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# From the Editor's Desk

#### Dear Readers,

Rick Lobdell considers himself an artist, not a concrete flooring guy. He didn't come to the decorative concrete trade from construction. In fact, he's open to debating if his imaginative, groundbreaking work even qualifies as decorative concrete.

So in the afterglow of having raked in six awards from the American Society of Concrete Contractors' Decorative Concrete Council early this year, he's feeling the love of a trade that has embraced him.

"It's a great feeling to see that the industry is taking me seriously," he tells me. "It gives me validation that I'm in the right time and the right place for the right reasons."

At the ASCC DCC Decorative Concrete Awards ceremony, held at the 2014 World of Concrete, Lobdell and his Nashville, Tenn.-based company, Concrete Mystique Engraving, won three awards for fancy flooring at the Godsey residence in Chattanooga, Tenn. They also took home one each for a cartoon-strewn floor at Brentwood Dental Specialists, in Brentwood, Tenn., "Fun Zones" at LP Field, home of the NFL's Tennessee Titans, and a dove of peace at the Concrete Decor Show's makeover of the Charlotte Rescue Mission, in Charlotte, N.C.

Looking at it another way, they captured three awards for overlay work, two awards for epoxy and one for multiple applications. (More about all of the award winners can be found on page 12.)

Lobdell says the wins are a huge positive from a marketing standpoint. They've also stimulated international interest in him as a trainer. "I've gotten multiple phone calls for training classes and I'm working on that. It means people are paying attention to what I'm doing and want to know more about it."

He needs to get his money's worth from entering the contest. He had to pay a fee to enter each project. He had to take professional-quality photos of each job and write all of them up. It's time and effort that would otherwise be spent on other jobs.

But when it works out, it's worth it. Contests run by trade groups, magazines or manufacturers offer artisans a unique opportunity to leap from wherever they are to the head of the class.

As a judge of this year's ASCC DCC awards and L. M. Scofield Decorative Concrete Awards, I can tell you that the competition is healthy but not overwhelming. If you enter, you really just might win. And if you do, you'll have something to put on your business card that most definitely sets you apart from the guy across town.

Sincerely,

John Strieder Editor

On the cover: This pool deck and hardscaped yard in Livingston, N.J., recently won Unique Concrete a first-place award in the Cast-In-Place, Stamped, Over 5,000 Square Feet category from the ASCC's Decorative Concrete Council. Unique, a West Milford, N.J., company, is operated by Barry Fisher and his son, Todd. For a complete list of 2014 award winners, see page 12.



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CONCRETE

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# Winning Results

This "checkered flag illusion" was created using Black & White Industrial Epoxy, protected with our High Performance Urethane.











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work. don't play.







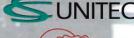




















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**Doug Carlton** operates Carlton Concrete Inc. in Visalia, Calif. He can be reached at carltondoug@comcast.net. See Doug's column, "Carlton's Corner," on page 68.



**Nick Dancer** has been active in the concrete construction business since 2005 and started his own company, CounterCrete, in 2007. That company grew into Dancer Concrete, which is based in Fort Wayne, Ind. Contact him at nick.dancer2@gmail.com. See Nick's article on page 60.



**Jennifer A. Faller** is vice president of operations for The Professionals, a polished concrete contracting company in Greensboro, N.C. She is also co-chairman of the Concrete Polishing Association of America board of directors. Contact her at jennifer.faller@gmail.com. See Jennifer's article on page 66.



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.

Talk back! Weigh in online at ConcreteDecor.net

# **INDUSTRY NEWS**

# New management and executive director for CPAA

The board of directors of the Concrete Polishing Association of America has announced that Creative Association Management, a subsidiary of the American Concrete Institute, is now providing association management services for CPAA and will direct its future growth. CAM manages the operations of several associations in the concrete industry, including the American Shotcrete Association, the International Concrete Repair Institute and the Post-Tensioning Institute.

The new CPAA executive director is Nathaniel Mohler. Since February 2012, Mohler has been an engineer in ACI's Professional Development department, helping to create and deliver educational products for concrete professionals. He has also assisted in the rollout of new ACI certification programs, most recently the Adhesive Anchor Installer Program. Prior to working for ACI, Mohler spent nearly four years as a concrete engineer with the Portland Cement Association, where he developed online and classroom educational programs.

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# Laticrete acquires L&M Construction Chemicals

Laticrete International Inc., a manufacturer of construction solutions for the building industry, has announced the strategic asset acquisition of L&M Construction Chemicals Inc. The acquisition will provide Laticrete customers access to new products and technologies while expanding the company's presence in the restoration and decorative concrete category. L&M produces a diverse line of concrete construction chemicals, including coatings, sealers, construction grouts, patch and repair mortars, and color hardeners for polished concrete.

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# NEW **FACES**

Brad Burns, independent sales/consultant, Diamond Productions Canada Ltd.

Jason Campbell, technical support, Runyon Surface Prep Rental and Supply

Ray Clark, business development manager, Clemons **Concrete Coatings** 

Josh Jones, transportation market manager, Blastrac N.A.

Josh Martin, area sales manager, Central Region, Blastrac N.A.

Nathaniel Mohler, executive director, Concrete Polishing Association of America

**Per Ohstrom,** president, HTC Inc.

Angela Petty, salesperson, Clemons Concrete Coatings

# Rhino Linings acquires coating and stucco makers

Rhino Linings Corp., a leader in protective coatings and linings, has acquired Advanced Coating Solutions and Expo Industries Inc.

Advanced Coating Solutions developed and manufactured waterborne materials, including epoxies, urethanes, stains, sealers and topcoats. Rhino Linings will continue producing Advanced commercial products, which include water-based polyurethanes, acrylic coatings and acrylic emulsion coatings. As a result of the acquisition, these products will be more price-competitive.

Expo Industries Inc. manufactured Expo Stucco interior and exterior stucco products, sealers, bonders, patch products and plaster mixes.

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# EVENT CALENDAR

**American Concrete Institute Spring 2014** Convention: "Concrete Endures"

March 23-27, Reno, Nev.

www.concrete.org



# ACI Releases Long-Awaited Decorative Concrete Standards Guide

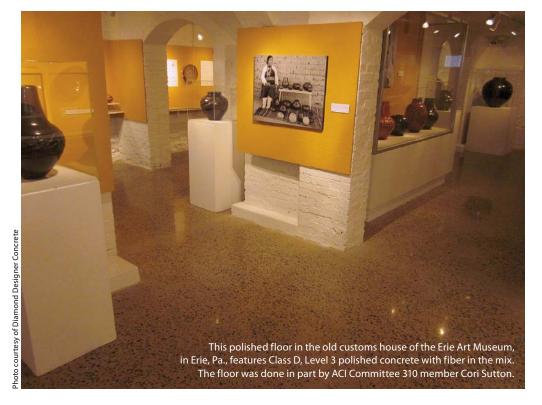
by Stacey Enesey Klemenc

ANY years in the making and rigorously reviewed by dozens of experts in the field, the much-anticipated 310R-13 Guide to Decorative Concrete was officially published by the American Concrete Institute in December 2013.

"It's the most comprehensive guide of its kind," says Larry Rowland, manager of marketing and technical services for Lehigh White Cement Co. and chair of ACI Committee 310, which, along with ACI staff, produced the 45-page document. "Its main purpose is to give guidance in nonmandatory language to designers and applicators about the materials and methods required to produce decorative concrete flatwork."

Todd Scharich, a committee member and the decorative concrete specialist for the American Society of Concrete Contractors, sees it as a great reference tool from ACI, one of the industry's leading authorities on





concrete. "In my role as a specialist at ASCC, I get emails from architects and engineers from all over. Some have clear ideas of what they want but they are not sure how to get there. Before this, I didn't have a resource to help them. This is the book for that."

Prior to this landmark publication, Rowland notes, decorative concrete educational materials created by those in the industry largely dealt with different suppliers' proprietary systems. "There was no generic guide that applicators or designers could use that didn't hinge on one or more of those proprietary systems," he says.

One of the neat things about this guide, he continues, is that it rolls the knowledge and experience gained by applicators, designers and experts in the field into one collective document that covers the most popular types of decorative concrete finishes.

# An introduction to the guide

The ACI 310 guide defines and outlines how to best achieve most common

decorative concrete finishes, including coloring, texturing and polishing. The document sums it up this way:

"This guide describes techniques for imparting aesthetic finishes to concrete flatwork, of which many can be combined for unique effects. The designer/engineer will acquire detailed, practical guidance for achieving aesthetic effects using proven techniques. Recommendations are made for the production of cast-in-place decorative concrete flatwork, decorative stains and overlays. In addition to attention to the specified materials, mixture designs, concrete placement, curing, protection, sealing and other treatments, this guide also considers the effects of these treatments on the overall aesthetics of the facility."

The book is divided into 10 chapters: an introduction, definitions of terms, general and design considerations, plastic concrete coloring techniques, plastic concrete texturing and patterning techniques, post-placement coloring techniques, post-placement texturing and patterning techniques, decorative overlay and repair methods, maintenance and references.

"The document sequentially follows the process of producing decorative concrete flatwork from mix design to initial finishing, as well as post-placement procedures when you can come back later and do amazing things with even a standard slab to make it look great," Rowland says. "It is also intended to assist designers in developing project specifications."

#### History of a landmark

The concept for the guide began several years ago when Michael S. Smith, consultant and owner of Concrete Artisans LLC, in Broomall, Pa., petitioned the ACI to start a decorative concrete committee. An educational guide was desperately needed, Smith says, because many concrete contractors and architects didn't fully grasp the decorative medium's multidisciplinary uses.

"Architects weren't sure what to specify to get the results the owners wanted," Smith says, and specifications were often inconsistent and incomplete.

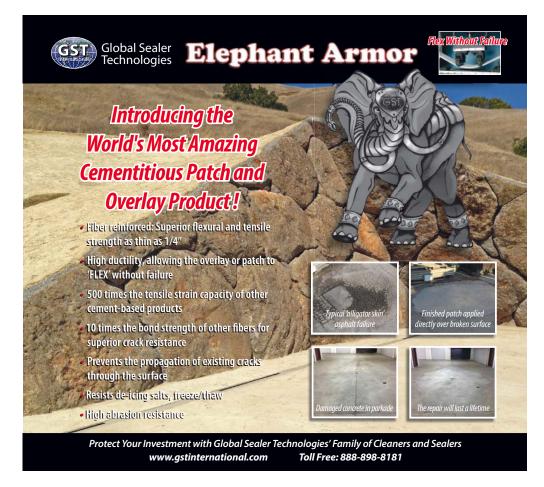
Some contractors, in turn, threw out large pricing estimates to cover the work they might be required to do. Others were lowballing their estimates to win jobs. The latter's ensuing handiwork was muddying



ACI Committee 310 member Cori Sutton grinds a floor in Erie, Pa., during the first phase of the polishing process.

decorative concrete's reputation, Smith says. "Contractors not well-versed in decorative concrete were getting into it not knowing what they were doing and producing shortterm products that in the long term would not hold up."

Consequently, owners became disillusioned with decorative concrete because they couldn't afford what they wanted or didn't get what they ordered, Smith says. A guide could alleviate these problems, he asserts.



# **BUSINESS & INDUSTRY**

ACI supported Smith's idea, and at the fall 2007 ACI convention in Puerto Rico, the committee met for the first time, with Smith in the chairman's seat.

"He took information from the ACI 303 flatwork guide and some other sources and wrote a preliminary document that served as the framework for this guide," says Rowland, who was initially secretary of the committee but took over the helm in 2012 when Smith had to take a leave of absence. "He was the driving force to form the committee and pushed hard on this document's success."

# **Support from contractors**

Currently, Rowland says, there are nearly 30 members on the ACI 310 committee, which comprises contractors, material suppliers, design experts and educators.

One of the committee's younger members, Cori Sutton, says she came on board two years ago when the guide was already a work in progress. When she first started polishing floors in 2010, there was a lot of misunderstanding within the industry because, among other things, there was no common terminology among polishers. There also was no established method to accurately measure gloss levels. "I was shocked when I realized the industry wasn't there yet," says Sutton, president of Diamond Designer Concrete Inc., in Erie, Pa. When disputes arose, "we had nowhere to turn for answers. We had to deal with problems on our own."

When she heard that ACI was working on a decorative guide that incorporated polishing, she jumped at the chance to join the committee and soon was appointed vice chair.

Another committee member, James Vermillion, master artisan at Concrete Polishing & Artistic Staining of Alaska, in Chugiak, got involved because he thought there was a lot of confusion in the design community as to what constituted polished concrete. "A whole bunch of people were saying they were doing polished concrete when they were only doing a partial grind without polishing, then applying a glossy clear coating."

This type of floor behaves differently and is less durable, Vermillion points out, and owners didn't know the difference until it failed six months down the road. "They weren't happy about that, and that hurt the community," he says.

"The guide gives the specifying and design community a standardized vocabulary," Vermillion says. "It accurately describes



Decorative engraving can be accomplished with many different tools, including this crack-chaser used by ACI Committee 310 member James Vermillion.



This floor at Manoa Elementary School, in Havertown, Pa., was created by founding ACI Committee 310 chair Michael S. Smith. It features a combined reactive stain and pigment application with freehand score joints filled with sealant.

decorative concrete so we can give owners what they envision."

Scharich with the ASCC says he thinks the guide presents architects and engineers with a clear picture of what products are and aren't capable of doing. "I hope the guide exposes architects to stuff they were unaware of and helps them understand and define products so they can be installed properly by qualified people."

"Every contractor who is serious about their business should own a copy of this guide," says former committee member and well-respected freelance writer Joe Nasvik, who now serves as a consultant to the committee when needed. "It defines best practice, and if a situation goes legal, the ACI guidelines could be used as expert testimony for either side."

"This document will become the foundation for all future work in decorative concrete as it is added to and improved upon," Rowland says. "I expect people to refer to this guide for decades."

And members of the 310 committee point to Rowland for the successful fruition of the guide.

"If there is one hero in this whole thing," Nasvik says, "it's Larry Rowland. He has spent a lot of time on following through with developing documents and keeping the guide moving forward. If it weren't for him, there wouldn't be a document right now. It would still be a few years away."

Now that the guide is out there, Smith says, "The committee's next job is to dive into each chapter and get specific about what can and can't be done, what you should and shouldn't do."

The 45-page guide — available as a hard copy or PDF, as well as in ePub or Kindle format — may be purchased from the ACI store at Concrete.org or through Amazon and Apple.

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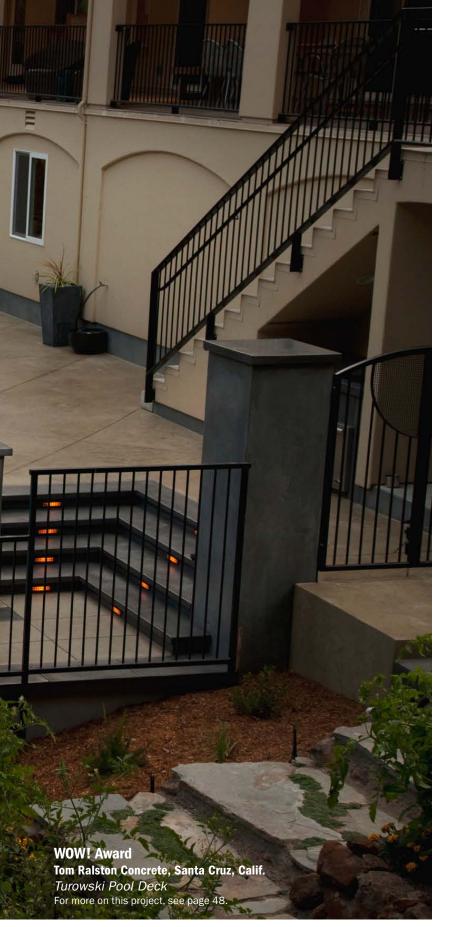




State University; Bill Palmer, Hanley Wood; Chris Sullivan, ChemSystems Inc.; and John Strieder, Concrete Decor magazine.

The Decorative Concrete Council is composed of contractors, manufacturers and suppliers of decorative concrete products. The Council is dedicated to improving the technical and business expertise of the contractors that pursue this market.

