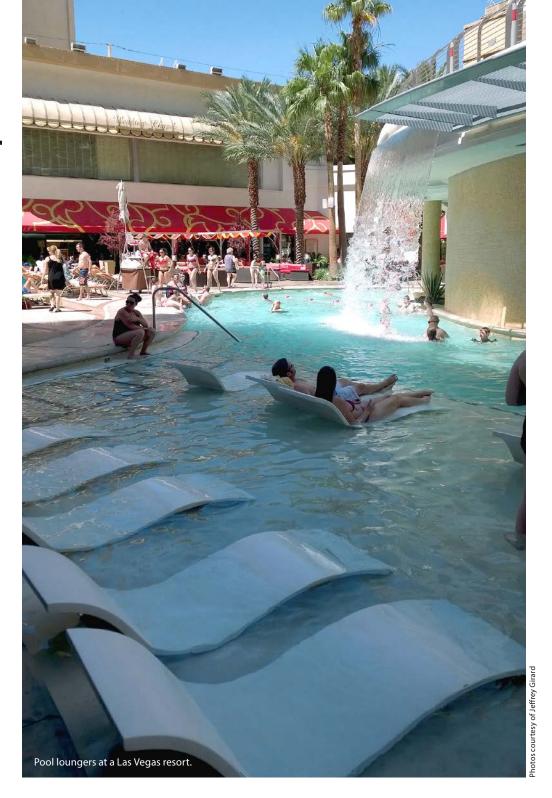
ONCRETE lounge chairs are one of the hottest applications of concrete furniture made with glass fiber reinforced concrete (GFRC). The curved lines of a lounge chair plus the thought of lounging in the summer sun with a cold drink in hand appeal to all the senses. Lounge chairs are popular with hotels and resorts, which are often based in tropical locations that can be prone to hurricanes. A GFRC lounge chair offers the best combination of being light enough to move around and heavy enough to not be easily blown away. Plus, endless customizations are possible with concrete.

### Design considerations

The first step to creating a concrete lounge chair is designing it. Design is much more than just creating a particular look or shape. The design of a lounge chair (or other chair-like object) has to address multiple considerations, some of which are:

**Purpose** – A lounge chair should provide a comfortable surface to support a reclining person. Your particular lounge chair design may have special purposes. Is it meant to be a place for brief sitting or a place to lounge for a few hours? Will it serve multiple purposes such as sunbathing, which might require a more prone position, and drinking or eating, which would require a more upright position? These factors influence the shape and functionality of the lounge chair and any accessories such as cushions, arms or a stand that supports the chair and allows for adjustment of its angle.

**Location** – Will the lounge chair be in a sunny location, where a dark color would become too hot? Will it be partially



submerged in a shallow wading pool? Will it be placed on a grassy or uneven surface? Will it be indoors, perhaps in a spa relaxation room? Is it meant to be moved? If so, by how many people?

**Aesthetics** – Here, color, shape, texture and pattern come into play, and this is what many people consider design, but in reality it's only part of what good design addresses. Do the clients desire a massive, blocky look or do they prefer a slim, sinuous profile? Is there a particular color scheme or company

branding that needs to be incorporated?

**Physical characteristics** – What is its size, shape and mass? How heavy can it be? How much force does it need to withstand?

**Anthropometrics** – How does it fit the bodies of the people who will use it?

### Design steps

Design is an iterative process, but there are several basic steps.

**Inspiration** – When I first designed the lounge chair you see in many CCI class

photos, I drew inspiration from different sources. I recalled there being a lounge chair mold and seeing lounge chairs created by Buddy Rhodes. I looked online for concrete lounge chair photos. I considered the places I had seen lounge chairs and times when I had used chairs for lounging.

For my lounge chair I thought of something that would go outside, on a patio by a pool or in a garden, and allow a person to comfortably sit and read or relax. Most people tend to bend their legs a little even if they're lying on a horizontal surface, so I wanted the chair to have a knee bulge to hold the person in place and provide effortless back support.

**Prototyping** – Once you've decided on your basic design and made some sketches, you need to test your design before building a complex mold and casting it in concrete. An easy and effective way to do this is to cut pieces of cardboard and tape them together.



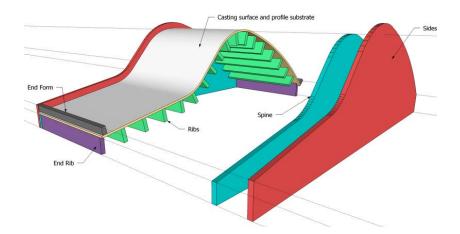
A student tests a cardboard mockup.

Corrugated cardboard is actually quite strong, and it will not only provide a full-size mockup but also help you decide how to make the mold.

Alternatively, you can use something like multiple pillows or foam pieces piled on the floor and adjusted until your body is comfortable. Take measurements of key body positions such as the angle of your









The mold here is ready for casting, except it's missing the end pieces.

bent knees and how high off the floor they are, essentially using yourself as a mannequin. Ideally, follow this with a cardboard mockup, and test with multiple people with different body shapes.

Test things like comfort, ease of getting into and out of the chair, and what happens when you lean backward or forward.

**Refinement** – To create a precisely dimensioned mold, you'll need to create detailed drawings of your chair, either on paper or using a computer program such as Google SketchUp. You can also tweak design details such as the thickness and width of the chair.