Photos courtesy of American Society of Concrete Contractors





Concrete Artistry, Under 5,000 Square Feet, First Place Progressive Hardscapes, Phoenix, Ariz. Tucson Streetcar Station



**Concrete Artistry, Under 5,000 Square Feet, Second Place** Tom Ralston Concrete, Santa Cruz, Calif. Cowell's Garden



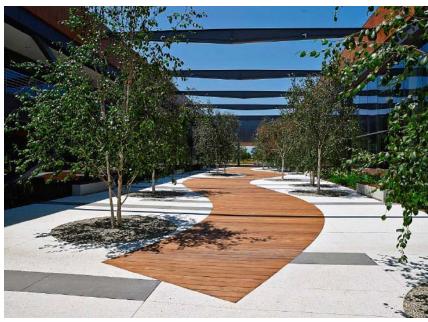
**Concrete Artistry, Over 5,000 Square Feet, First Place** Concrete Innovations LLC, Sandwich, III. FR2



**Honorable Mention** Colorado Hardscapes, Denver, Colo. Jessica Ridgeway Memorial Park



**Honorable Mention** T.B. Penick & Sons Inc., San Diego, Calif. Sellers-Keever Park



Cast-In-Place, Special Finishes, **Over 5,000 Square Feet, First Place** Trademark Concrete Systems Inc., Ventura, Calif. The Reserve

Cast-in-Place, Special Finishes, Over 5,000 Square Feet, Second Place: Ruttura & Sons Construction Co. Inc., West Babylon, N.Y. Long Island Residence



Cast-In-Place, Special Finishes, **Under 5,000 Square Feet, First Place** Tom Ralston Concrete, Santa Cruz, Calif. Pott Hardscape

Cast-in-Place, Special Finishes, Under 5,000 Square Feet, Second Place: Angus McMillan Concrete Ltd., Hastings, New Zealand William Nelson Skate Park



**Cast-In-Place, Stamped, Over 5,000 Square Feet, First Place** Unique Concrete, West Milford, N.J. Livingston Residence

Cast-in-Place, Stamped, Over 5,000 Square Feet, Second Place: Edwards Concrete Co., Winter Garden, Fla. Florida Turnpike Centers



Cast-In-Place, Stamped, **Under 5,000 Square Feet, First Place** Greystone Masonry Inc., Stafford, Va. Harmonious Oasis

Cast-in-Place, Stamped, Under 5,000 Square Feet, Second Place: Salzano Custom Concrete, Centreville, Va. Barry Residence



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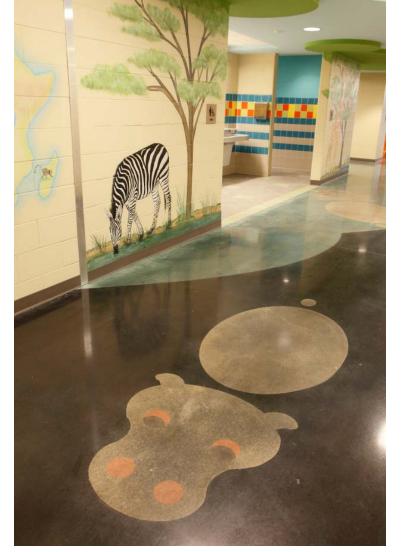


**Epoxy-Polyaspartic Flooring, Over 5,000 Square Feet, First Place** Concrete Mystique Engraving, Nashville, Tenn. LP Field Fun Zones



**Epoxy-Polyaspartic Flooring**, **Under 5,000 Square Feet, First Place** Concrete Mystique Engraving, Nashville, Tenn. Godsey Residence, Chattanooga

Epoxy-Polyaspartic Flooring, Under 5,000 Square Feet, Second Place: Sundek of Washington, Chantilly, Va. Tutti Frutti Restaurant



**Graphics, Over 5,000 Square Feet, First Place** Jeffco Concrete Contractors Inc., Tuscaloosa, Ala. Big Sandy Elementary School



**Graphics, Under 5,000 Square Feet, First Place** Hyde Concrete, Annapolis, Md. Kapnos



Multiple Applications, Over 5,000 Square Feet, First Place T.B. Penick & Sons Inc., San Diego, Calif. Highway 101 Pathways

Multiple applications, Over 5,000 Square Feet, Second Place: Concrete Mystique Engraving, Nashville, Tenn. Godsey Residence, Chattanooga



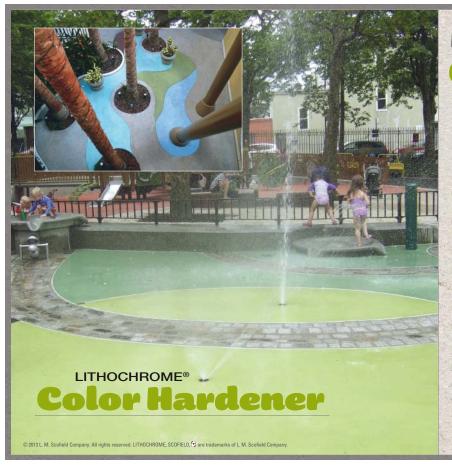
Multiple Applications, Under 5,000 Square Feet, **First Place** 

Tom Ralston Concrete, Santa Cruz, Calif.

Turowski Pool Deck

Multiple Applications, Under 5,000 Square Feet, Second Place:

Honestone, Tuggerah, New South Wales, Australia Burnett Residence



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Overlays — Less than 1/4 Inch, Over 5,000 Square Feet, First Place Sundek of Washington, Chantilly, Va.

**Dunn Loring Merrifield-Metro** 

Overlays — Less Than 1/4 Inch, Over 5,000 Square Feet, Second Place: Sun Surfaces of Orlando, Ocoee, Fla. Bithlo Splash Pad





Overlays — Less Than 1/4 Inches, Under 5,000 Square Feet, **First Place** 

Concrete Mystique Engraving, Nashville, Tenn.

**Brentwood Dental** 

Overlays — Less Than 1/4 Inches, Under 5,000 Square Feet, Second Place:

Stephens & Smith Construction Inc., Lincoln, Neb. Micro-top



Overlays -1/4 Inch to 2 Inches, Under 5,000 Square Feet, First Place Concrete Mystique Engraving, Nashville, Tenn.

Charlotte Rescue Mission

Overlays — 1/4 Inch to 2 Inches, Under 5,000 Square Feet, Second Place: Concrete Mystique Engraving, Nashville, Tenn. Godsey Residence, Chattanooga



**Countertops, First Place** Hyde Concrete, Annapolis, Md. Maine Cottage

Countertops, Second Place (tie): Architectural Concrete Interiors LLC, Phoenix, Ariz. Staab Kitchen

and

Adams Trucking & Supply, Barboursville, W.V. Morrison Ballroom Bar





Polished, Over 5,000 Square Feet, First Place Creative Construction by Design, Danville, III. Kennekuk County Park Environmental Education Center

Polished, Over 5,000 Square Feet, Second Place: Burgess Concrete Construction Inc., Moline, Mich. Gordon Food Service



Polished, Under 5,000 Square Feet, First Place Mark Beamish Waterproofing, Anaheim, Calif. Nike at the Grove

Polished, Under 5,000 Square Feet, Second Place: Artistic Concrete Surfaces, Olathe, Kan. Bill Snyder Family Stadium



**Vertical Application, Under 5,000 Square Feet, First Place** Flex-C-Ment, Picayune, Miss.

Tennessee Concrete Assn. — Net Zero Bldg.

Vertical Application, Under 5,000 Square Feet, Second Place:

Angus McMillan Concrete Ltd., Hastings, New Zealand Penguin Pool — National Aquarium



**Vertical Application, Over 5,000 Square Feet, First Place** Morley Construction Co., Santa Monica, Calif. Wasserman Building, UCLA

Vertical Application, Over 5,000 Square Feet, Second Place: T.B. Penick & Sons Inc. Mesa Math & Science Building





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Stained, Under 5,000 Square Feet, First Place Hyde Concrete, Annapolis, Md.

Ft. Stanton Recreation Center

Stained, Under 5,000 Square Feet, Second Place: Sundek of Washington, Chantilly, Va. McCullough Residence



Stained, Over 5,000 Square Feet, First Place Patterned Concrete of Cincinnati, Fairfield, Ohio Eden Park Pump Station

Stained, Over 5,000 Square Feet, Second Place: Nobel Concrete Inc., Jenison, Mich. Reinhart Residence



**Architectural Concrete, Over 5,000 Square Feet, First Place** Ruttura & Sons Construction Co. Inc., West Babylon, N.Y. Long Island Residence

Architectural Concrete, Over 5,000 Square Feet, Second Place: T.B. Penick & Sons Inc., San Diego, Calif. San Diego Airport

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Photos courtesy of L. M. Scofield Co.

# L. M. Scofield Co.'s 2014 Decorative **Concrete Awards**

The sixth annual Decorative Concrete Awards were announced recently by sponsor L. M. Scofield Co. The contest honors contractors and designers who use Scofield decorative concrete materials.

This year, for the first time, the contest was divided into six categories. A grand prize winner and two runner-ups were selected for each of the six categories.

Among the six grand prize winners was Victoria Collins, whose company, Capitol Decorative Concrete, Piedmont, S.C., took top honors in the Artistic category.

"Vickie has been creating amazing floors and hardscapes with (Scofield's Lithochrome Chemstain Classic acid stain) for years. She has been a finalist in our contest several times," said Mike DeCandia, Scofield vice president of sales and marketing, while presenting the awards during 2014 World of Concrete. "Vickie has sold several jobs from this work by showing that custom designs are no problem. Concrete art is a great feature of her business and makes each job a unique piece of art."

The ceremony also awarded winners in Colored/Stained, Polished, Stamped, Integral Color and Heavy/Highway categories.



# **Artistic Category**

# **GRAND PRIZE WINNER**

**Capitol Decorative Concrete,** Piedmont, S.C.

Residential Patio

■ Lithochrome Chemstain Classic — Dark Walnut with acrylic paints

This project included acid staining of old as well as new concrete patios. Lithochrome Chemstain Classic in Dark Walnut was used to stain the larger areas. The bands that appear in the work used full-strength Chemstain in Black.

After the acid staining had been completed and properly neutralized, Capitol Decorative Concrete sketched the artistic design onto the concrete. These blue and white flourishes were hand-painted using acrylic paints.

Since the concrete had been acid-etched, the bond between concrete and acrylic paint was not an issue. These areas were then sealed using a solvent-based clear sealer.

# **First Runner-Up Concrete by Hallack,**

Turlock, Calif. Oak Valley Hospital

- Lithochrome Color Hardener Oyster White
- Lithochrome Tintura Stain Capri Teal
- Cureseal-W

A 39-foot replica of the labyrinth at Chartres Cathedral in France, constructed at the main entrance of Oak Valley Hospital, Oakdale, Calif.





# **Second Runner-Up** Jeffco Concrete Contractors, Tuscaloosa, Ala.

**Big Sandy Elementary School** 

■ Formula One Liquid Dye Concentrate — Winter Sunset, Cold Steel, Inca Gold, Aguamarine, Forest Green, Emerald Green, Ponderosa, Rustic Bark

The architect and interior designer chose a "Seek-Explore-Find, Discover Earth" theme. Upon entering the school, you walk onto a layout of the world map, which begins your journey. Each corridor of the school was depicted as one of the seven continents, with animals indigenous to that continent visible in the polished floor. Each character was laid out and dyed by hand using stencils.

# **Heavy/Highway Category ▶**

# **GRAND PRIZE WINNER**

Portzen Construction Inc., Dubuque, Iowa **Dalzell Field Renovation** 

■ Chromix L Spring Beige

Serving as the main competition venue for Dubuque's two high schools, Dalzell Field was in serious need of an upgrade when local officials engaged Portzen Construction to perform the work. This project was done during a complete year's weather cycle.

# First Runner-Up

Custom Concrete Designs, West Palm Beach, Fla. Garden Building

#### Second Runner Up

Valley Construction, Rock Island, III. Flood Risk Management Wall







# **Colored/Stained Category**

# **GRAND PRIZE WINNER**

Hyde Concrete, Annapolis, Md.

**SMECO** (Southern Maryland Electric Cooperative)

- Lithochrome Tintura Stain Old Hickory, Black, Devon Brown (vestibule)
- Scofield Selectseal-W

This project consisted of 7,500 square feet of colored concrete. Hyde Concrete began by grinding the entire surface of the concrete to achieve a more uniform look and to mechanically prepare the concrete for staining. Once this preparation was completed, the layout, saw cuts and masking were done.

The curves in the layout were complicated by the fact that the hallway changes elevation. Hyde had to modify the curve to ensure that they maintained maximum visual appeal.

Hyde also stained the concrete entry vestibule to complement the floor. A key detail was to ensure the wide saw cuts stayed clean and tape lines were seamless. Once all the staining was complete, everything was sealed using a nonskid additive and several coats of a high-quality floor finish.

#### First Runner-Up

Surfacing Solutions Inc., Temecula, Calif. El Dorado High School

#### Second Runner-Up

Tom Ralston Concrete, Santa Cruz, Calif. Turowski Pool Deck

# **Stamped Category**

# **GRAND PRIZE WINNER**

**Ozark Patterned Concrete,** Lowell, Ark.

Historic Downtown Rogers, Ark.

- Lithochrome Color Hardener Parisian Gray, Pecan Tan, Stone Gray
- Lithochrome Antiquing Release Concrete Gray
- Lithotex Pavecrafters Cobblestone Running Bond, Fractured Slate Random Interlocking

Ozark Patterned Concrete was selected to revitalize almost 36,000 square feet of sidewalks, crosswalks and intersections in this vibrant town center. They gave this downtown area an updated hardscape with the look and feel of timeworn streets.

# First Runner-Up

The Concrete Artist, Marlton, N.J. Residential Patio

#### Second Runner-Up

Set In Stone, Exeter, R.I. Residential Patio



# **Integral Color Category**

# **GRAND PRIZE WINNER**

**Graham Booth Landscape** Architects, St. Petersburg, Fla.

**Treasure Island Beach Trail** 

■ Chromix Admixtures — Mesa Beige, Quarry Red

The city of Treasure Island, Fla., commissioned Graham Booth Landscape Architects to develop a paved walkway which makes Treasure Island's beach accessible to residents and visitors. The beach trail runs along approximately a mile of the beach at the beach's widest section and incorporates medallions with sea life, benches and a pedestal commemorating the design and development team.

#### First Runner-Up

Albanelli Cement Contractors. Livonia, Mich. Dearborn Inn

Second Runner-Up Ozark Patterned Concrete. Lowell, Ark. Adventure Subaru





# **Polished Category GRAND PRIZE WINNER**

# Lundeen Simonson, Spokane, Wash.

Eisenhower High School

- Formula One Liquid Dye Concentrate Bahama Blue, Leather
- Formula One Lithium Densifier MP
- Formula One Guard-W

This project consists of 70,000 square feet of polished and dyed concrete. It was the largest public polished concrete project in the state of Washington in 2013.

Lundeen Simonson incorporated two colors of dye into the design. The dye colors were not able to be separated by joints, which were value-engineered out of the project. So the lines were taped and sprayed without joints as barriers. Despite this handicap, the delineations of the squares turned out crisp and clean.

#### First Runner-Up

Jeffco Concrete Contractors, Tuscaloosa, Ala. Big Sandy Elementary School

#### Second Runner-Up

Polished Concrete of Philadelphia, Philadelphia, Pa. Barnaby's of Westchester Polished Countertop

# PRODUCT NEWS

#### **COATINGS**

# Intraguard penetrating sealer from W. R. Meadows

W. R. Meadows has introduced Intraguard, a water-based, penetrating sealing compound for exterior concrete surfaces specifically designed to limit the intrusion of moisture and chlorides into concrete surfaces. Intraguard is a clear sealer that weatherproofs and protects virtually all exterior concrete surfaces, including concrete driveways, walkways and parking lots.

Surfaces treated with Intraguard will be resistant to staining from oils, fuels and common chemicals. Its proprietary blend of silane and siloxane penetrates deep into the pores of the concrete to help protect it from scaling caused by deicing salts. The nonfilm-forming material also provides an integral barrier to moisture penetration. It also reduces the entrapment of dirt particles and other contaminants that cause discoloration. It inhibits soiling, protects against efflorescence and rust staining, and is water-based and VOC-compliant.

wrmeadows.com

# Epoxy, overlay and antigraffiti coating from Seal-Krete

The new Epoxy-Shell WB250 from Seal-Krete is a twopart, premium water-based epoxy coating with solvent-based characteristics. The coating is recommended for vertical and horizontal applications in refineries, clean rooms, chemical processing facilities, as well as other areas.

Surface-Shell HP is a three-component, polyurethane-modified concrete overlay that can be applied to floors that require impact and thermal-shock resistance. The product resists chemicals, acids, alkalis, and salts, the company says. Surface Shell HP offers slipresistance and is impervious to freeze-thaw cycles.

Graffiti-Shell WB is a two-component, water-based urethane that can be applied to concrete, brick, and stucco surface to make them resistant to permanent damage from graffiti. The coating also provides resistance to water exposure, solvents, chemicals, UV rays and extreme weather.

**(800) 323-7357** 

www.seal-krete.com

# **Super Guard from Clemons Concrete Coatings**

Super Guard from Clemons Concrete Coatings is a new low-odor, waterborne urethane-acrylic sealer designed to protect decorative polished concrete surfaces.

Super Guard can be applied quickly with a sprayer and microfiber pad, then burnished with high-speed methods to increase the durability and gloss. This product will enhance and protect dyed, polished concrete to increase the life and maintain a consistent finish. The sealer provides abrasion, scuff, and mar resistance while protecting the concrete from spills.

**(615) 872-9099** 

www.ccc-usa.com

# New concrete coatings from Quikrete

Quikrete has added concrete coatings to its line of concrete products.

Quikrete Epoxy Garage Floor Coating is a two-part advanced formula, water-based epoxy kit that delivers a high-gloss showroom finish with exceptional durability and resistance to chemical and hot tire pickup. Unlike traditional epoxy kits that require a waiting period of up to 30 minutes before applying, Quikrete Epoxy Garage Floor



Coating is ready to use immediately after the two components are mixed. Quikrete Cleaner, Etcher & Degreaser, decorative color and nonskid flakes are included in the kit. Available in gray and tan, one kit can cover a one-car garage or up to 250-300 square feet for approximately 28 cents per square foot.

Quikrete Epoxy High-Gloss Coating is a two-part, high-solids, water-based epoxy kit that delivers a clear, chemical-resistant and durable protective barrier on concrete surfaces. Unlike traditional epoxy kits that require a waiting period of up to 30 minutes before applying, Quikrete Epoxy Garage Floor Coating is ready to use immediately after the two components are mixed. The kit includes an antiskid additive and covers up to 500 square feet on coated concrete and up to 300 square feet on uncoated concrete for approximately 15 cents per square foot.

**(404) 634-9100** 

www.quikrete.com

# New toner coat and waterproofer from Drylok

Drylok has introduced Concrete Toner, a concrete tone coat designed to even out discolorations, stains and blotches. Drylok Concrete Toner penetrates at an even ratio, eliminating uneven color. With Drylok Concrete Toner, you can enhance faded concrete with a little color without hiding the concrete texture or stamping. Drylok Concrete Toner is a protective coat available in three colors and a tint base for custom coloring.

Also new, Drylok Clear Masonry Waterproofer is an alternative coating to traditional pigmented waterproofing systems. This product works to waterproof precast concrete, poured walls, interiors and exteriors, and decorative elements such as split-faced block, stone, brick and stucco.

Drylok Clear Masonry Waterproofer provides a high-gloss sheen with no color change, can be applied to new or old concrete, is unaffected by ultraviolet rays and can be sprayed, brushed or rolled.

**(**570) 344-1202

👣 ugl.com



# Two new epoxy floor systems from Koster

Koster has introduced two new floor systems: the Koster Chip Floor System and the Koster Quartz Floor System. Both systems are based on 100 percent solids epoxy coatings with no VOCs.

In order to achieve a decorative, durable and slip-resistant surface, the Koster Chip Floor System uses a colored chip broadcast, while the Koster Quartz Floor System uses a colored quartz broadcast. The quartz gives the system high mechanical resistance. Both systems can be coated with a urethane-based topcoat to enhance scratch resistance and UV stability. Koster epoxy coatings are cycloaliphatic systems, which are UV-resistant. A topcoat with a Koster urethane coating will make the coatings completely UV-stable and nonyellowing.

**(757)** 425-1206

www.kosterusa.com

# **Acrylic coating aids concrete restoration**

Anvil Paints & Coatings has released Deck-A-New, a 100 percent acrylic product with a solid-color finish for resurfacing concrete or wood.

Deck-A-New is billed as a restorer that extends the life of an existing wood or concrete surface. It provides a quick-drying substantial layer that is up to four times thicker than conventional stains, encapsulating splinters and filling cracks. The result is a finish that is slip-resistant, repels water, and resists scuffs, peels and chips. It can be applied to horizontal and vertical surfaces, indoors and out.

Deck-A-New is available in five standard colors — Driftwood (gray), Butternut, Cedar, Walnut and Redwood. Construction supply stores may offer it in three tint bases — white, intermediate and

(800) 822-6776

www.anvilpaints.com

# New texture spray mimics granite

Recently released in the United States, SprayStone is a sprayable coating with the texture of real granite, letting you add the look and feel of granite to any horizontal or vertical surface.

For 15 years, chemists at SprayStone have been developing a

synthetic granite finish that would yield years of interior and exterior durability. SprayStone is a water-based acrylic coating that can be sprayed onto virtually any surface to give it a synthetic granite finish that yields years of interior and exterior durability.

The single-component product comes premixed from the factory. Installers can apply it with common equipment and basic training. No comparable product goes on as quickly, easily and cost-efficiently. Use SprayStone instead of stucco over existing paint, on concrete or in interior decorative projects.

**(**855) 969-7772

www.spraystoneusa.com

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- No Dust
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Remove Multiple Coatings in ON



# New cure-and-seals from Mapei

Mapei has introduced four new products to its line of cure-and-seals.

The Mapecure AP is a solvent-borne, acrylic polymer curing, sealing and dustproofing compound designed for curing new concrete and sealing new and hardened concrete. This product is suitable for both interior and exterior use, and it creates a durable acrylic membrane that helps cement to fully hydrate and maximizes the strength and durability of the concrete.

Mapecure CS is a 100 percent pure acrylic polymer concrete sealer designed to protect and enhance cured concrete. Mapecure CS produces a nonyellowing satin finish that enhances the appearance of decorative concrete. This product forms a durable surface against the damaging effects of water, traffic and salt penetration.

Mapecure UV is a solvent-based, ultraviolet-stabilized, styrenated acrylic copolymer sealer especially designed for curing fresh concrete. Mapecure UV contains more than 25 percent solids as well as special UV stabilizers. This product can be used on both interior and exterior concrete surfaces.

Mapecure DR is a water-based, liquid, membrane-forming curing compound for freshly placed concrete. Formulated from dissipating hydrocarbon resins, it is designed to retain water in the concrete for proper hydration, then to begin breaking down when exposed to traffic, sunlight and weathering. Mapecure DR also reduces surface shrinkage and cracking.

**(800) 992-6278** 

👣 www.mapei.com





# **Beautiful Metallic Flooring Systems Made to Last!**

Arizona Polymer Flooring is proud to introduce ColorChrome™ Metallic Flooring Systems. ColorChrome™ is available in epoxy based and polyaspartic chemistries and offers 20 colors that are sure to add outstanding beauty and durability to your concreteflooring project. Contact us today to learn more about ColorChrome™



# New Dur-A-Flex resinous flooring goes down quickly

Dur-A-Flex Inc.'s new resinous Accelera Fast Track Flooring System helps contractors increase efficiency and profitability and minimize downtime. Based on a proprietary new chemistry that eliminates lengthy install times, Accelera delivers high-performance features typical of traditional seamless flooring while helping contractors increase their overall efficiency and profitability.

Available in 12 solid colors, Accelera Fast Track Flooring also includes Dur-A-Flex's standard vinyl and quartz blends and unlimited custom blends. The Accelera hybrid systems feature high moisture tolerance, allowing installations on five- to seven-day old concrete.

**(860) 282-4147** 

www.dur-a-flex.com

# **DUST COLLECTION**

#### **New vacuum lines from Bosch Tools**

Bosch Tools has introduced a portable dust and dirt collection solution with a new lineup of nine- and 14-gallon vacuums. The VAC090S and VAC090A nine-gallon vacuums and the VAC140S and VAC140A 14-gallon vacuums increase dust extraction performance with best-in-class suction power and CFM (cubic feet of air per minute) rate. The new models also decrease loss of suction by offering two options of onboard filter cleaning semiautomatic and automatic.

Other features of the VAC090 and VAC140 vacuums are integrated cord and hose storage solutions. A wet-vacuuming water level sensor protects the motor by automatically shutting down the device when water reaches a maximum height.

**(877) 267-2499** 

www.boschtools.com

# Hazardous-dust management from Blastrac

The BDC-44, BDC-66 and BDC-99 dust collectors from Blastrac employ absolute HEPA filters for safety when used on hazardous materials.

These particular dust collectors are compact but provide high performance. Components are inside the body to lower risk of damage during work or transportation. Heavy-duty equipment with solid body work and construction ensure long service life. Lifting eyes make transportation and maintenance user-friendly. Other features include automatic pulse-jet cleaning, a standard silencer for low sound level, adjustable connections and a five-pole plug connection for use with all Blastrac machines.

(800) 256-3440

www.blastrac.com





# **Revolution 360 Bagger from CDCLarue**

The new Revolution 360 Bagger from CDCLarue lets the user grab and go from any direction. The design works well around corners and through doorways.

Equipped with a patented bagging system, the Revolution Bagger allows you to dump dust and debris without ever turning off the vacuum. In less than two minutes the user can remove the 15-mil OSHA-approved resealable bag and replace it with a new one.

The Revolution Bagger is lightweight and easy to transport and can be fitted with any Pulse-Bac 1000 series vacuum model. Equipped with five 2-inch nonmarking casters, the Revolution Bagger can be scooted across any floor surface with ease.

(866) 954-9700

www.cdclarue.com

# Smith Manufacturing's dust collection upgrades

Upgrades to MaxiVac dust collectors include powerful industrialuse-rated 5-horsepower electric motors, plus added "gensets" for use outside or on the road. The upgraded line includes the MV6000 with a low profile for hand-helds and walk-behinds, the MV1000 with a separator for continuous dust removal, and advanced autocleaning long-life HEPA filtration.

**(**800) 653-9311

www.removefaster.com

#### **NEW CONCRETE**

# Rattle Stick cuts down on finishing time

General contractor Frank Mikowychok has invented a new tool, the Rattle Stick. The Rattle Stick is used for any kind of concrete finishing and connects to any kind of walking tool (bull floats, joint cutters, edgers) between the pole and the tool, sending a mild vibration into the tool to cut down on finishing time.

The Rattle Stick weighs just over 4 pounds and clips in and out of walking tools as easily as the pole does, so there's no need to unbolt it from one tool and attach it to another. The Rattle Stick comes with a rechargeable battery that lasts four to six hours, depending on how heavily you use the tool throughout the day. Every tool comes with a charger, and additional batteries are available upon request. The Rattle Stick will be shipped in a watertight reusable tube that also acts as a carrying case for the tool.

Specifically designed for decorative concrete work, the Rattle Stick works best when used with smaller walking tools, but will still operate with a minimal loss of functionality with larger tools as well.

(916) 521-8707

www.rattlestick.net



# New Tack-Mat from Skudo protects clean concrete on the job

The Skudo Tack-Mat product line offers new concrete surfaces the same nonslip, durable protection against foot traffic, debris, UV rays and machinery as the Commercial Skudo Mat, with some key advantages.

Tack-Mat adheres to the surface to be protected, but its stick factor is gentle enough for it to be applied to sensitive substrates, including fresh concrete. Application to vertical surfaces is easy.

Tack-Mat offers a one-step, peel-and-stick application process and is reusable. It's sold in 535-square-foot rolls.

The Tack-Mat line is stainproof against common construction site spills and stains, including chemicals and solvents. Tack-Mat also comes in Heavy and Medium Traffic grades offering stronger protection against impact, machinery, UV and spills.

**(972) 993-0777** 

www.skudousa.com

# Radiant floor heating kits from WarmlyYours

WarmlyYours Radiant, an industry leader in innovative radiant heating and snow melting products, introduces new floor heating kits to provide cost savings and convenience for dealers and customers.

The retail kits come in five popular sizes and feature the same highquality TempZone floor warming products and WarmlyYours support services as the custom-order products. Each kit includes a 120-volt TempZone Twin Flex Roll, a SmartStat Programmable Thermostat and a Circuit Check, available at 20 percent savings over buying the items individually. WarmlyYours offers free design services and 24/7 installation and technical support. Customers can submit their room measurements and receive a free floor plan for their installation the next day. Also, homeowners can purchase the kits today and install them tomorrow.

**(800) 875-5285** 

www.warmlyyours.com

#### **OVERLAYS & TOPPINGS**

# Mapei's new Ultratop PC

Mapei has introduced Ultratop PC polishable concrete topping. Ultratop PC is a high-performance, self-leveling, cementitious topping optimized for polishing. It's suitable for interior and exterior use and in areas of constant water exposure.

Ultratop PC will accept both foot and light vehicular traffic, and it can be used on new and old concrete. Some typical applications include commercial kitchen floors, mall and hotel corridors, and schools.

**(**954) 618-9555

www.mapei.com



#### New mud mixer from Kraft Tool

The new Junior Mud Mixer from Kraft Tool has a cast aluminum paddle 8.5 inches by 5 inches deep. The 7/16-inch steel shaft works in a slow-speed half-inch drill. The rounded end is designed for better balance when mixing. It's ideal for mixing drywall mud and texture material.

(800) 422-2448

www.krafttool.com

#### **POLISHING & GRINDING**

# EDCO releases single-disc version of grinder

Following the successful release of its 2-Disc Wedge-Less Grinder, EDCO has created the Single-Disc Wedge-Less Grinder. All Wedge-Less Grinders have EDCO's exclusive Leveling System that adjusts the machine's height, allowing operators to quickly attach many accessories of different sizes and purposes. Wedge-Less Grinders allow these accessories to make level contact with floor surfaces, which increases productivity, extends accessory life and creates predictable results.

**(800) 638-3326** 

(\$) edcoinc.com

# New surface grinder ideal for removal tasks

The new SG7 surface grinder from General Equipment Co. is ideal for removing paint, thinset overlays, adhesives, mastics and other floor coatings. When matched with General's Pro Polish system, the SG7 becomes a low-cost, yet highly productive solution for smaller concrete polishing applications.

What makes the SG7 unique is its frame design. The machine is ergonomically designed to allow the operator to work in a fully upright position. Also, the operator's handle provides for vertical height adjustment and can be



utilized from either side of the machine. Its small footprint and low weight (55 pounds) make the SG7 easy to lift and transport.

Power is provided by a high-speed polisher capable of operating under higher amperage loads while utilizing a wide variety of available 7-inch diameter diamond segment discs.

(800) 533-0524

www.generalequip.com

# Mapei introduces four densifiers

Mapei has added four new densifiers to its line of products. Mapecrete Hard FS is a water-based magnesium fluorosilicate solution for horizontal interior concrete surfaces that chemically bonds with free lime in the concrete. This product works well on floors that are porous, readily absorptive and only moderately hard.

Mapecrete Hard LI is a water-based, VOC-free, lithium silicate solution used to densify, seal, and dustproof horizontal interior and exterior concrete surfaces. It penetrates the surface and chemically reacts with the free lime to produce a dense, hard matrix within the concrete and a more durable surface on top. This product works well on old, worn and dusting floors.

Mapecrete Hard SB is a blend of silicate and siliconate polymers specifically designed to penetrate new and existing interior concrete in order to densify, seal, dustproof and harden the surface. It is formulated to chemically react and create an internal bond that increases surface density, durability, and abrasion resistance.

Mapecrete Hard SI is a clear, water-based sodium silicate densifier used to harden and dustproof concrete surfaces. It chemically reacts with the lime and calcium carbonate in concrete, forming a dense, insoluble and chemically resistant surface. This product is VOC-free, colorless and odorless chemical solution that can be used on horizontal interior, fresh or hardened concrete.

(800) 992-6278

www.mapei.com

# New propane grinder from Scanmaskin

The Scan Combiflex 800 Propane (SC 800 Propane)

from Scanmaskin is the newest model in the Scan Combiflex line of grinders. The SC 800 is ideal for outdoor applications where there are limited power options. The grinder is a powerful and efficient machine, engineered for any application. The machine is able to grind and polish at higher speeds while minimizing side torque and stress on the operator.



**(** (425) 628-1212

www.scanmaskin.com

# New Nox-Crete system for coloring polished floors

Nox-Crete's new Duro-Floor Color System adds rich color to standard gray concrete. Duro-Floor Color System is designed specifically for use on diamond-ground and polished concrete floors. Using Duro-Color dyes, this system locks in deep penetrating colors, hardens, and protects from UV fading and stains.

**(800)** 669-2738

www.nox-crete.com

# The new DDG 1220 grinder from Dynamic Diamond Tooling

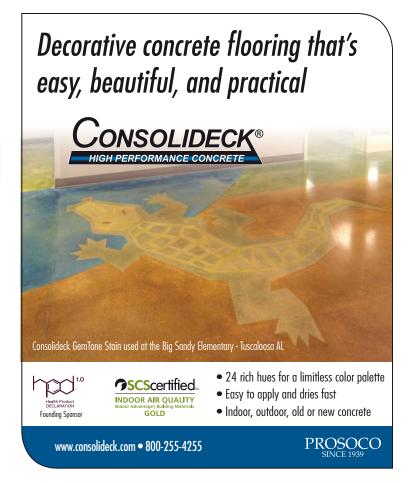
The DDG 1220 (nicknamed the "Beast") is an all-in-one grinder, polisher, burnisher and zero-tolerance edger. The DDG 1220 is a variable-speed single-head grinder with flex-head technology.