If you are able to use a computer program, it will tell you the exact lengths and angles you've created, and you can use that to create the mold.

### Creating the mold

The molds for most lounge chairs or curved furniture have the same basic construction:

- Two spine pieces form the profile of the chair.
- A flexible casting surface follows the profile of the spine.
- Ribs support the casting surface, determine the width of the chair and connect the two sides.
- Two side pieces and two end pieces tie the whole mold together and determine the chair's thickness.

I use plywood coated with epoxy for the ribs, spines and sides so the mold is reusable. Melamine can also be used, but will not last for





laminate as the casting surface, and the curved substrate that supports the laminate is bendable plywood.

### Casting the concrete

GFRC lounge chairs use the same basic good practices as regular GFRC creations:

- A mist coat for the visible surface.
- Fibrous backer placed in thin layers and compaction rolled.
- Two layers of scrim are placed on the first and the second-to-last backer layers and are laminated on with compaction rollers because the chair is thin and will have high stresses.

Since both sides of the lounge chair will be visible, I bring the last backer layer to about an 1/8 inch shy of the mold sides. I then apply a final layer of mist coat, screed it with a straight edge and trowel it flat and smooth.

### **Endless possibilities**

The great thing about lounge chairs is they are a fun way to create a small but striking project that incorporates some playful design. You can create patterns with different colors or embed decorative accents such as tiles. I think a fantastic application would be to create a company logo in lounge chairs for a resort.

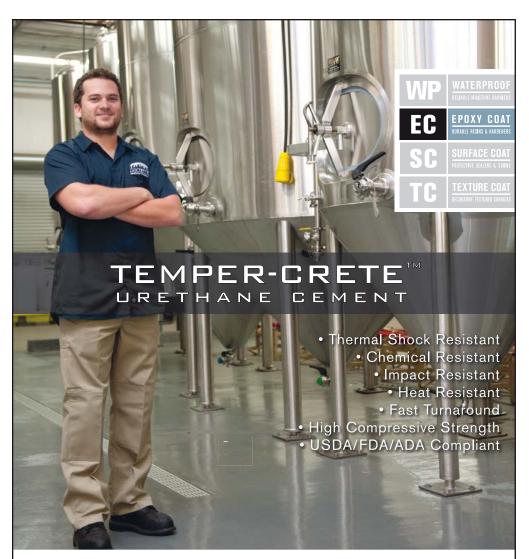
There are two basic ways to create different colors on the lounge chair's surface:

• Tape off sections and apply a thin layer of various colors of concrete section by section, then follow with the rest of the concrete in a solid color. This method works best for large sections of color.

• Create voids in the surface of the concrete by casting over shapes adhered to the mold surface. After de-molding, fill in the shallow voids with various colors of concrete grout (the same grout formula you would use to fill pinholes). This method works best for small accents of color. Because grout has no sand, it is very difficult to shape it to fit the profile of a lounge chair.

Be creative! I've applied foam stickers from a craft store, adhered duct tape and glued in tiles. The results are on the following pages. As you can see, the possibilities are endless.

Jeffrey Girard is founder and president of The Concrete Countertop Institute and a pioneer of engineered concrete countertops. He can be reached at info@concretecountertopinstitute.com.



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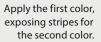
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### A striped chair is made using method No. 1:



Apply the second color.







The third color is applied.

The colors wrap around the edges.

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#### A polka-dotted chair is made with method No. 2:





After de-molding, some of the stickers are pulled out. Others are removed with tweezers. Various grout colors are applied.



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# **TIPS** for Getting **Better Stamped Texture**

by Steve VandeWater

↑ TAMPED concrete can be a beautiful addition to any property. However, poorly textured concrete can be an eyesore for the owner and a headache for the contractor. Often, certain spots are simply "missed" while stamping, and contractors don't realize it until they wash the slab before sealing. Other times, the concrete may have set up to the point where getting good texture is next to impossible.

Experienced contractors have seen these scenarios and many have learned from their mistakes. Over the years I've learned several tricks that will help achieve better texture. Some of them may seem crazy or contrary to what you normally do, but each was very valuable to me during my contracting days.

#### 1. Stamp early.

In my 18 years as a concrete stamper, my crew only used a tamper a handful of times. We didn't need it because we simply walked the stamps into the surface. Sure there was occasional stomping when things got tight, but in my last several years of contracting I didn't even own a tamper.

Early on, I discovered improperly used tampers contribute greatly to "blowouts." The sudden downward pounding action of a tamper, especially on tight surfaces, bows the stamp's center down. This in turn flexes the stamp's edges outward which pushes against the concrete's surface, causing it to flake away (blow out). Stamping with only foot pressure eliminates this sudden flexing action. But



On this poorly textured surface, there is no texture near the stamped joints.



Here is an example of proper imprinting, where the stamped texture goes all the way to the stamped joints.

how did we walk stamps in? The answer is simple. We started stamping early.

Most contractors wait too long to begin stamping. It would be better if they began stamping as soon as the concrete could bear their weight without creating "bird baths" (oval depressions in the slab which collect and pool rainwater). The finished stamped slab should exhibit almost all of the texture seen in the actual stamping tool.

Most often, much less texture is seen on the finished surface than on the stamps, indicating the stamps weren't properly "bottomed out" against the slab. Usually, it's because the concrete is so hard that the stamp's molded joint lines hold it above the slab's surface, rather like table legs. When this happens, there's ample texture in the middle of a stamped "stone," but little to no texture at the edges. The texture should be evident all the way to the joint.

When concrete is still soft, it's much easier to properly bottom out the stamps. However, there's a fine line between stamping at the right time and starting too soon. If workers sink into the slab instead of just bottoming the stamps out against it, they have begun stamping too soon.

#### 2. Use evaporation and set retarders.

Often, stampers are fooled into thinking the slab is hard enough to stamp because the top surface has crusted over. The concrete underneath, however, is still very soft. When they start stamping, workers sink deeper than expected and the surface exhibits a rolling, "pillowing" effect and the crust cracks.

To keep the top from drying out prematurely, apply an evaporation retarder such as MasterKure ER 50 from Master Builders, or a similar product. When sprayed on the floated concrete surface, this liquid forms a thin film which holds mix water in the slab longer. It slows evaporation, not set time. Evaporation retarders shouldn't be confused with surface-set retarders, which are used for installing exposed aggregate or sand matrix finishes.

To keep the concrete from setting too quickly, set retarders can be batched into ready-mix trucks. They slow the set time which allows for additional working time. There are also products such as Fritz-Pak Mini Delayed Set which contractors can add to trucks onsite. When this is done midway through the pour, the remaining load's set

time is slowed, so the last half of the slab doesn't get away from them before it can be properly textured.

#### 3. Crawl the slab.

Many contractors don't get out on the slab prior to stamping. They work the edges with hand tools, but the larger field is only bull floated or bull trowelled. This may provide a smooth surface, but bull floats and fresnos are so light they simply skim across the surface, glazing it over. They don't really "work" the concrete. As a result, the top becomes crusty and hundreds of crusting cracks or just too-smooth texture occurs.

To really get the slab worked up, send a few guys out on kneeboards just before the stampers begin. Their weight, combined with the action of vigorously floating the slab (not troweling it), works up the surface. The concrete on top of the slab is the same consistency as the concrete throughout its depth, and it stamps much easier. This is probably the simplest way to achieve dramatically improved results. Hand floating eliminates crusting cracks and provides a slightly grainier finish, which is more attractive and slip-resistant when sealed.



#### 4. Carry a textured roller in your truck.

If the slab starts to get ahead of you, it can often be saved by rolling the entire surface with a textured roller ahead of the stamp crew. This is a quick and easy way to get texture. Let's face it, no matter how hard the slab is, you can almost always see the joint lines left by pattern stamps but often not any texture. If the rolled texture is already there before the lines are stamped, the slab will usually be acceptable.

#### 5. Wear texture shoes.

A great tool which allows a stamper to get out on the slab sooner is a pair of texture shoes. Butterfield Color manufactures the finest version of these shoes that I've found. These easily slip over a pair of work boots and are held in place by friction — no straps or buckles to deal with — and are like a pair of oversized sandals. The rigid molded bottoms, several inches larger than a man's foot, act like a pair of snowshoes. They distribute the wearers' weight over a larger area, allowing them to walk on soft concrete without sinking in. The molded shoe bottoms exhibit the same textures found in many stamping mats, so if workers accidentally step off of a stamp and onto the concrete, they don't leave a telltale tread mark.

Texture shoes are especially effective when stamping with texture skins. Skins are so thin and flexible that it's easy to get bird baths by stamping too early. Texture shoes alleviate this problem and allow one to get all the texture without creating bird baths.



Texture shoes allow a crew to get out on a slab as soon as possible to begin stamping. The stamping in this photo was done without a tamper.

#### Start in the middle.

I learned this most-unusual tip years ago from Steve Smith, a fellow contractor from Maryland. When he told me about it, I thought he was insane. However, once I began doing it, my stamping immediately became more uniform.

Starting on the center line of the pour, two people begin stamping in opposite directions. This eliminates the common problem of having drastically different texture on opposite ends of the slab (as often happens when concrete sets up too quickly). Often there's great texture where the stamping begins, but almost none on the far end of the slab where the concrete was getting hard.

This unorthodox procedure of starting in the middle requires contractors to have more stamps than normal, but it's a great way to get consistent texture throughout a slab. It's especially beneficial on slabs which will be extended with more stamped concrete on a later pour.

#### 7. Use liquid stamp release.

When stamping with powdered antiquing release, it often appears a particular stamp has been tamped in. However, when washing the surface the next day, contractors sometimes find the stamped impression was only in the release, not the concrete. By then, it's too late to stamp any texture and they get a lighter colored, shiny spot surrounded by areas with good texture.

To eliminate this, try using a clear liquid release (often called bubblegum because of its smell). With clear liquid release, stampers can see exactly what texture was achieved. In addition, clear liquid is a vastly cleaner product with no unhealthy airborne dust.

The problem with this product is that it does not offer the added benefit of a secondary, antiquing color. Many contractors solve this problem by adding some powdered antiquing release to liquid release and using this mixture to antique the slab after stamping. This isn't a good practice, as none of the antiquing color is embedded into the paste. It simply lies atop the slab, held in place by the sealer. When the sealer flakes or wears away, so does the antiquing color, leaving a blotchy surface behind.

A far better way to antique after using liquid release is to use something like Butterfield Color's Perma-Tique, a pigmented, powder you mix with water. The day after stamping, apply it to a dampened surface, where it will puddle in low areas of texture and in the stamped joints.