The grinder is equipped with a single 12-inch plate, which is adjustable by design to move left or right in order to get right up against the edge of the wall for zero-tolerance edging. The DDG 1220 is engineered with a grinding-head leveling system that allows the operator to adjust the height of the grinding head in order to account for varying tooling heights. In addition, the head of the grinder can be adjusted 20 degrees left or right of center to allow the operator to walk in a straight line while following the edge of the wall. The grinder is equipped with a floating shroud for efficient dust pickup.

This grinder can be fitted with several options such as an additional weight for additional grinding-head pressure. The grinder head can be retrofitted in minutes with a 20-inch metal- or resinbond diamond plate and a very low-profile shroud, known as a Toe Kick Shroud, in order to grind under a cabinet toe kick or low racking. In addition, the grinder can be retrofitted to be used as a 20- or 27-inch high-speed burnisher.

**(**407) 230-8525

www.dynamicdiamondtooling.com



#### **RUBBER COATINGS**

# New Sani-Tred liquid-rubber waterproofing systems

The Concrete Protector has launched new waterproofing products. Sani-Tred is a liquid rubber coating system that permanently repairs and bonds to concrete, wood, fiberglass and metal. The three products in the line are Sani-Tred PermaFlex, Sani-Tred LRB and Sani-Tred TAV.

Sani-Tred PermaFlex is a singlecomponent liquid rubber coating. After cure, there is little resemblance to paint. PermaFlex is a paint replacement product that's self-priming and easy to use. The roll-on, seamless, flexible liner bonds permanently to the surface as well as beneath it.

Sani-Tred LRB (Liquid Rubber Base) is a fluid rubber that will cure throughout its entire volume at any thickness in four hours or less at 70 F. LRB cures reliably even in extremely cold temperatures, never produces gas during curing and does not generate heat as it cures. Applied over a surface primed with PermaFlex. LRB can be activated using plain tap water. As a fluid, LRB can be used to create a waterproof membrane of unlimited thickness. LRB can also be used to self-level a rough surface or create custom poured-in-place gaskets or form any solid shape in as little as five minutes.

Sani-Tred TAV (Thickening Activator) is a thick, blue, inert, odor-free, gellike additive formulated to be blended with LRB to adjust the viscosity or fluidity of LRB from a self-leveling liquid to a putty or caulklike consistency for vertical, horizontal or inverted applications without sagging, running or slumping. A LRB/TAV mixture can patch or seal any joint, seam, crack or hole and profile rough areas.

- (866) 784-3308
- www.sanitred.com
- www.theconcreteprotector.com

#### **STAINS**

#### StarSeal PS Ultra Stain from Vexcon

StarSeal PS Ultra Stain from Vexcon Chemicals Inc. will penetrate and color any interior or exterior new or old concrete surface prior to being ground and polished, densified or sealed. The product is ideal for environments with high UV exposure. When properly applied, the product deeply penetrates the surface, producing a permanent and vibrant colored floor.

StarSeal PS Ultra Stain is not designed to be a stand-alone finish. It is part of the StarSeal PS floor system. A densified or polished StarSeal PS floor will be resistant to many chemicals, rubber marks, oils, gasoline and food stains.

- **(888) 839-2661**
- www.vexcon.com

# New Quikrete acid and translucent stains

Ouikrete has added new concrete stains to its line of concrete products.

Quikrete Etching Stains give plain concrete a marblelike appearance with warm earth tones and unique shading. The

acid-based stains react with the cement as they permanently penetrate the surface to create a unique, decorative and multitoned appearance. Available in tan, coffee, black, English red and olive, Quikrete Etching Stains are ideal for



decorating interior rooms, patios, porches and driveways for about 25 cents per square

Ouikrete Translucent Concrete Stains create a semitransparent appearance that highlights the natural variations in concrete and masonry surfaces. The water-based, polymer-bonded stains can be used in multiple color combinations to achieve a multitone, layered appearance that will not peel over time. Available in red, terra cotta, cola, light brown, light gray, gray, blue, golden wheat and brick red, Quikrete Translucent Concrete Stains are ideal for decorating garage floors, driveways, pool decks, sidewalks and patios for approximately 10 to 15 cents per square foot.

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# STAMPING & TEXTURING

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NewLook International Inc.'s new Impression Patterns offer a unique and convenient process for imprinting any design into fresh concrete or a fresh overlay.

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# Walttools offers Hawaiian texture skins, antiquing wash and texture rollers

Walttools has taken over the manufacturing of RockMolds' native Hawaiian stone texture skins for use in custom concrete texturing products. These unique, aggressive textures have been used to make faux rock, water features, stepping stones, custom paving and vertical stamping. Most recently, RockMolds skins were used in the new Patas monkey exhibit at Zoo Boise.

Walttools has also released a new coloring agent called Tru Tique. Tru Tique is a water-based antiquing color wash solution designed to provide a natural, two-tone mottled effect normally obtained by the use of colored release agents. Tru Tique works for coloring new surfaces or rejuvenating old textured surfaces. There are currently 16 colors.

Finally, Walttools has released a new flatwork line of its well-known Tru Tex rollers. The 18-inch Tru Tex Flatwork texture rollers are designed for concrete, overlays and microtoppings. This lightweight tool makes it easy to apply quick textures with little labor. The included bracket accepts small bull-float threads or a standard broom handle. Currently there are four textures — Travertine, River Slate, Flagstone and Pitted Granite.

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The SPS10 EZOFF surface preparator from Smith Manufacturing sports upgrades that include more efficient power options, a new dashboard for improved removal management, dual dust-collection ports with containment skirting, improved adjusting handle controls, and severe-duty cutter drums with heavier supports. The redesigned EZOFF keeps you removing faster.

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The WFP400 - Professional Flooring Installer Package for concrete or wood floors includes the MMC220 moisture meter, the RapidRH Starter Kit, the

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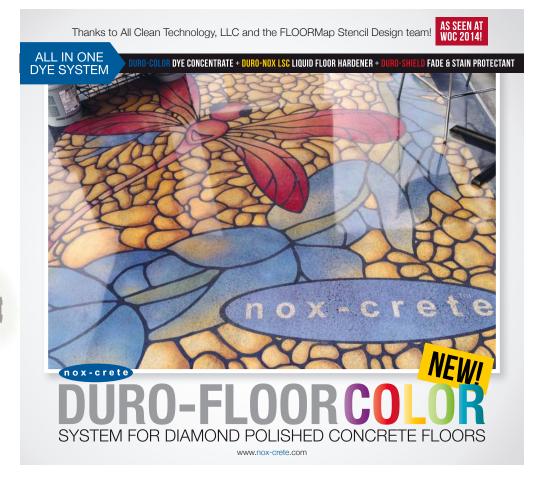
is a new surface preparation treatment for use prior to repairing, sealing or staining concrete, paver and masonry surfaces to significantly improve adhesion of coatings and repair material. The solvent-free, lowodor and low-VOC



product is available in one-gallon bottles for approximately \$20.

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Jeffrey Girard of The Concrete Countertop Institute used SketchUp to create a 3-D rendering of this UFO fire table.

Photo courtesy of The Concrete Countertop Institute

## Digital Tools for Decorative Concrete What's the Right Mix?

by Amy Johnson

■ HETHER you are a paleo-pencil-pusher or digital native, in today's market you have to ask, what are the best digital or digital native, in today's market you tools for my business? The good news is, there is no single right answer for everyone. With hundreds of tools to choose from, you can find the best combination to fit your skills and interests.

#### Your digital portfolio

One digital tool you're already familiar with is that marketing essential, the digital photo. "I like physical samples because I like to touch it, feel it, taste it before I buy it, but it's physically impossible to have samples of everything," says Tony Angell, North Metro Concrete Countertops LLC, in Marine on St. Croix, Minn. Like many contractors, he uses digital photos and a website to showcase his work.

The proliferation of camera phones potentially dilutes the power of this tool by encouraging a flood of low-resolution, badly executed snaps that fall short of capturing the true beauty of a project. The first step in creating a digital portfolio is learning how to take pictures properly, according to Jeffrey Girard, P.E., president of The Concrete Countertop Institute. He recommends using a real camera, not a phone, and actually looking at what you're taking a picture of to make sure everything ugly (rags, tools, trash) is out of the frame.

After downloading the photo, use an editing tool such as Adobe Photoshop or iPhoto to crop the picture and adjust the contrast and brightness, making the project look its best. "Photo editing tools are popular and important pieces of software," says Girard. "The whole point is to

communicate to customers the possibilities of what you can do."

While there are many cheap do-ityourself options available for creating your company's website, decorative contractors may find it makes sense to pay others to do that work so they can concentrate on what they do best. "We recently purchased a website theme that has worked very well for marketing Lancaster Concrete Designs," says Thomas Lancaster, of Alpine, Texas.

What's more, potential customers are no longer limited to clicking through a website portfolio to view digital images. "The iPad has changed how we communicate with pictures dramatically. We have folders that tell stories," says Mac user Cory Hanneman, Element 7 Concrete Flooring, Marble Falls, Texas.





Decorative Concrete Resources, Saginaw, Mich., used Depiction Software to show potential customers how a street through a historic district could be replaced. The project was a mile-long, 11-foot-wide lane down the middle of Center Avenue in Bay City, Mich. The concrete was integrally colored Red Barn, from Prism Corp., and stamped in a herringbone brick pattern. Near intersections, the concrete was left untextured to facilitate lane markings.

#### **Project planning**

Digital technology has changed the planning process, from proposal to project design to the mix itself. For example, Todd Scharich, owner of Decorative Concrete Resources, a distributor in Saginaw, Mich., touts rendering software. "We have found great success using Depiction Software when working with architects, engineers and city planners on streetscape enhancement projects, where design committees don't yet have a true vision of what they want to create." Scharich has used this rendering software for the past 10 years to create artistic conceptions of a project that help customers choose colors and patterns.

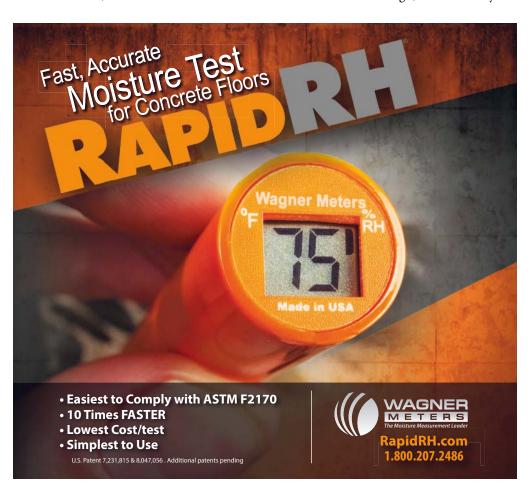
One significant project completed using this software was replacing the main thoroughfare through the historic district of Bay City, Mich. Center Avenue was originally constructed of wood during Bay City's lumber baron era, and later of brick. The local historical society wanted a return to the old look, but brick pavers were not appropriate for the street's volume of traffic. Scharich, who is also the decorative concrete specialist for the American Society of Concrete Contractors, was invited to explain the advantages of decorative concrete to Michigan Department of Transportation engineers, city officials and the historical society. "I offered to create a rendering of possible looks for the new road and forwarded them on to the engineers," Scharich explains. "Two years later the project quietly appeared on the MDOT job lettings, and it eventually became the biggest installation that my company ever supplied."

Once the look of the finished project is agreed upon, there is software to help contractors actually design and specify it. One program Girard uses is SketchUp, for drawing in 3-D. "I can create the final concrete product and then build virtual forms around it to see how it will go together," he says.

In some cases, decorative contractors will

have to sync up with general contractors or architects. AutoSketch is a 2-D design program compatible with AutoCAD, which is widely used by architects.

Programs for calculating mix designs can be invaluable for saving time, preventing errors and delivering the best possible finished product. "We have software that calculates our mix design," Lancaster says.



"The batch for every job is measured to the 20th of a gram." Angell feels he could not function without his GFRC mix design calculator. "I have it backed up on three or four computers plus a flash drive. If I ever lost that, I would be in trouble." The Concrete Countertop Institute sells calculator programs for both GFRC and precast mixes.

#### **Project details**

With an approved design in hand and the right mix calculated, there are still a lot of details the computer can help manage. Offering an extreme example, Cory Hanneman says his office "sits in a tiny backpack. With Dropbox for sharing documents and photos and iCloud I can access everything from anywhere."

Element 7 Concrete specializes in highend residential floors, a business Hanneman describes as very detailed with a high level of customer engagement. Every day his crew leaders take photos before and after work to email to the customer with an explanation of what was accomplished that day. "It's just iPhones and emails," he says, "but it is using them strategically to empower the guys out in the field."

Hanneman says his workers' iPhones are also useful for time management. Each employee has a card on the wall with his or her personal QR code on it. When he comes to work he scans it with his phone, using an iPhone app called TimeStation. When he leaves he scans it again.

To concentrate on what he and his staff do best while improving estimating and budgeting, Hanneman outsources some of the tedious, repetitive work to a





Thomas Lancaster of Lancaster Concrete Designs, Alpine, Texas, used a mix calculator program to get the right mix for this unusual precast table and bench top as well as the GFRC bench base.

personal assistant in the Philippines he found through oDesk.com. She populates a spreadsheet with field report data, including square footage, number of steps, crew size, time spent and so on. Comparing estimates with actuals helps Hanneman improve the accuracy of his estimates.

He's since expanded this capability to address other cost-control opportunities. For example, he now includes before-andafter measurements of diamond polishing tools and how long they were in use on a given job. With this data, the offshore personal assistant calculates the actual costs, which the company uses to determine if new types of diamond tooling are more productive. "There are a lot of things that would be awesome to do if you had the time," Hanneman says. "In other parts of the world, it's affordable." He cautions that outsourcing overseas works best for jobs that are highly repetitive and repeatable.

Working on a different scale, Denverbased Colorado Hardscapes uses Sage 300 Trade Specialty, formerly Sage Timberline Enterprise, for project management, estimating, inventory and accounting for its commercial and residential business. Karen Van Heukelem, LEED AP BD+C, says her company has more than 12 years of success with this technology. She predicts a move to more cloud-based information storage

and sharing, and she says her company is "looking into those options as they apply to our business."

#### The business end

Finally, perhaps the most time-tested and widely used software programs are those used for managing business functions. Van Heukelem likes Google for email because of its ease of use, storage capacity and searchability, and because it eliminates the need for a local mail server. Quicken and QuickBooks, both from Intuit, are popular tools for tracking finances.

Lane Mangum, vice president, business services for The Concrete Countertop Institute, also stresses the importance of a contact management system (CMS), sometimes called a customer relationship management (CRM) program. In her book "Marketing & Selling Concrete Countertops," she writes, "A CMS allows you to store people's contact information, record each phone call and email as an event, and track characteristics about the person or project. The most important (selection) criteria for a concrete countertop business are low cost, ease of setup, ease of use and the ability to access the system using a mobile device." One example of this type of program, with both free and lowcost versions, is CampaignerCRM.





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## ARTISAN IN CONCRETE

# Jim Vermillion, Concrete Polishing & Artistic Staining of Alaska

## Chugiak, Alaska

by Gail Elber

N his 68 years, Jim Vermillion has mastered many skills: military officer, airline pilot, inventor, seagoing kayak adventurer, business owner.

But he hasn't been able to get the hang of retirement. "The beginning of Concrete Polishing & Artistic Staining of Alaska represents my fourth retirement failure," he admits.

"I can't seem to do it. Too many ideas emerge whilst resting too much."

CPASA emerged in 2002-2003 when Jim and his wife, Lindsay Noah-Vermillion, were researching finishes for the

concrete floor of a loft in their home in Chugiak, Alaska. They found inspiration in the work Gaye Goodman had done with acid stains.

"The diamond polishing process and the acid staining process were argued to be mutually exclusive, and I didn't see why that had to be," he says. "So we started experimenting with how they might be combined."

The Vermillions bought polishing equipment and started on their own garage floor. "I think we ground, polished and stained

our own shop floor three or four times, different sections using different sequences. We worked out how to put the two together and have an acid-stained floor that was also glossy. We figured out how to do something that everyone said you couldn't do."