Because it is applied to dampened concrete, the pigment flows off the high spots and colors only the low areas. This provides a well-defined contrast between the concrete's antiquing color and the base color. When dry, Perma-Tique forms a tenacious bond with the surface that may withstand years of weathering, even on neglected, unsealed stamped concrete.

So there you have them — seven tips that can yield far better texture while stamping. Although I was reluctant to try some of them at first, these simple tricks took my company's stamping to the next level. They can do the same for yours.

Steve VandeWater, a former decorative concrete contractor, is the creator of the Indiana Decorative Concrete Network website www.indecorativeconcrete. com. He currently manages The Concrete Store at Sagamore Ready Mix in Fishers, Indiana.

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WHAT AMERICA'S MADE OF

# CPAA Adopts New Position on Measurement of Polished Concrete Floors' Slip-Resistance

by Jennifer A. Faller

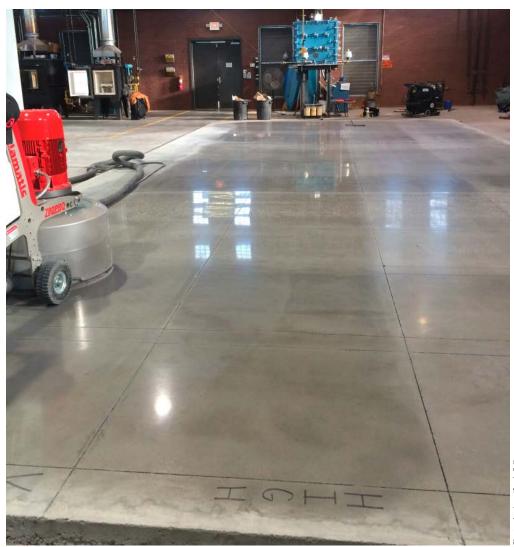
N April 2015 the Concrete Polishing Association of America (CPAA) adopted a new position on the measurement of slip resistance of bonded-abrasive polished concrete floors. This position was taken in light of the continued lack of regulations for walkway-surface slip resistance and to recognize a new, research-based measurement standard being adopted by an increasing number of hard-surface flooring manufacturers.

The position adopted by the CPAA includes use of the test method described in ANSI A 137.1-2012. Research into the slip resistance of bonded-abrasive polished concrete provides strong evidence that this test method is accurate and repeatable. While not yet published in a position statement, the CPAA recommends a minimum wet dynamic coefficient of friction (DCOF) value of 0.42 for acceptance of the bonded-abrasive polished concrete floor when tested using the ANSI A 137.1-2012 test method.

This decision was made after the CPAA board of directors carefully considered a recommendation from its Standards and Specifications Subcommittee on Slip Resistance. That subcommittee had recently completed a seminal study of the slip resistance of unsealed polished concrete at the Tile Council of North America (TCNA) Product Testing Lab at Clemson University. It had been asked to evaluate the appropriateness of the ANSI A 137.1 test method and target threshold for polished concrete.

That six-month study led to a wealth of data indicating that professionally polished concrete offered impressive slip resistance across a full range of aggregate exposure/ gloss finish combinations. In fact, the subcommittee found that polished concrete consistently met or exceeded the tough DCOF target threshold of 0.42 established by ANSI A 137.1 for tiles meant to be walked on wet.

The ANSI Standards Development



(From left) Very-high, high, medium and low-gloss levels of polishing are complete.

Committee A 108 developed this new test method as part of its national standard specifications for ceramic tile. The slipresistance measurement method specific to that standard could be applied to more than ceramic flooring and was considered by many to be suitable for all hard-surface floors. That conclusion was reached by the Marble Institute of America and was being evaluated by the National Terrazzo and Mosaic Association.

#### Available friction explored

The methodology's origin and its 0.42 quantitative threshold was developed after years of intensive research in Germany, Great Britain and other European countries. That research concluded that even the most vulnerable pedestrians could reduce their risk of slipping while walking to one in 1 million (or better) if the "available friction" at the level floor-shoe interface met or exceeded DCOF 0.42. The concept

of "available friction" is that, regardless of prevailing conditions (wet, dry, clean, contaminated), the walkway surface should still deliver a certain DCOF to prevent a slip from becoming a slide and possibly a fall.

The available friction required for a pedestrian to not slip-slide-fall can vary depending on the pedestrian's postural control and level of awareness during walking. Many studies have postulated that the level of required friction may vary from individual to individual and from walkway geometry to geometry (level straight, level turning, inclines, stairs, etc.).

Until the 1990s, the consensus had been that DCOF values between 0.30 and 0.36 were adequate for most of the population. In an effort to establish a target DCOF threshold that not only covers virtually everyone but also limits the risk of slipping on level floors to less than once per 10 years of normal walking, German researchers conducted a three-year study at university and government labs. This study lead to the target threshold of 0.42 DCOF. This number included a margin of safety that considered the risks society will accept in day-to-day activities.



Each of the 16 squares has its own specification and individual outcome.

#### Focused research study needed

The TCNA, secretariat of ANSI A 108, used the German research principles to study how ceramic and like tiles measured up to the DCOF 0.42 target. It concluded that tiles meant to be walked on wet could and should meet that standard. It defined a very specific process to take DCOF measurements and built this into its ANSI A 137.1 standard. which was released in 2012. The CPAA asked itself if that research and measurement method could apply to polished concrete



The CPAA measured the gloss of all 48 individual squares to ensure the gloss levels as defined by the CPAA were met.

and concluded that focused research should be conducted to come up with an answer. They tasked me and Peter Ermish, general manager of Regan Scientific Instruments, to design and conduct that study.





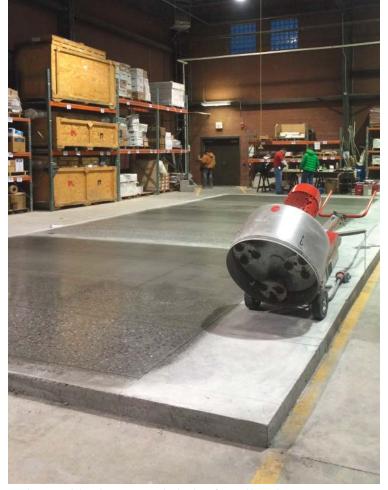


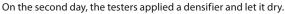




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Seen here are two processed squares.

Following CPAA specifications, three identical test slabs were placed. Each slab was subdivided into 16 test sections, each one representing a combination of the CPAA standards for aggregate exposure

(large, medium, salt and pepper, cream) and for gloss finish (low, medium, high, very high). The actual polishing was done by CPAA-trained experts Ardor Solutions and Concrete Floor Systems using a tripleheaded counter-rotating machine donated by Diamatic USA.

Using three identical slabs gave the research the strongest possible statistical validity and allowed for anomalies to be excluded that might skew test results. Using a BOT 3000E tribometer, which had been approved for use with the ANSI A-137.1 standard method, lab technicians conducted 144 individual test series, or 36 complete tests for each gloss level. The wetting agent used was mixed to the standard's exact requirements. The results were reported as averages for the 48 test sections, i.e. 16 sections for each of the three test labs. And those results were impressive.

Every combination of aggregate exposure and gloss level achieved wet DCOF values well in excess of the 0.42 target. They ranged from a low of 0.49 (large aggregate/very high gloss) to a high of 0.58 (cream/low gloss). This implied that even in the presence of high-viscosity contaminants, a polished concrete floor (not otherwise treated) would deliver friction that ranks among the highest of any flooring type. With proper maintenance and cleaning, those floors will consistently meet or exceed pedestrian requirements for normal, safe walking.



Although the category values were averaged from all data points, it's worth noting that individual test analysis results showed an amazing level of consistency. When the exact process steps as defined by the CPAA and the leading manufacturers, in this case Diamatic, are skillfully followed, there is almost no variability in the slip resistance of the floor.

#### Statistics and acceptance

In statistical terms, the lab reported that all combined aggregate values had a confidence level of more than 99.9 percent. A confidence interval of 95 percent is considered very high. This was the confidence level the CPAA board was looking for. The balloting to adopt the ANSI A 137.1-2012 measurement method produced nearly unanimous approval at the subcommittee, committee and board level.

While the research didn't include surfaces that might be sealed or coated with protective chemicals, it does establish the high initial slip resistance of polished concrete. To measure the impact of postpolishing coatings, individual products can be tested for their effect on a given polish finish. This testing can be conducted by any of the chemical manufacturers and documented for potential users.

The details of the research study and an analysis of the results were presented to a receptive audience at the 2015 WOC Concrete Polishing Luncheon and Forum back in February. Ermish and I reviewed the important advantages this research, and subsequent adoption of the new ANSI methodology, would give polished concrete contractors nationwide.

A walkway tested and certified to this standard will give the architect/specifier, contractor and owner powerful legal protections against slip and fall litigation. Courts use well-defined criteria to measure whether expert testimony is admissible or not. This has to do with the requirement for proven, scientific methods and the acceptance of those methods in the relevant community, particularly polishing contractors and other flooring manufacturers.

It is imperative that this new CPAA position be adopted by as many contractors as possible, as a unified approach is one of

the most critical elements concerning court acceptance. Of course the chain of solid, scientific research, begun in Europe and now advanced by the CPAA, the TCNA, the MIA and others gives this method its greatest strength and momentum. However, each polishing company that implements this testing method will strengthen that critical mass.

In conducting this research and in its willingness to work with other concerned flooring associations, the CPAA has proven its commitment to being a valuable resource for architects, contractors and facility owners/managers needing nonbiased answers surrounding specifying, installing or maintaining polished concrete. More important, the CPAA has demonstrated that safety is and will remain a leading focus for its members.

Jennifer A. Faller has been in the surface preparation and concrete polishing and chemical industries for two decades. She is Diamatic USA's national account director for Ultraflor architectural polished concrete system. Contact her at jennifer.faller@diamaticusa.com.



### The Polishing Consultant

## Concrete Placement (Part 3 of 3):

### Mix Designs

by David Stephenson

N the first two parts of this series, we discussed concrete finishing and concrete curing. The third topic of our discussion is usually the first one you deal with in a project — the concrete mix design. Readymix suppliers create mix designs to meet specification requirements. Some mixes have higher compressive strengths while others may be more liquid to accommodate pumping to an elevated pour. There are endless options when it comes to mix designs.