The Vermillions' next step was to use their newfound skills to start a business. Although they were newcomers to the construction industry, the Vermillions drew on their experience running an auto care center, a coffee shop, an outdoor outfitting business and other enterprises. "We figured if we liked it and figured out how to do it, we would offer it and see if there was

interest," Vermillion says. "Initially, we thought it would be seasonal, with the construction industry. But as it turned out, it's been year-round since we started."

At the Anchorage home show, they met an engineer from nearby Joint Base Elmendorf-Richardson who was seeking a way to rehab a concrete stairwell at the military facility.

"He asked us to come and do a mock-up on an unused section of the stairwell to see whether we could do something he thought would work," Vermillion says. "We did, he liked it, and then they had to put it out for bid. But everyone who came

> to look at it couldn't figure out how we did it. So we got a no-bid contract.

"That was our first commercial job. It was a lot of work. You develop a lot of good core strength when you're polishing on concrete stairs," Vermillion says.

Lindsey contributed design work for several years, but now, she is no longer active in the day-to-day work.

Most of CPASA's work comes from word-of-mouth. "I am a bit picky about the work we take on," he says. "If the owners are looking for a lowend, quick and dirty performance, I

can't find room in my schedule for them. I don't want my name on a job that won't look good and be durable.

"I once got a job because of being so picky. While I was bidding on rehabbing the floor in a store in a local mall, the mall manager tried to talk my client into having a competitor of mine do the polishing. The manager said, 'Jim's too picky, you should have X do the job.' The customer told me this was the deciding factor in choosing us to do the floor. She figured that us being picky about doing the job right was just what she wanted in a contractor."



Photos courtesy of Jim Vermillion



#### ARTISAN IN CONCRETE











Vermillion doesn't hesitate to contradict corporate customers who want to specify a sealer coat on their polished floor. In Alaska, he says, that approach won't work because of the abrasive traction grit that customers track into buildings from the sidewalks and parking lots.

"I have argued several of the corporate players into a proper polishing protocol, turning away their standardized low-end grinding-and-guard-coat approach," he says. "If we can't do the job right, I don't want the job."

Vermillion at one point hired a marketing consultant in Anchorage who set up appointments for him with architects who wanted to learn how to specify polished concrete floors. That has led to some useful relationships. "We're often called to consult on a project in advance of it being released for bid so we can talk about how to achieve what the architect perceives as the vision and have some input into their specifications," Vermillion says.

CPASA is also sometimes called upon to rescue floors that another contractor hasn't been able to polish properly. Vermillion was once called to a Lowe's store 12 days before its scheduled opening. An out-ofstate contractor had left a polished floor with densifier streaks and a 400-grit finish where 1,100 grit had been specified. "We did a whole bunch of 18-hour days," he says. "We got it done 12 hours before opening."

#### **Tried and true tools**

Vermillion uses equipment, tooling, stains and densifiers from several different manufacturers. "Reliability is key to me. I have both counter-rotating and planetary grinders — it doesn't matter. What matters is if the tooling runs flat on the floor and if the machine itself is reliable," he says. His big grinders are counter-rotating models STI-4430, STI-3030 and STI-2420 in the Prep/Master series from Substrate Technology Inc.

When it comes to chemicals, "I use different manufacturers for different purposes," he says. "Some reactive stains we adjust the chemistry of to suit us for a particular purpose. We have some custom reactive stains that spring off some work







done by Roy Snowball in New Zealand years ago. We use water-based as well as solvent dyes, and we've been using dyes mixed with densifiers since before that was commercially available."

Whether the floor is new or a rehab, proper application of densifier is essential, says Vermillion. And sometimes his idea of "proper" doesn't agree with the manufacturer's instructions.

"The concrete has to be fully densified so that it builds up that abrasion resistance within the wear surface of the slab," he says. "It's chemistry, and it requires a reaction, and reactions take time, and if you don't keep it wet during the reactive period and give it time to react, you can't build adequate product with adequate durability and wear resistance."

On some jobs, Vermillion has done six applications of densifier. "Manufacturers recommend two applications, but particularly rehab floors need more. I haven't found a way to predict how many applications a floor's going to take. But you have to saturate the floor and give it time to react.

"Sometimes we will go outside the manufacturer's protocols to make sure it's fully saturated. Manufacturers call for allowing the densifier to remain on the floor for half an hour or 45 minutes, but we've done much longer periods, allowing the material to begin to dry into the floor. That's the artisan's eye or experience, to know when you can get away with it or when you will have a lot of work on your

hands or ruin something you've partially completed. That's one difference between a beginner and someone who knows what they're doing."

Vermillion has had to be an experimenter because "we don't get manufacturers' visits here," he says. He says his home in Chugiak, near Anchorage, is "a half-day drive from the end of the contiguous highway system in North America."

"It's hard to find out about new products (out here)," he says. "I guess that's part of what fosters creativity."

#### **Encouraging an industry**

Vermillion has been sharing what he's learned by working on the American Concrete Institute committee that created

#### ARTISAN IN CONCRETE







ACI 310R-13, the new Guide to Decorative Concrete, which was published in December.

He's also the head of the newly formed Subcommittee 310-0J, Polished Finishes, and he will lead efforts to write a new ACI specification for polished concrete flatwork.

"I got involved because of seeing so many people, owners and architects, who didn't understand how to achieve good polished concrete," he says. "There was no excellent resource for them to go to that says, 'This is how to do it.' People were saying and claiming different things, like saying a coating on partially polished concrete was polished concrete — as a result, making owners afraid to ask for polished concrete. The best way to address that, I thought, was nationally."

Another way Vermillion has been sharing his knowledge is by training employees in an apprenticeship system. CPASA's crew leader, Stephanie Deal, "has progressed from a rank beginner to journeywoman status," he says. "She's both artistic and able to run a grinder." The company currently has three part-time apprentices and adds other part-timers, usually candidates for apprenticeship, when necessary. Vermillion mentions Alanna Blough and Nicholas Wolfe as apprentices who have especially contributed to the company's development.

To further the idea of apprenticeship, Vermillion helped found the Guild of Artisan Polishers a couple of years ago. "We're a small group, invitation-only —

sort of a medieval guild. Members are invited based on the quality of their work," he says. "We're continuing to develop that organization. We mainly correspond by email and calls. We haven't had any physical get-togethers yet."

In fact, Vermillion hopes to sell CPASA soon to that he can focus more on GAP. "I'd love to find someone to buy our business who would want to maintain the quality, so that I could wrap my heart around training and transition into it," he says.

"Our equipment's heavy, and I'm a thin guy who's getting older."

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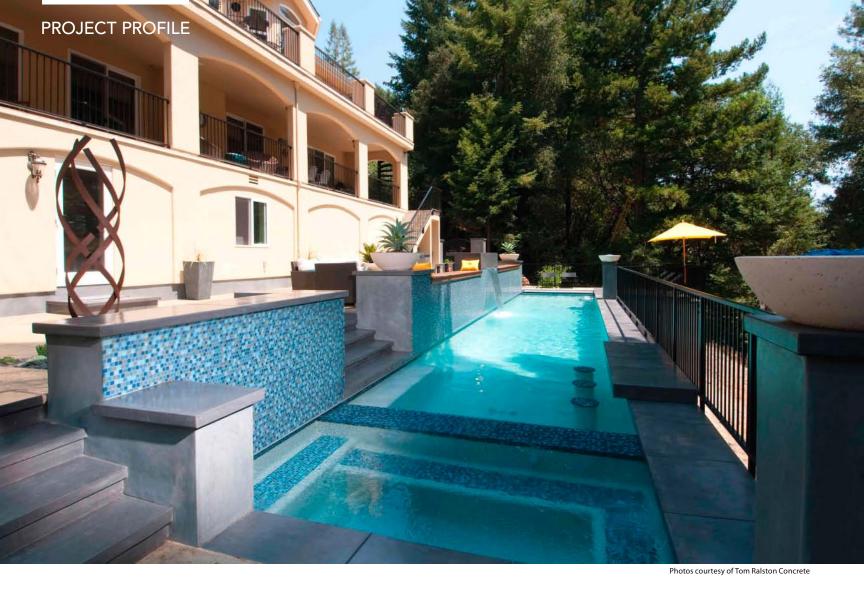
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# An Award-Winning Engineered Backyard

## Turowski Lap Pool and Deck, Scotts Valley, Calif.

by Chris Mayo

WHEN Tom Ralston Concrete took on the job of building Todd Turowski a lap pool in the backyard of his hillside house in Scotts Valley, Calif., they did so with eyes wide open.

There are a few things that define Tom Ralston and his company, Tom Ralston Concrete (TRC):

- They like a challenge.
- No job is impossible.
- Customer input is encouraged.
- Planning and visualizing is as important as any other aspect of a job.

All these factors came into play on the Turowski lap-pool job. "We started the preliminary work in February of 2012," Ralston says. "It took a lot of planning because of the challenges: a steep hillside,

no easy way to access the site, severe drainage issues, and some serious structural engineering demands."

The customer had a general idea about what he wanted, a lap pool surrounded by attractive concrete decking with decorative features, but he didn't have a complete vision of the finished product. TRC needed to collaborate and brainstorm to come up with a viable plan.

"We wanted to sculpt something stunning with patios, stairs, lighting, polished concrete countertops — the works," says Ralston.

That left a simple question, he says: "How the hell are we going to get from this rugged hillside to an end result that matches the vision?"

#### **Project at a Glance**

**Client:** Todd Turowski, a homeowner in Scotts Valley, Calif. **Contractor:** Tom Ralston Concrete Inc., Santa Cruz, Calif.

Architect: Dana Jones, Santa Cruz, Calif.

**Structural engineer:** Todd Lacher, Pool Engineering Inc., Anaheim, Calif.

**Civil engineer:** Dave Dauphin, C2G/Civil Consultants Group Inc., Scotts Valley, Calif.

**Products used:** Brickform Color Hardener, colored Sandstone, and Clear Release; Proline Concrete Tools Italian Slate seamless texture mat; Alcantar Color Hardener in Platinum; L.M. Scofield Co. LithoChrome Color Hardener in Classic Gray; American Specialty Glass' Large Blue Glass and Fine Glass with Amber and Green Colors; Super Stone Low Gloss Concrete Clear Sealer

**Project description:** Transform a steep backyard hillside by constructing a lap pool and terraced deck with several artistic touches.









#### Structural details

To arrive at a feasible and structurally sound design, Ralston, as general contractor, enlisted an architect and civil and architectural engineers.

"There was an overwhelming amount of structural work that had to be done before the pool, pool deck and stairs could be built," recalls Ralston.

The structural engineer handled calculations and specifications for footing and wall thickness, rebar schedules and so on. The civil engineer took on the drainage plans. "We have done this on other occasions," Ralston says. "I love to handle the communication interface because good coordination in a complicated project is key to a successful project."

Actually, the first challenge was access. The hillside is at an approximately 20-degree slope and, because of the proximity of neighboring properties, there was no easy way to get equipment in and out. Turowski worked out an access agreement with the

florist next door, promising to refurbish the hillside afterward. It still wasn't ideal. The crew had to hump equipment and materials downhill and back about 250 feet. Concrete needed to be pumped.

"We asked a lot of our crew," says Ralston. "None of them needed a StairMaster while we were working on this one."

The next challenge was grading and drainage. The city uses parts of the property as storm drainage from the street above the house. TRC had to guarantee that this drainage wouldn't be adversely impacted by the project.

"We had to engineer a really extensive drainage system. This included moving material off the site, importing 3/4-inch engineered drain rock (a kind of high-grade aggregate base), compacting the base, and then importing enough material to build up a level surface on which to build the pool. Because we started during the wettest part of the year, we also had to take additional erosion control measures like storm fencing

around all the vegetation. Without proper drainage and erosion control, the pool could eventually start migrating down the hillside. Not exactly something we wanted to deal with in the future."

Retaining walls on the downhill side of the pool had to be deep, wide and strong. They ended up being about 10 feet high and 10 inches thick with 2 inches of foam ridging and gunite on the visible surfaces. Thousands of pounds of rebar reinforce the walls. The swimming pool, with extra-wide coping, was designed to sit directly against the walls.

"One thing about decorative concrete work — on a lot of jobs, most of your work is underground and never seen after the job is done," muses Ralston. "Our first wall pour was as straight as a piano wire, and it's kind of a shame that no one will see it, but that's part of the deal."

#### The fun part

With the site preparation and underground work done, and the pool finished by a

#### PROJECT PROFILE









subcontractor, Ralston and his crew began work on the part they truly enjoy: creating a piece of functional art out of concrete.

"We did much of the structural work with gray concrete," says Ralston. "The coping, upper and lower decks, steps, countertops all of the visible concrete work used color hardeners from various manufacturers to produce the look that the owner was ecstatic with."

Alcantar color hardener in Platinum was used to tint the poolside coping, the countertops in the small kitchen, and gray elements of the deck. This hardener was also used for the cheek walls that flank the steps, as well as the bench seat walls, which are capped with Ipe, an attractive hardwood from Brazil. The concrete wall lodged into the hillside was also stuccoed with Platinum.

Two concrete countertops — one on the upper deck from which a waterfall cascades into the pool, the other on the coping with sitting stools underwater — were finished with Scofield's Classic Gray color hardener, as were the stairs and other surfaces. The countertop on the deck has clean-tooled edges and a 10-inch cantilever. The pool edge countertop sports a 6-inch cantilever.

There's also a small kitchenette countertop under the stairs leading up to the porch area. All three tops sport a hard-trowel finish with a light diamond-pad polish.

The pool deck itself was treated with Brickform Sandstone color hardener and a clear release, and it was stamped with an Italian Slate seamless texture mat from Proline Concrete Tools. A special concrete lid designed to disguise the sewer drain was stamped and colored like

In an effort to help reduce slipping around the pool, workers sealed the deck with low-gloss lacquer-based sealer and broadcast fine glass with amber and green colors.

The steps are illuminated with inset lighting that features yellow, white and orange swirled glass with a copper frame, adding to the overall artistic feel of the area. The golden-yellow lights were designed to pop off of the grey concrete.

Two pillars with gas-fire bowls and a large rectangular fire pit also add to the artistic feel. Large blue glass, more than 1 1/2-inch in diameter special ordered from American Specialty Glass, adds a dramatic effect in the fire bowls and fire pit. At night the flames provide an extra touch of ambience.

#### The impossible takes a little longer

Ultimately TRC transformed a rugged and unusable backyard into an elegant and functional area perfect for entertaining, exercising, or simply enjoying the beauty of a day.

"The Turowski pool deck was more than a year in the making with a total cost for concrete work of well over a quarter million dollars and 197 cubic yards of concrete," says Ralston. "Besides the many aesthetic applications, the pool itself was a very difficult challenge just to get the drainage and structural work completed. With the multiple



aspects and extra artistic touches included in the job, we had to do an inordinate number of samples in order to get all the aesthetic cylinders firing together."

Ralston is justifiably proud of his crew. Many of them have been with TRC for more than 20 years, and the nucleus of the company has been together for more than 15 years. "Without an experienced and dedicated team who truly care about creating something special, there is no way we could have pulled this off. They take pride in their work. And you know what? As soon as we put the finishing touches on the Turowski job they were looking forward to our next challenge."

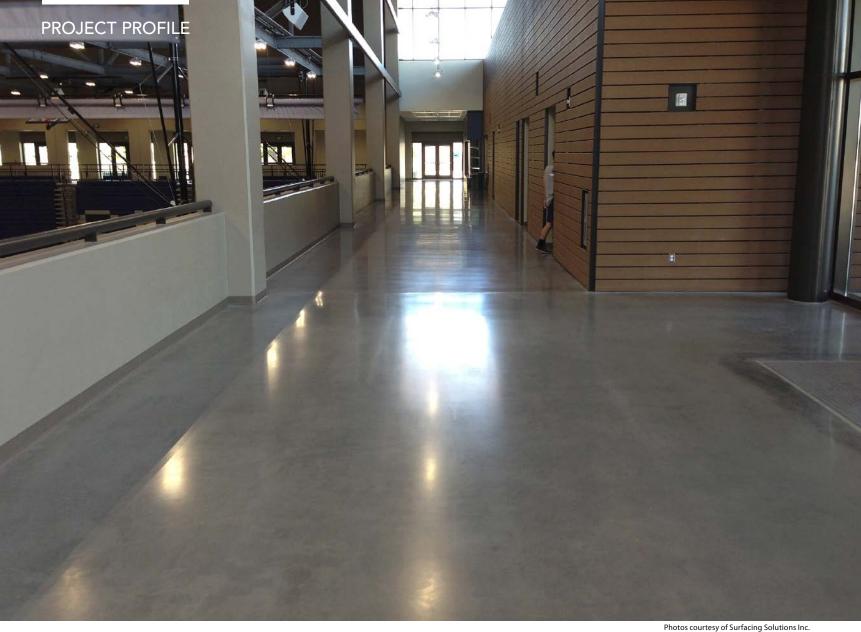




The Turowski project won the grand prize (the Wow! Award) and a first-place finish in the Multiple Applications, Under 5,000 Square Feet category at the 2014 Decorative Concrete Awards, sponsored by the American Society of Concrete Contractors Decorative Concrete Council. For complete coverage of the winners, see page 12.