Mix designs are always a little tricky. As most Concrete Decor readers are not architects or engineers, there is a lot of risk associated with modifying a designed and engineered concrete mix. You don't want to alter the structural strength of the slab as other, more serious issues can occur if you do. Alterations are best left to the ready-mix supplier, the architect or the structural engineer.

As a contractor, there are a few things you can look for in mix designs that are "red flags." These issues can be potentially detrimental to the decorative or polished concrete installation.

#### Determine percentage of fly ash and/or blast slag in the mix

The first item to note is the percentage of fly ash or blast slag that's in a mix. Sometimes you see both used, and other times it may be one or the other. Both are detrimental to polished concrete; I cannot stress that enough. An all-cement mix will give you a much tighter paste cap that's easier to polish and will hold up longer. With this being said, there are many situations where an all-cement mix is not what the customer wants. For example, fly ash and/or slag may be preferred when constructing a LEED-certified building, as recycled material adds points toward a LEED point goal.

It's easy to determine the percentage of these cement substitutions. Take the pounds of fly ash or slag listed in the mix, add them



Sometimes when the paste layer is removed during polishing, air voids are exposed and create an extremely pitted surface.

together and then divide that number by the total weight of the mix. The resulting number gives you a total percentage.

For explaining purposes, let's say you have a mix with 800 pounds of portland cement and 200 pounds of fly ash and/ or blast slag. Added together we get a total weight of 1,000 pounds of material. When you divide the 200 pounds by 1,000 pounds you get .20 or 20 percent ash and/or slag.

When you chemically densify a slab, which is an integral part of the polishing process, a chemical reaction occurs with the leftover cementitious material that was unreacted during the concrete-making process. This chemical reaction creates crystals in the slab's pores that fill in a portion of the open air space in the slab, making the surface harder and denser. The harder surface lasts longer and is easier to maintain.

The higher the ash and/or slag percentage, the lower the amount of material left for the densifier to react with. The maximum ash/slag amount allowed by



Other times air voids below the slab's paste surface will create bubbles which combine to make blisters. These often later break apart with traffic or maintenance.

most densifier manufacturers is 20 percent. If you see a mix design with a higher ratio, it needs to be addressed and modified.

#### Admixtures are important

Admixtures are also an important piece of the mix design puzzle and are used for multiple reasons. They can accelerate the cure time of the concrete in cold weather, retard the cure time in hot weather and replace water in pumpable mixes to allow them to flow easier. These are the most common but not the only uses for admixtures. It is important to discuss the admixtures with the supplier to see their effect on your decorative process.

Years ago I worked on two school projects in Houston, Texas. Both were being built at the same time by the same general contractor and placed by the same finisher. When it came time to color the floor, well after the concrete was placed, we discovered the admixture would not let dye penetrate the slab. No matter what I tried, I could not get color into the slabs. Densifier also pooled on the surface with no penetration. This obviously created a big issue with my customer and a lot of additional costs and





frustration on my part. After doing a lot of research, we found out that the admixture used contained latex. If we had known this early on, it would have saved a lot of time, money and heartache.

#### Strength is hard to measure

The main testing for concrete mixes is their compressive strength. As long as the concrete is not crumbling apart, the compressive strength really has no relation to or effect on decorative concrete. The polished concrete process relies much more heavily on concrete's tensile strength, which is the ability to withstand pressure from side to side.

There's no easy way to measure this strength in a concrete slab. The best way to ensure the slab will produce a good polishable finish is to have a well-graded slab where all the materials fit tightly together. This process can only be achieved during the finishing process.

Do not get caught up in the compressive strength of the mix design. I have had 3,000 psi slabs that were very difficult to grind and polish, and I have had 7,000 psi slabs that were extremely easy to cut into.

#### Air voids can create havoc

The final thing to consider is the allowable air content in the mix, as air can hugely impact the finished product. Sometimes when the paste layer is removed during polishing, air voids are exposed and create an extremely pitted surface.

Other times, air voids below the slab's paste surface will create bubbles which combine to make blisters. With traffic or maintenance, the blisters break apart. This leaves a free-floating, delaminated surface that will eventually lead to tripping hazards and maintenance nightmares.

While there's no way to ensure that absolutely no air is introduced during a slab's mixing and placement phases, you should note what the mix design allows. I recommend that entrained air be less than 3 percent, as I've never seen any project with issues when the air content is that low. This is an easy item to find in the mix design, and it can be easily modified without affecting the overall strength of the mix.

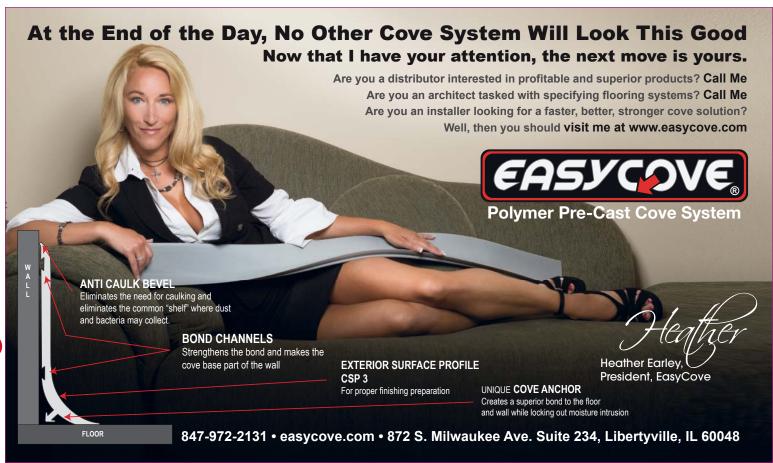
#### My sage advice: Leave big modifications to others

Be careful about accepting the liability

of making major changes to the structural design elements of concrete mixes. The overwhelming majority of concrete mixes can be effectively used for decorative concrete finishes. I recommend you take the items discussed here and provide them as suggestions for modification to allow for a better overall finish specifically for decorative concrete applications. Remember that the concrete placement contractor, general contractor, architect and customer are all looking to achieve the best possible outcome, so your suggestions will more often than not be implemented.

The most important, easily changeable things that will affect the mix design are the fly ash and/or blast slag content, any admixtures and the air content. If these three things are in line, you can be confident that the resulting slab will be something you can work with.

David Stephenson owns Polished Concrete Consultants, based in Dallas, Texas. As a consultant, he offers decorative concrete programs for retailers and troubleshooting for a wide range of clients. Contact him at david@polishedconsultants.com.





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# The Elements of Style for Contractors Inherent Values

by Gaye Goodman

There is a famous paperback called "The Elements of Style" by Strunk and White. Many writers treasure it as a guide to writing clearly and succinctly while avoiding common grammatical errors. The handbook itself is a model of clarity.

I had 26 years of studio work and art classes behind me as a fine arts painter when I gave up in disgust at the ploys involved in marketing art. In comparison with the world of galleries and critics, what contractors asked me to produce on floors came as a refreshing whiff of common sense.

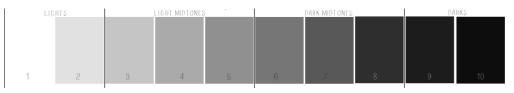
Fifteen years later, I decided to teach some principles of design and composition to my contractor-students. Having some knowledge of the way artists think about filling space truly helps in choosing materials and structure. Therefore, I undertake this series of articles to present The Elements of Style for Contractors.

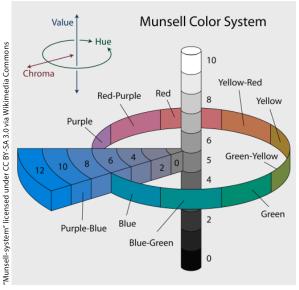
Some of my previous articles have redefined a commonly used word such as "line" or "composition" in artistic terms. For this article, I'll do the same. When artists speak of "value" they are not talking about the pittance they got from the insurance company when their latest masterpiece was stolen from an exhibit. (According to my insurance company, until a work of art has been sold once, it has no value beyond the cost of the materials used in its construction.)

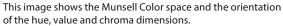
It's a good thing most artists don't create art for the money. When we talk about "value" we are usually referring to the 10-step value scale from white to black. This

is a quasi-scientific rendering of 10 shades which the average person would discern as progressing in equal increments. You can download and print out your own value scale from several websites, such as www. create38.com.

If printed on heavy paper, you can trim the value scale down to a handy strip and, using a hole-punch, put a small hole in each rectangle. By holding the strip next to any color on your stained or painted surface, you can judge fairly well the value of the color in that area. Every color has a value range from light pastel (the "high key" colors) down through the darkest shade in which the color (or hue) is still perceptible.









#### Three aspects of color

Color is complicated because it has three measurable aspects built into it: hue, value and degree of saturation (or purity). In the early 20th century an art professor named Albert Munsell devised a way to portray the location of each color in three dimensions, which came to be called the Munsell Color System. Wikipedia has a good description of his methods. We will discuss color attributes later in this series. Today I want to consider the grays in concrete itself and

how advantageous it can be to restrict your palette.

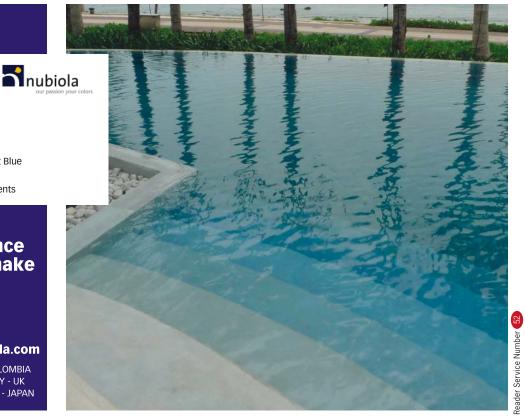
Look at the three close values of tan used in this patio designed by Gregory Mata of Cutting Edge Decorative Concrete for a home in Chesterland, Ohio. The reason he can use such dramatic intersecting curves and maintain unity across the composition is because his palette is limited.

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Here is an example of an intricate design done on an acid-stained floor by Todd Seaboch of Concrete Craftsmen in Santee, California. Instead of looking fussy, it exudes refinement and taste due to the subtle value changes in the chosen green stains. When putting that much effort into a design on the floor, I would have been tempted to place it within an oval frame and use a strong value contrast to "make it pop," but looking at this image I see that Seaboch's choices were much better.

#### Wabi-sabi

The modernist German-American architect Ludwig Mies van der Rohe (1886-1969) is famous for stating that "less is more." To most contemporary artists this means that great beauty and power are to be found in using an economy of means. In Japan this is part of an aesthetic called wabi-sabi that dates back to the 14th century. It



is why the design of Japanese homes and tools has such a timeless, spare look about them. In Western Europe simplicity came as a much later discovery, following the heavy, excessive decoration used in the Victorian era.