The project will also be featured in "Sculpting Hillsides with Decorative Concrete," a new book written by Tom Ralston. It will be published by Schiffer Publishing later this spring.





# Creative Color Solutions at an Epic Polishing Job

Polished Floors at San Marcos High School, San Marcos, Calif.

by Joe Maty

Q URFACING Solutions Inc., Temecula, Calif., got a refresher on one central principle of polished concrete as the company produced some 175,000 square feet of densified concrete floor surfaces at the glittering new San Marcos High School in Southern California.

The lesson: Be prepared to improvise. Twists and turns, such as variations in concrete installed at different times, put

Surfacing Solutions to the test in formulating grinding and coloring approaches to produce the consistency sought by the design team. Not to mention, there was the arduous task of coordinating work on a grand scale with other construction trades.

Oh, and then there was the weather. Yes, the weather. It rains in Southern California now and then during the winter months. And rain, open buildings, and

dirt and mud from a construction site can produce serious heartburn for finishers of horizontal concrete flooring.

#### The master plan

This was a major building program a whole new high-school complex — to replace an existing school built in the 1960s that had long ago passed its maximum enrollment capacity. The old buildings were



razed and classes were held in temporary buildings during construction of new ones. Completion is scheduled for this year, with all buildings occupied in January and conclusion of all site work in August. The construction cost is put at \$150 million, with Lusardi Construction Co., San Marcos, serving as general contractor.

The 43-acre school site has seen the transformation of a single-story, 2,300student school campus into a state-of-the-art, multistory educational facility organized around a central quad, according to design architect LPA Inc.'s Irvine, Calif., office. The 412,000-square-foot complex is designed with four specialized academies: Design & Engineering, Environmental Science & Agriculture, Performing Arts and Media Arts.

A singular feature is the student union, designed to reflect what the expanded project statement calls "the collaborative nature of the 21st-century learning environment," with access to technology, the library, career center, and food services before, during and after school.

With limited site size — unchanged from the existing school — the school district had to build vertically, says David Eaves, LPA associate and project architect. "It's roughly

the same footprint, with a new and different building configuration," he says.

The district's utilitarian-minded objective for the polished concrete floors was something less than "total refinement," says Shawn Halverson, Surfacing Solutions CEO. The goal was attractive appearance, but using only three grinding steps rather than a more extensive, high-reflectance polishing regimen. No color was added, except in problem areas with differences in color due to concrete surfaces that were installed separately.

Spaces to be polished included common areas, corridors and most classrooms. Carpeting, sheet flooring and resinous flooring systems were used in a number of lab and nonclassroom spaces.

#### A concrete polishing challenge

Surfacing Solutions' work got underway in late 2012, on the first-floor level of Building C, the athletics building.

"The first day we started grinding, it started raining," Halverson says. The building lot "became a mudhole, and the floor was covered with mud."

The crew was pulled off the job, and going forward they worked around periodic rains for the next several weeks. Extensive cleanup

of the floors became necessary prior to the start of grinding. "It seemed to rain about every Thursday for a month," he says. "We worked with the framer, fireproofer and other trades to stay ahead of them."

#### Project at a Glance

Client: San Marcos Unified School District, San Marcos, Calif.

**Decorative concrete contractor:** Surfacing Solutions Inc., Temecula, Calif.

General contractor: Lusardi Construction Inc., San Marcos, Calif.

**Architect/designer:** LPA Inc., Irvine, Calif.

Proiect description: About 175,000 square feet of polished concrete floors in new school complex, encompassing four different buildings

Mix design: Robertson's Ready Mix, North San Diego County, Calif.

**Products used:** RetroPlate 99 densifier and RetroGuard modified acrylic sealer from Advanced Floor Products LLC; Fast Stain powdered dye in black from Westcoat Specialty Coating Systems; Diamatic BMG-780PRO grinder

**Challenges:** Management and logistics of extensive concrete polishing project in multiple buildings, including scheduling of work in conjunction with other construction trades; working with multiple client superintendents; formulation and execution of grinding, polishing and spot coloring processes to address variations in different concrete segments

#### PROJECT PROFILE

The specifications called for a grind with 80-grit metal-bond diamonds, followed by passes with 100- and 200-grit resin-bond diamonds. Then came application of the densifier, the RetroPlate 99 sodium silicate formula from Advanced Floor Products. Diamond grinding was done with the Diamatic BMG-780PRO.

The plan called for a return to the floors after other trades were finished to apply RetroGuard modified acrylic sealer (also from Advanced Floor Products) and burnishing.

Halverson gives credit to general contractor Lusardi Construction for bringing order to spaces where densified concrete was subjected to the work of other trades prior to the sealer-and-burnish phase of concrete polishing.

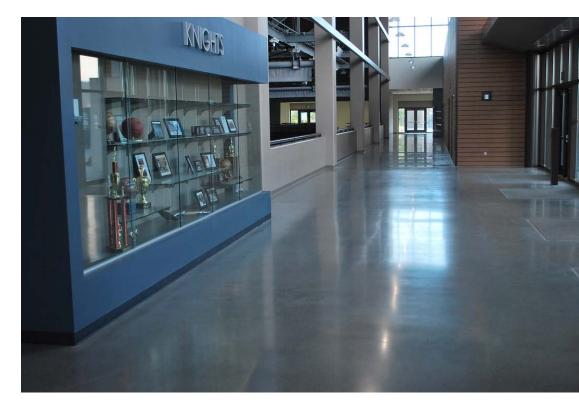
The polishing was not designed to deliver ultrahigh sheen and reflectivity, "but surprisingly we were getting good reflectance," Halverson says. The impression was enhanced with the guard product.

#### Tweaking the color

Though the specifications called for polishing of the concrete without coloring, the plan didn't go exactly as intended.

The athletics building walls were built using the tilt-up concrete-panel method. This left a strip of floor inside the walls the pour strip — to be cast later than the building's main slab. Hand-troweling of these areas resulted in a higher elevation than the main slab, with less density in the concrete and a more wavy surface.

Initially, it was decided to address the issue using Metabo 7-inch grinding tools



to flatten the surface along the edges and bring the level into line with the floor slab. This approach, however, exposed too much large aggregate — not what the architect and general contractor wanted to see. "So we had to leave the elevation differences and treat this lip as an edge and polish both the lower and the higher sides individually," Halverson says — a labor-intensive measure, but the only real solution.

Another issue arose in corridors of Building A, where variations in shading of concrete resulted from pouring of concrete at different times.

The problem was addressed using Westcoat Specialty Coating Systems' Fast Stain, with different dilutions of the black dye formulated to compensate for varying shades of concrete left from different installations.

"Each time they poured concrete, the color changed, and we had to alter the colorant for each area," Halverson says. "The concrete was supposed to be the same color, but it varied through the whole project."

Another solution was necessary to deal with what Halverson calls a "ghosting" effect caused by efflorescence in the lightweight concrete mix used for upper floors in multilevel buildings — Buildings A, C and D. The suspected cause was high water content in the concrete mix.

"When we started polishing, it got worse," Halverson says of the efflorescence. The problem was largely alleviated by eliminating the sealer application and burnishing step.

Eaves, the LPA project architect, says the efflorescence presented a "cloudy white" appearance, and gives Surfacing Solutions high marks for formulating a solution. "No one was terribly pleased with the efflorescence, but it's a natural part of the cure process," he says. "We only see it in the elevated composite decks. On the slabs on grade we continued with the four-step process, with sealer and burnishing."



#### Directing traffic

A key to success in this massive project, says Surfacing Solutions superintendent Will Gillette, was management of manpower and logistics — "dealing with multiple buildings, making sure materials and manpower were there when needed, making sure everything was on schedule and on task."

"The job was so big, going in two and three buildings at a time, sometimes in four, with 12 guys spread out over several buildings," Gillette says.

Halverson gives a good deal of the credit to Gillette, who "busted it" in managing a massive, complex job spanning a year and then some. Also a key player was director of operations Keith Cantillon, a part owner of Surfacing Solutions.

"Our team from the office and field worked very well in coordinating the process, from our in-office project manager Carrie Brown to Kristen Weisz's accounting team tracking our production goals, to the field supervisor, Will Gillette," Halverson says.

In design terms, Halverson says, the San Marcos job was about "function versus fashion," though he adds that the job still gets points for attractive visuals and craftsmanship in the face of practical constraints.

Halverson says Surfacing Solutions held meetings with the school district's personnel to review ongoing maintenance procedures, including the use of a product formulated for cleaning that comes with a densifier component.

"We emphasize that polished concrete is inexpensive to maintain," he says. "But that it's not maintenance-free — it's maintenancesimple compared to other types of flooring.

"They spent a lot of money, and deserve to have it last a long time."

#### The most practical finish for students

Eaves, LPA project architect, says the school district bought into the architects' recommendation of polished concrete due to its combination of economics and performance.

"They wanted flooring that was costeffective and a long-term, low-maintenance flooring system, and that's exactly what polished concrete provides," Eaves says. "We think it achieved these goals for the district.

"We worked continually with Surfacing

Solutions and the general contractor to go back in some areas where the ultimate outcome was not totally satisfactory," Eaves says. "They did some additional grinding to get more consistency and some very subtle staining to blend the different colors. This allowed the floors to meet everyone's expectations. It worked very well in my view, and is ongoing, as the project is not totally complete."

The overriding factor in the level of polishing specified, Eaves said, was a moderate reflectance level.

"We've noticed in classroom environments that if the flooring has very high reflectance, it can be distracting. In this project we have broad window expanses, with a high level of daylighting, and a shiny floor can create glare and similar issues.

"We were not going to try for an auto showroom floor, but something more practical for a school classroom environment."

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## Overlay Tops Gypcrete at Jewelry Store

## Alex and Ani, Providence, R.I.

by Chris Mayo

■HEN Tom Zilian, founder and president of Rhode Island-based Madstone LLC, was contacted by Alex and Ani, a national jewelry retailer with headquarters in the Ocean State, he thought he would be bidding on a straightforward job. They wanted to polish the concrete floors at their new location on Weybosset Street, in Providence, R.I. One problem — the substrate in the building was gypcrete and not polishable. Typical overlay products won't bond to gypcrete. A clear-cut job was becoming complex.

Luckily, Zilian knows his business, and he knew of a product that would work. "We've worked with Duraamen products quite a bit," says Zilian. "They have one, Sgraffino, that's an excellent microtopping, and it adheres to gypcrete."

Victor Pachade, general manager of Duraamen in Boston, says, as far as he knows, Sgraffino is the only microtopping that adheres to gypcrete. "This was a fantastic solution for Alex and Ani," he says. "I don't know what other resolution they could have come up with, particularly if they wanted the job to remain cost-effective."

#### Not exactly like polished

"Sgraffino is a great way to resurface a concrete floor," says Zilian. "Although it doesn't exactly look like polished concrete, when done correctly you'll end up with a beautiful floor, with a smooth, burnished steel-trowelled finish. Another advantage is how much control you have with the color."

Zilian presented Alex and Ani with the Sgraffino option, integrally colored with Duraamen Colorfast. He showed them examples and they agreed. "A big part of presenting customers with choices involves managing expectations — being upfront about the pros and cons of different options," says Zilian. "No product is perfect. Each time you use something you end up with slight variations in the result. An important aspect of working with customers is making sure they understand that."



The space was fairly large, about 5,000 square feet, with an office area in the rear and a retail space up front. Alex and Ani wanted the floor completed in time for the 2012 holiday season.

As with most decorative work, preparation is as much a key to a quality end result as any other step. In this case, the gypcrete floor was relatively stable, allowing for a fairly uncomplicated approach to preparation. Madstone prepared the floor by abrading it with 40-grit screen, followed by a thorough cleaning with a walk-behind automatic scrubber, leveling high and low spots while creating a surface amenable to priming. The floor was primed with Duraamen CP1000 polymer primer. Duraamen recommends applying CP1000 with a garden sprayer, one coat the day before placing the Sgraffino and the second coat the day of the job. For this job, Madstone chose to pour the primer

directly on the floor and spread it with a mop. "We did this three times" Zilian says. "This does two things. First, it stabilizes the substrate. Secondly, it allows for a chemical bond between the substrate and the concrete overlay."

Zilian originally planned to do the job

#### **Project at a Glance**

Client: Alex and Ani, Cranston, R.I.

Contractor: Madstone LLC, Seekonk, Mass.

Products and tools used: Sgraffino Microtop (regular, fine and super fine), Colorfast Charcoal Suede colorant, Perdure Epoxy Resin and Perdure Polyurethane Sealer from Duraamen; CP1000 polymer primer from Smart Surface Technology Inc.; Texmaster Magic Trowels

Project description: Microtop a 5,000-square-foot jewelry store floor in Providence, R.I.

Challenge: Existing floor was gypcrete, which is not polishable and not amenable to bonding with most microtoppings.

#### PROJECT PROFILE

in one continuous pour, but Alex and Ani wanted to continue getting the store ready. Consequently, he decided to do the office area and retail space separately. "It added a few days to the job, but didn't really create any problems for us," says Zilian.

They did the retail space first, mixing the Sgraffino with Duraamen Colorfast, a powder designed specifically for integrally coloring cementitious materials. Placement was done in continuous pours to minimize variations and defects.

#### The dance

Zilian describes the process of putting down a microtopping as a ballet. "Everything has to be choreographed," he says.

"We started with white based Sgraffino and added a carefully calculated portion of Colorfast Charcoal Suede colorant. This color tends to not completely disperse, so we strain it and premix it with a cocktail mixer," explains Zilian.

"The mixing station was set up to provide continuous flow of product to the crew on the floor. Containers were all tumbled beforehand. A holding tank was created for the CP1000 with a large trash barrel to



quickly measure the amount of product for each batch," says Zilian.

After mixing, the material was brought out to the floor by "runners," who work

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between the floor technicians and the mixing station. They pour fresh material on the floor, continuously "feeding" the floor technicians, ensuring a constant wet edge is maintained.

Sgraffino was applied using Magic Trowels — rubber squeegees, handled with a specific angle and degree of pressure. Floor technicians switched places, rotating in and out of areas, ensuring the patterning of the floor remained consistently natural and organic. "Each technician has a slightly different sense of touch" says Zilian.

The microtopping in place, the floor was screened (100-grit), vacuumed and washed before applying a clear epoxy resin. Clear urethane, to protect the epoxy, was the final step.

"The amazing thing is that you can put all this down on a floor and it's only 1/8 inch thick," says Pachade. "And it looks amazingly good. In fact it wasn't long after Alex and Ani was done that a competing jewelry store called and is now refurbishing their floor with our products. You can't get much more of an endorsement than that."