In "Wabi-Sabi: For Artists, Designers, Poets & Philosophers," author Leonard Koren writes "Wabi-sabi is the quintessential Japanese aesthetic. It is a beauty of things imperfect, impermanent and incomplete . . . modest and humble . . . things unconventional ... It is also two separate words, with related but different meanings. 'Wabi' is the kind of perfect beauty that is seemingly paradoxically caused by just the right kind of imperfection, such as an asymmetry in a ceramic bowl which reflects the handmade craftsmanship, as opposed to another bowl which is perfect, but soul-less and machine-made. 'Sabi' is the kind of beauty that can come only with age, such as the patina on a very old bronze statue."

The Wikipedia listing about wabi-sabi included a phrase that really resonated with me, stating that it could involve accidental imperfections which occur during the construction process. To me, nothing is more accidental than floor staining. Every two or three jobs we do, we see some odd anomaly we have never seen before, so there is always a new puzzle to solve. I like taking a creative attitude toward that. If you try to get too controlling with these floors you can give yourself ulcers.

In 2009 I had a felicitous experience with wabi-sabi. My scientist-client had married a woman of Japanese descent. For their retirement home in Sandia Park, New Mexico, they designed the smallest and simplest residence permitted by their community. They wanted an uncluttered Japanese-style adobe home in the high desert. The owner joked that, being Southwestern on the exterior,

it would be more like "wabi-sabi meets kemosabe." The design featured pale mud plaster walls and custom Japanese sliding doors of wood and paper. I had to agree not to use a drop of stain, but simply to clean and seal the original concrete foundation.

By the time Faux Real got to the floors there were abrasions and bucket rings from trades working before us, so making the gray concrete look "natural" took some doing. When it came time to conceal blemishes between coats of sealer, I mixed about 10 shades of gray.

As it happened, the slab had



been poured in the winter and covered with "blankets" to slow down the curing process. This left wonderful streaks of darker gray wherever the rumpled plastic rested on the slab. There must have been some iron oxides from sand in the folds, since some rooms had delicate tints of gold overlaying the grays. As the detail photo shows (above), this was the most beautiful floor we ever didn't stain!

Gaye Goodman is an artist who fell in love with acid staining 20 years ago. She and her company, based in the high desert of New Mexico, work on decorative projects across the Southwest. Contact her or see training materials on staining at www.gayegoodman.com.

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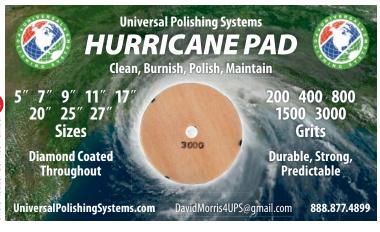
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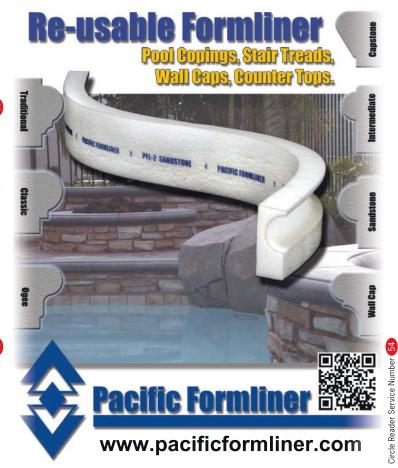


















# Glowing Reviews Lead to Glowing Results

by Vanessa Salvia

■ HANE Moseley joined his father's construction company in 1999 and 10 years later started his own business, Custom Home Updates, in Champaign-Urbana, Illinois. He managed to get his company listed on Angie's List and received plenty of good reviews, which led to bookings months in advance, primarily for kitchen, bath and countertop work.

A couple of years ago he discovered Ambient Glow Technology, a line of nontoxic, glow-in-the-dark products from Universal One Corp. in Canada. "It comes in safety yellow (which looks green), sky blue, aqua and purple and in the form of powder, sand, larger granules and up to river-rock sized stones," Moseley says. The first project he did with this material, using 3/4-inch gravel, was a driveway. "You can





on top while it's wet and at night it looks radioactive. It looks like you're walking on a bed of stars."

In May 2015, Moseley created these countertops for a woman who originally was set on white marble for her home office. After researching techniques and practicing, he dipped a feather in gray concrete paint and twirled it to get naturallooking marble veins. He used countertop forms by Concrete Countertop Solutions and mixed the sky-blue, glow-in-the-dark

powder into a CCS water-based penetrating sealer called Z SiAcryl 14. The homeowner initially thought the countertops weren't shiny enough, so Moseley went back and applied three more coats of the gloss sealer.

The powdered sugar-like product is available for a little more than \$100 per pound, and Moseley needed only 1/4 pound to achieve this long-lasting glow effect. "It really looks like marble during the day but after it's been charging in the sunlight or in a well-lit room with fluorescent lights, it just shines and it lasts for 10 hours," he says. "I also did a shower surround using the bigger granules embedded during the making of a client's cultured marble shower panels and it looks like you're taking a shower in outer space. Now that people have seen me use this product a few times, people get really excited about the possibilities because it stays lit up for so long."













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