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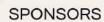
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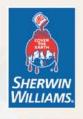


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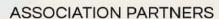


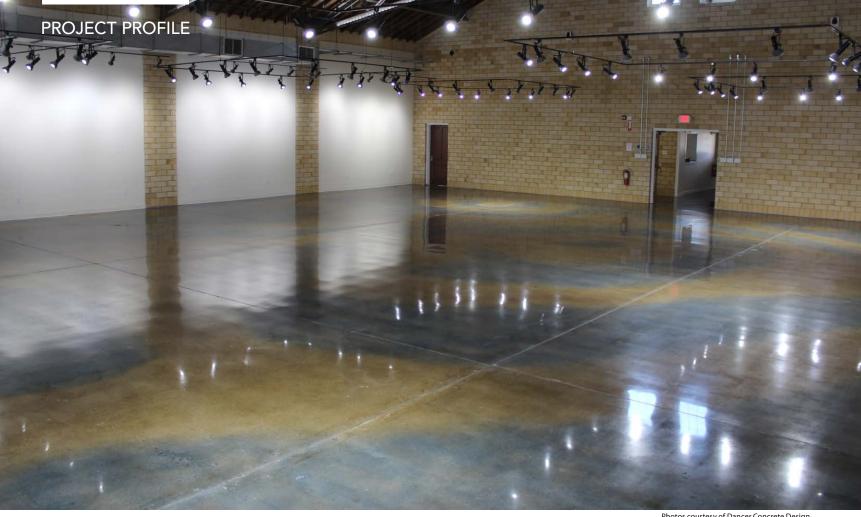












Photos courtesy of Dancer Concrete Design

## A New Way to Look at Decorative Concrete in Art Galleries

Wassenberg Art Center, Van Wert, Ohio

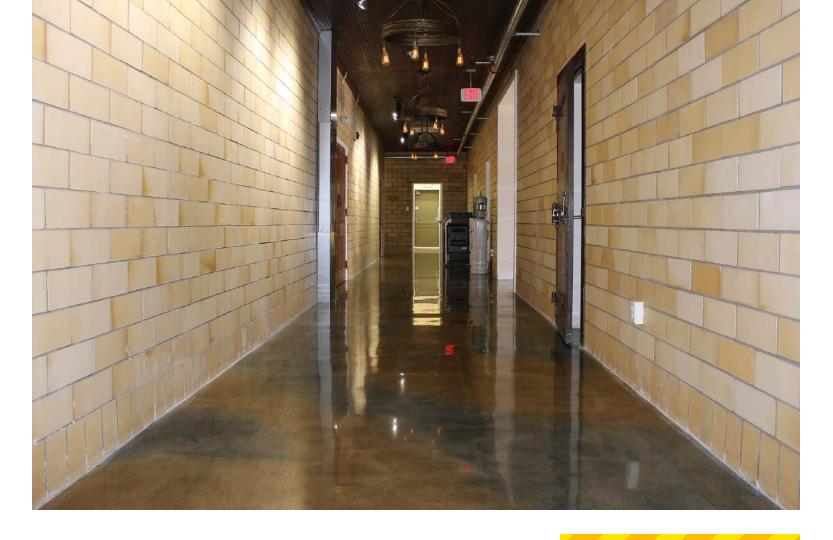
by Nick Dancer

EARS ago my company, (Fort Wayne, Ind.-based) Dancer Concrete Design, completed a local art center project where the goal was to create the most neutral and plain-looking concrete floor possible. The thought was to create a neutral balance so the hanging art would be the focal point of the space and draw the interest of the viewer. While that floor looked nice, and the space is still warm and inviting, it didn't really draw out any talent or imagination from our team.

When I was invited to bid a job for another regional art center, the Wassenberg Art Center, in Van Wert, Ohio, my initial thought was to do the same thing. They probably wanted the same type of finish — a gray polished floor that creates a neutral base and offers the long-term performance of polished concrete.

Instead, the finished floor of this Art Center brings in the arts wherever applicable. The new floor was one of the major changes to the space, and it presented the perfect opportunity to showcase local talent in artists who could work with concrete. Instead of creating a neutral floor, we went for bright and vibrant.





#### The development of a masterpiece

Our first meeting for this project was in a dark and dreary former National Guard Armory. The armory was built around the 1930s, but after being decommissioned, it never really fit the community. It served as a reception hall for a time and then tried a flea-market type offering. But expenses and maintenance problems left the community with two options — the historic downtown landmark had to be demolished or someone

#### Project at a Glance

Client: Wassenberg Community Art Center, Van Wert, Ohio

**Contractor:** Dancer Concrete Design, Fort Wayne, Ind. Scope: 8,000 total square feet of polished and colored concrete flooring in a building with concrete dating

Products used on polished concrete flooring:

Lavina 32 Pro polisher, CDCLarue vacuums, ColorTru dyes in Slate Blue and Caramel from Spectru Systems, Lythic Densifier with added Lythic Duet Colors dye in Buckskin, RetroGuard sealer from Advanced Floor Products LLC

#### Products used on stained concrete floors:

Butterfield Color Elements Transparent Concrete Stains, SuperThane sealer from Wayne Products

had to raise the money to completely renovate this space.

When we looked at the building for the first time, the ceilings were falling apart, the roof had leaks, and the space had a cold and dungeon-type feel. Beyond the debris and darkness was a large open space adding up to more than 8,000 square feet of concrete floor. Although this concrete was covered in black mastic, it was in visibly good functional and cosmetic shape. Now we had hope! Polished concrete floors would serve as the anchor point to transform the entire building.

Hope Wallace, executive director of the Wassenberg Art Center, had some experience with polished concrete and loved the shine and performance of the durable material. Looking at pictures online and reading articles about polished concrete and its ability to be colored and customdesigned fueled even more interest. The Wassenberg could use concrete as the finished floor in the main entry, bathrooms, kitchen and main gallery space. Wallace reasoned that as an art center, they should promote art and beauty any way they could.



#### PROJECT PROFILE

#### **Artistic visions bear fruit**

Polished concrete with swirls of caramel and blue dyes would fill the main gallery, but for areas such as the bathrooms and kitchen a new and more artistic approach would prevail. In these spaces, local artisans would use concrete as a canvas for real artwork to be created using blended stains.

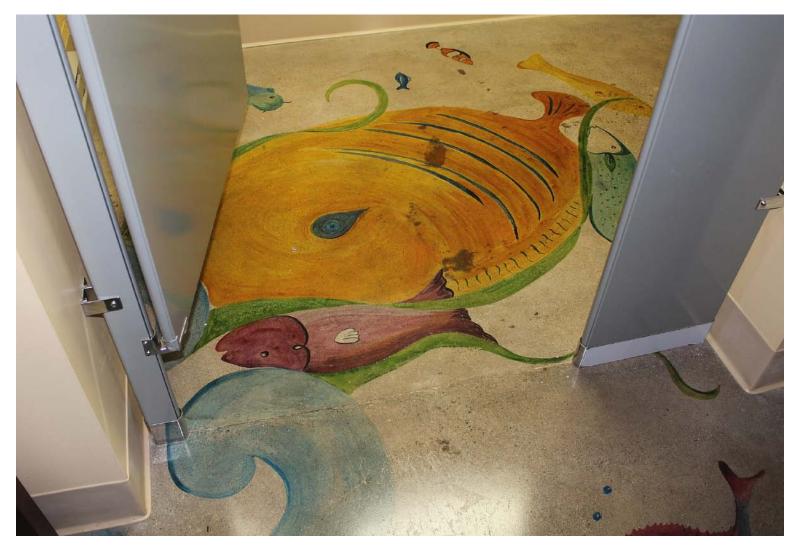
Water-based stains were chosen because of their many vibrant colors and their ability to easily be diluted for an even greater variety of tones. The floor was prepared by mechanical means, bringing the surface to a 100-grit resin bond finish. At this finish level, the floor is still very porous, allowing stains to penetrate, and there are no visible scratches on the surface. This provides the optimal surface to serve as a canvas of concrete.

Wallace was the artist for the kitchen floor. The kitchen used a lot of stainless steel, so her goal was to soften the space by adding color and fun to the room. The space's vibrant vegetables and fruit are drawn with



deep colors and shadowing, and they change direction to portray motion. Bright and vibrant colors create excitement in a space. This helps soften a space, such as a kitchen, that can be overpowered by stainless steel.

The goal in the bathrooms was to create a retreat-type feel that was welcoming, fun and a little bit classy. Diane Bendele was the artist for the men's bathroom. To begin, she drew a layout of the room on paper. "The fish theme seemed like a fun and playful idea," she says. "There would be many different sizes and shapes of fish. Some fish are seen from the side, others are seen in



three-quarters view with their tail curving and flipping towards the viewer, and others are seen from above. I remembered the fish I had seen at Shedd Aquarium, Monterey Bay Aquarium and Newport Aquarium."

This was Diane's first experience with using stains on concrete, so some preliminary testing with porosity and color development was done in an area where a cabinet was to be installed. Diane had recently been working on expressing movement and motion with watercolors on canvas, so this idea was incorporated into the seaweed and kelp. Colored pencils close to the color of the stain were also used to plan out the designs and shapes. The pencil mark could easily be erased if something needed to be changed.

For the staining process, Diane poured a small amount of the stain into a disposable muffin tin. In some of the tins, two or more colors were mixed to get the desired color.

She dipped a small foam brush into the translucent concrete stain to brush it onto the concrete. It gave a deep color, similar to acrylic paint. Other times she loaded two or more colors onto the brush by dipping one corner of the brush into one color and the other corner into another. When applied to the concrete floor, the two colors blended in the middle.

This artwork and floor were then sealed with a singlecomponent urethane finish for its UV stability and to protect the stains from fading.

The remainder of the floor in the space, including the main gallery, would have greater movement. The detail and design had to be proportionally scaled to the space as a whole. For the color in this space, acetone-based dyes were swirled, flowed and intertwined throughout the entire gallery and hallway.

To spray the colors, we created an outline by spraying lines on the concrete, then filled in spaces. This was done on-site with Hope Wallace and myself dictating where the colors would

To soften the color transition between the vibrant dyes, we added a diluted brown water-based dye to the concrete densifier. This floor was polished to a highly reflective 800-grit finish.

The LED track lighting really brings out the overall shine of the floor. The color in the concrete looks like it is inches deep in the surface.

Looking across the floor provides different views of the movement throughout. Because of the size of the space, you cannot see the color or movement on the other side of the room. When looking at the floor from another vantage point, new parts of the floor will become apparent.

Great designers and artist have a way at looking at things differently. They have almost a supernatural ability to see the potential of a space, to see beyond the current state and to imagine what could be. These artists are gifted in creating, changing and impacting the world with their ideas and dreams. This was just the case in Van Wert, Ohio, as a historic National Guard Armory Building more than 70 years old was transformed into the heart of the region for the arts and creativity.

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# How Do You Fix a Stamped Concrete "Patchwork Quilt"?

by Chris Sullivan

**Question:** I had a stamped concrete patio installed four years ago. Last month I wanted to add more walkways and decking to go with a pool I built over the summer, and I wanted to match the original stamped patio. My installer used a locally available light brown color hardener and a dark brown antique release, same as what was used on the original patio.

There were two different pours four days apart. The first day, it started raining during the process, and application of the release was delayed. Both days were similar in terms of temperature — probably in the 60s. My installer did a couple of stair areas prior to the two pours as well.

I am now left with four different stamped concrete areas, none of which match and none of which I like. I am incredibly frustrated and looking for answers on how to best fix this problem and achieve a uniform color (brown) with darker accents without tearing out the entire project and starting over. I have a new beautiful pool in the middle of horrible patchwork stamped concrete.

If at all possible, I would like to have a new color combination across the entire patio with a mellow terra cotta base color and dark highlights. But at a minimum, my goals are to have the areas match and to improve the color.

HIS situation is a good example of how environmental influences and timing can impact stamped concrete. I would venture a guess that the installer has stamped concrete for years, and for the most part uses the same process and materials on each pour. While consistency and standard operating procedure can be a good thing, not adjusting to environmental variables can create major issues. Something changed with each of the pours, resulting in the different levels of highlight color.

Stamped-concrete color is comprised of a base color hardener (brown in this case) with a secondary release powder color known as the "accent," "highlight" or "antique" color (dark brown in your case). The typical process is to use a light base color and dark accent color, which is what you had selected.

The following factors affect the amount of secondary color that will remain after the stamping process:

- How wet the concrete is during the actual stamping process.
- How hard the stamps are forced into the concrete.
- Environmental conditions rain, sun, wind.
- How and when the release powder is cleaned off. The longer it sits, the harder it can be to remove.
- The type and texture of the stamp tool used. A stamp tool with a rough aggressive texture or deep grout lines will drive more secondary color into the concrete, producing concrete with a greater amount of color variation, while stamp tools with lighter, less aggressive texture will not drive as much color into the concrete, resulting in a finished look with less secondary color.

As a general rule of thumb, you should see 10 percent to 30 percent of the secondary color, depending mostly on the type of stamp tool used. In this case, a medium



texture skin was used, which means the patio should be about 15 percent to 20 percent secondary color, with 75 percent of what you see being the base color. Of course there will always be areas of lighter and heavier highlights, which add to the look and make the concrete appear realistic.

In this case it appears that the concrete was stamped with different amounts of surface moisture. The first pour has crisp and distinct color separation between the base and highlight colors. The subsequent pours appear to have been wetter when they were stamped. The fact that the secondary colors are no longer distinct, crisp highlights on a light color base, but a blend of the base color and secondary color, confirms this. When the surface is too wet, the color from the antique release works itself into the wet concrete paste, changing the overall color.

While I have seen this method of stamping accepted, it does not match the first pour. Worse yet, the excess color acts as a bondbreaker when sealers are applied. The resulting sealer failure leads to color flaking, which is very difficult to repair.

In regard to trying to fix this issue, the following are some options. Always test any of these remedies in an inconspicuous place first!

Aggressive cleaning is a good place to start, with household soap and water and a stiff broom, or a walk-behind scrubber. If that does not work, try a mild acid solution (muriatic acid diluted 40-to-1 with water) to break the surface and allow for excess color to be removed. Caution — acid can change not only the base color but also the profile of the concrete. And whenever using acid, you must neutralize the surface before sealing.

If acid and scrubbing do not clean off the excess color, multiple stain and tint options are available. These range from a tinted sealer, which produces a translucent finish for minor color correction, to a solid-color stain system which can produce a new uniform base color with darker color highlights. Reactive acid stains are also an option, but are limited in the number of colors available, and once again produce a translucent final appearance that works well when minor color correction or change is required.

When staining is not an option, one possible solution is an overlay. This could be a microtopping system or a thicker stampable overlay. However, overlay options are not that popular for color correction, as they are the most expensive and invasive in regard to preparation and application.

Lastly, "rip out and replace" is the nuclear option. With the pool, hot tub, walls, garage and other structures, the risk of collateral damage is great. I would suggest working hard with the installer to find a topical fix that everyone can live with. 🥗

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.





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- Thom Hunt, R.A.T. International



# New Research Says Polished Concrete is the Most Slip-Resistant Flooring

by Jennifer A. Faller

т a recent strategic planning meeting of the Concrete Polishing Association of America, the board of directors and active committee members met to help lead. develop and guide our future. The hottest topic was the presentation on standards for polished concrete. A most welcome surprise was the evidence that properly polished concrete is one of the safest flooring choices available to the consumer.

This revelation came out of CPAAsponsored field workshops where a battery of tests was performed, including measurements of dynamic coefficient of friction (DCOF). It was determined that people walking on polished concrete floors will slip less often than those on almost any other floor. These preliminary tests provide a unique and compelling marketing opportunity.

According to data compiled by the National Floor Safety Institute, slip, trip and fall accidents result in more than 8 million emergency room visits per year, often with resulting litigation and damage awards. The NFSI reports that the financial impact of these accidents exceeds \$80 billion per year. With education and skills development, concrete polishers can help reduce these numbers and directly make an impact on profitability. This one item can exponentially launch the demand for polished concrete!

The use of polished concrete has grown dramatically, primarily in the retail and education sectors. Growth has been driven by the low life-cycle cost. The industry can build on this momentum by developing a specific polished concrete standard that allows us to measure and thus prove that polished concrete is the safest flooring option.

Many of us have known this all along. Research shows that the incidence of slip accidents can be reduced by 21 percent with every 0.1 increase in measured COF, and floor traction has a much larger influence on slipping than awareness or behavior.

#### Measuring the coeefficient of friction

Let's look closer at coefficient of friction. What is COF, and why does it matter to concrete polishers and our clients? When a client or general contractor asks for a certain COF value, how can we respond? What are the best ways to measure and document COF?

COF values are used to define the slip resistance of particular types of walkway surfaces when subjected to dry and wet conditions. The two types of COF measurement are static (SCOF) and dynamic (DCOF). SCOF refers to how much force is required to get an object to budge, move or slip. DCOF refers to how much force is required to keep an object in motion or slide at a constant velocity. (A simple trick to remember the difference is the S in SCOF is standing still, while the D in DCOF is dancing.)

Historically, SCOF testing has been more common in the United States, while DCOF is more prevalent worldwide. While SCOF is still being used in the United States, this is changing as DCOF becomes recognized as the true and accurate measurement result for predicting slip-and-fall risk.

The American National Standards Institute (ANSI) has adopted three COF standards since 2009:

- ANSI B101.1 is a wet static measurement test written by the National Floor Safety Institute (NFSI).
- ANSI B101.3 is a wet dynamic measurement, also written by the NSFI.
- ANSI A137-1-2012 specifies methodology for DCOF testing of wet tile. The Tile Council of North America (TCNA) wrote this standard.

These recent standards are part of the effort to define what constitutes a hightraction floor.

Tribology is the study of friction, lubrication, adhesion and wear. Tribometers measure friction between two rubbing surfaces and are the instruments used to measure walkway slip resistance

under these three ANSI standards. Many tribometers can measure several factors of two rubbing surfaces, including coefficient of friction, friction force and wear volume. This funny word comes from the Greek word "tribein," meaning "to rub," plus "meter" for measurement.

(A fun fact about the "tribo" root is that it is also seen in "triboluminescence," which is the spark seen when Wint O Green Life Savers are crunched in the dark. As the hard candy is chewed, crystalline sugars are crushed and "rubbed" against each other. The rubbing causes electrons to be thrown out of their atomic orbits, where they bump against nitrogen molecules in the air, which shed this excess energy by emitting light.)

Walkway slip resistance under these recent ANSI standards can be measured with a tribometer (or slip meter) and categorized into one of three traction ranges, based on a scale of 0.0 to 1.0. Since static and dynamic COF measure somewhat different things, the traction ranges for each are slightly different.

#### **ANSI Standard Ranges for** Static and Dynamic Coefficient of Friction

	STATIC	DYNAMIC
High	> 0.60	> 0.42
Moderate	0.40 - 0.59	0.30 - 0.42
Low	< 0.40	< 0.30

Floors with a high traction rating present a low risk of slip and fall, while those with moderate and low traction present elevated risk for slips, trips and falls. The appropriate levels of slip resistance for a particular type of surface depend on the risk assessment of the material manufacturer and owner of the installed walkway. For example, the Tile Council of North America requires a minimum DCOF value of 0.42 for ceramic floors to be walked on wet.

Interestingly, the initial results of the CPAA workshops indicate that a wide array of polished concrete finishes provide wet DCOF measurements of 0.50 and

higher, well above what is considered to be high traction.

How can we use these measurements for polished concrete floors? The best way is for concrete polishers to begin measuring and confirming the improvements in COF.

Select and use a tribometer according to these four criteria:

- Ease of use
- Validation and repeatability
- Ease of transport to field sites
- Supplier service and support

The BOT-3000E digital tribometer from Regan Scientific is gaining wide use among flooring contractors, facility owners and concrete polishers. It meets the four selection criteria and can be used to measure all three ANSI standards.

A tribometer will allow the contractor to document that a floor meets a specification or request for a certain COF value, providing peace of mind that the floor can help reduce the frequency of slips and falls. The customer (architect, general contractor or owner) can rely on the numbers and enjoy the security of knowing that our properly polished concrete floors will actually "grip" as people step across the surface.

#### Cleaning is essential

We cannot overlook the importance of proper maintenance of polished concrete floors. This area of service must be more thoroughly addressed. Insurance carrier CNA has published a report that points to contamination on floors as a major contributor to slips, trips and falls. A study by the U.S. government showed a contaminated (dirty) floor to be 17 times more likely than a clean floor to cause a slip-fall accident. Even a properly prepared surface (not slippery when wet) will become contaminated and slippery when inadequately maintained. However, when polished concrete is properly polished, properly tested for COF, and properly maintained, it just might be the safest floor yet!

Since the CPAA Polished Concrete Definitions were established last year, there is greater understanding and less confusion about the appearance and performance characteristics of properly polished concrete. The Standards & Specifications Committee of the CPAA is currently in the process of testing, evaluating, and writing the Polished

Concrete Standard for COF (specifically using wet DCOF methodology). The goal is to develop a consensus standard for accuracy, repeatability and reproducibility. When completed, this consensus standard will document the findings that we currently see among those of us who perform COF testing. A standard for COF will exponentially benefit our industry. In the meantime, we can educate ourselves on the test methods available and learn to perform them accurately. I can't wait until we can

insert the COF consensus standard into polished concrete specifications. This will be a game-changer. 🥗

Jennifer A. Faller is vice president of operations for The Professionals, a polished concrete contracting company in Greensboro, N.C. She is also cochairman of the Concrete Polishing Association of America board of directors. Contact her at jennifer.faller@gmail.com.



# Three Steps to a Successful Sample

by Doug Carlton

T was painfully obvious from the contractor's voice that something was wrong. No passive small talk about family. No "How's the weather?" Just straight conversation cutting to the heart of the problem at hand. His voice hastened as he got to the point where the acid stain didn't react to the concrete surface on a rather large, fast-track commercial project. In fact, not only did the first pass of stain not react but neither did the second coat. My mind raced for the proverbial silver lining, but I had nothing. That's when I asked the one question to which I already knew the answer.

Today's lesson is one each decorative concrete professional must heed: Creating the perfect project sample is the path to your artistic future. The contractor we are describing today trusted an acid stain color

chart over an on-site sample on a real-life concrete canvas. The price for such inaction is one he will talk about for decades.

There are several key steps comprising every successful decorative concrete project. The first step, at least after properly selling a project, is to create a perfect sample that accurately represents the end result of your time and effort. Now, for the record, the perfect sample mustn't be confused with perfectionism or flawlessness. The perfect sample is nothing more than the cornerstone of accuracy on which to establish a level of expectations. In my opinion, a flawless finished project rarely happens. On the other hand, a sloppy sample expresses a lack of organization and, ultimately, predicts a less-than-acceptable finished project.

There are three key components, or steps,

to creating the perfect decorative concrete sample. Perform all three correctly and you increase the odds to nearly 100 percent of matching your customer's expectations. A customer with fulfilled expectations is most likely to talk up your contracting services. Skip one step and the odds decrease to around 70 percent, or possibly less. This means at least one third of your customers will have nothing positive to say about their experience — or you.

#### Step One: Ask what they like

The first step is more of a fact-finding mission than anything else. The goal is to establish likes, dislikes, taste, distaste and anything else that can help forge a connection with your decision-maker. This process can take 30 seconds of conversation



or months of coordinated effort. The only way to find out how long this step will take is to initiate conversation by asking questions that pertain to your customer's personal preference. This step does not require anything tangible to hold, show or display.

Remember, this is not about you and your successes. This is entirely about discovering what your customer likes and then what it will take to match their expectations from start to finish.

#### Step Two: Show options

The second step is nothing more than dumping all information from step one into a bowl and then stirring it together. The result should be combinations of color, texture, pattern and design necessary to create personalized samples of what it will take to meet your customer's expectations. There is no reason to create, or show. anything other than samples geared toward your customer's taste. This is not the time to introduce a new color or technique that would look "really cool" on their concrete countertop. Save the new technique for the customer willing to accept the surprise of something out-of-the-box creative.

This second step can, in some cases, take place moments after the first step. Some individuals will ask for pictures or color charts within minutes of your first meeting, and this is okay. At this point, remember to not overwhelm your customer with too many choices, charts or samples. I recommend keeping all options geared toward their personal taste according to step one.

#### **Step Three: Clarify expectations**

The last step is about acceptance more than anything else. Haste and anticipation often cause some decorative artists to power through step three. I understand the owners are excited to see their project become reality — but each tiny relevant detail of the sample should be discussed. Are they expecting a solid color or something translucent? Do they comprehend that some variations in color should be expected? Do they realize the work in process will not always look like the finished product will?

At this point there is nothing left to chance. Each step taken to create the sample must be practiced over the entire project, everything from batch materials and consistency to surface preparation. The process used to create the sample now becomes the project's specifications. All three steps described above will become integrated into each project, all in their natural order.

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





## The Pool Water Problem

## Are There Compatibility Issues Between Decorative Concrete and Salt-Chlorinated Swimming Pools?

by Steven H. Miller, CDT

N the world of home aquatics, saltchlorinated swimming pools are all the rage. Also known as salt-water pools, they're purportedly gentler on the skin and eyes. Apparently, though, they're harsher on the concrete pool deck.

We talked to a selection of industry experts — concrete experts, pool people, concrete product manufacturers — and there are a variety of opinions as to whether there really is a problem, and what that problem is. However, a majority of our experts believe there are real issues involving concrete sealers around saltchlorinated pools.

Salt water is aggressive. In the mid-2000s, as salt-chlorinated pools started to soar in popularity, reports of problems involving deterioration of stone copings began to crop up. Softer, more porous stone — certain limestones, for example — were apparently being eroded on pool copings and deck areas where there was consistent splash-out.



A sealed overlay near an indoor pool at a retirement home in Virginia Beach, Va. It performed at first, until the chlorine pool was changed to salt water. Within months, the topping started to delaminate.



Failing acrylic sealer on stamped concrete near a pool at a private residence in Knoxville, Tenn.

Freeze-thaw damage was being reported. The solution offered was to seal the stone.

Issues with concrete appear largely to involve sealers used to protect decorative concrete. They are suffering delamination. It can appear as light spots on the surface. Sometimes the spots are quite large.

Scott Creager, owner of Creager Decorative Consulting Inc., Dallas, Texas, is quite definitive that salt water is destroying sealers.

"Salt attacks sealers. It eats through the sealer and causes the sealer to delaminate and fail on top of your colored concrete. It's not just related to concrete, it's eating up the ladders and the rock water features, too."

According to Creager, it usually takes two years or more, occurring mostly in places where there is frequent dripping water or where there's greater traffic wear.

Rick Cofoid, sales manager at materials manufacturer Increte Systems, is also

certain there is a problem with sealers around salt-water pools. "We're seeing flaking and delamination of acrylic sealers, whether it's over stamped concrete or a textured spray-down, knock-down surface."

He describes troubleshooting a pool deck at a retirement home in Virginia. "They had applied our Spray-Deck cementitious product and had an acrylic sealer. When the deck was constructed, it was a conventional chlorine pool. A year later they switched to a salt-water pool. They had an area of flaking where they were putting wet kickboards and where people were walking out of the pool. It would only happen where they had a crack in the concrete or there was a control joint.

"You could tell that the concrete underneath was basically scaling. Our stuff still had a thin layer of concrete attached underneath. They never had a problem until they put in the salt system."

This description suggests that a problem can occur even without sealer failure if the salt water can find its way around a sealer edge, such as at a crack. The fact that the sealer bond held, but the concrete itself failed, seems significant.

Cofoid's observations of the problem are very specific. "Typically big areas flake. I think it starts with little pinholes and places at control joints, because water finds a way. Like cancer, it starts off small, probably a spot you can't even see. In a short amount of time it starts to flake and spreads from there." He believes it can happen in 4-5 months.

#### Don't simply blame salt water

Scott Cohen, artisan and construction defect expert witness, whose company The Green Scene makes decorative backyards and pools in Southern California, has observed problems around salt-chlorinated pools too, but he is far from certain that all salt pools are problematic.

"I've seen examples of cast-concrete pool coping eroding more quickly," states Cohen. "I've seen the premature demise of sedimentary stone and flagstone in waterfalls, pool copings and patios, as well as excessive pop-outs. It occurs predominantly in areas that are wet, then dry, a wet-dry cycle. Water evaporating leaves behind salt crystals. Halite can be very powerful in the breaking up and lifting of concrete. The minerals seem to absorb into the concrete, that then pops."

Cohen recalls an incident that brought home to him the cause-and-effect chain. "I was sitting with clients in their backyard and we were talking about designing their next home. They said they definitely did not want stamped concrete around their pool decks, and showed me concrete that was chipped and flaking. It was only in this one 15-foot area. Then their dog jumped into pool, came out, and shook himself off in that one particular place."

Cohen is not convinced that the real cause of the problem has been identified. "When we see a problem in the field, we don't have a control pool to refer to." He points out that pool chemistry is delicately balanced and not always maintained properly. "We can't blame the damage on all salt-system pools. We can say that it's important to manage the levels of salt to make sure it's balanced. In my opinion, the jury's still out."

Acids are known to deteriorate concrete.

and pool water can become too acidic if not properly monitored and rebalanced as needed. Salt-chlorinated pool chemistry, however, tends to shift in the other direction, becoming too alkaline. The exact mechanism of the problem has not been definitively identified.

Chris Sullivan, vice president of sales and marketing with ChemSystems Inc., does not believe there is a particular problem with salt-chlorinated pools. Most of the problems that he has seen are attributable, he believes, to inadequate maintenance. "Any pool

water, chlorinated, salt or brominated, it has a lot in it. As water inevitably gets out of the pool and lands on the pool deck, the water evaporates, and the mineral content in the water ends up on the deck surface as a white haze. It may be more prevalent in regions where you have high mineral content in the water to start with. When the water evaporates, those minerals are going to be left on the surface. There's no way to avoid it. Eventually, you're going to get deposits.

"Salt itself is not going to eat or affect the plastic layer of sealer," Sullivan states.



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"(But) if you don't have good adhesion between sealer and concrete, when water gets underneath that sealer, it can cause the sealer to delaminate. If liquid water sits on most of these sealers long enough, it will get through.

"These acrylics are a sacrificial coatings that last 1-3 years, depending on the product. They're designed to be reapplied."

#### **Solutions**

Assuming you believe there is a problem, what can you do about it?

Chris Sullivan suggests penetrating sealers that will repel water. "For a pool deck, I like silanes or siloxanes. There's no film. Unfortunately, they do not eliminate the white haze that forms from mineral deposits, but that can be cleaned with very, very mild acids, vinegar, or if you need

something stronger, muriatic acid diluted 50:1. If it's sealed properly, the acid won't touch it. The products made for showercleaning typically work as well."

Dave Flax of Euclid Chemical agrees about penetrating sealers. "The problem with anything on the surface is that it can wear off the surface. It should be a penetrating sealer."

Tyler Irwin of Proline Decorative Systems is against using acrylic sealers around pools. He has observed sealers being attacked by conventionally chlorinated pool water as well as salt water. Acrylic sealers around pool decks "require much more maintenance than on a typical patio application." He also feels they create slipand-fall hazards around pools. "The biggest problem (with colored concrete near pools)

is that when you want to color concrete, you have to seal it, and the sealer is where you run into big problems."

Irwin's solution is to have an unsealed surface. He suggests a textured finish, and for color, an antiquing wash such as Proline's EZ-Tique, a cementitious product with iron oxide pigments in it. "It just crawls into the nooks and crannies of a textured or stamped surface," he explains. "It's in the low spots, so traffic won't wear it off."

Irwin feels integral color is also a viable option. "Everything fades to some degree, but iron oxide pigment (in integral color) is as close as it gets. It is considered UV-stable by industry standards."

But again, he cautions against sealing the concrete with any sealer, because in his experience, sealers around pools are prone to problems. "For my taste, I would go for a natural stone look around a pool. It'll always look good, and it's easy to maintain. The glossy Vegas look will wear in about a year."

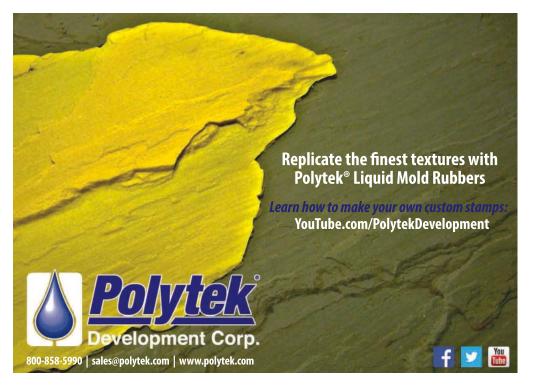
Cohen is also against sealers near pools, because of slip-fall hazards. "Anytime we seal concrete around swimming pools, we increase the slipperiness. I've yet to find a sealer that meets its claims in being nonslippery around a swimming pool.

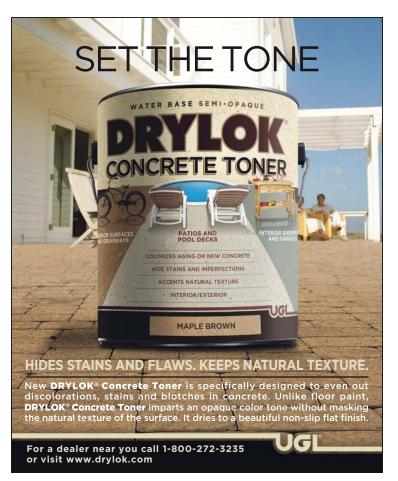
He also refuses to deal with salt-water systems. "At my company, because of the uncertainty of the effect of salt water on pool decks, and because of what I've seen investigating problems, we don't offer saltwater pools."

For those who have salt-chlorinated systems, Cohen advocates washing them down frequently, and points out that he's not alone. "The salt system manufacturers recommend washing your pools decks down with fresh water after each use. It's a good idea to add it to your maintenance schedule, to reduce impact of salt water on patios and coping."

For those who want sealers, there are some available that are specifically marketed for salt-water resistance, such as DuPont StoneTech Professional Salt Water Resistant Sealer. Though designed primarily for stone, it is also applicable to concrete. Rick Cofoid reports that his company, Increte Systems, is working on a solution to the problem, but it is still in the R & D phase.



















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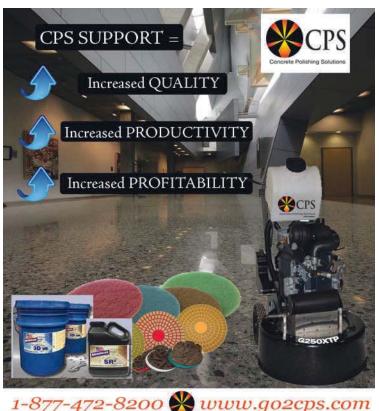
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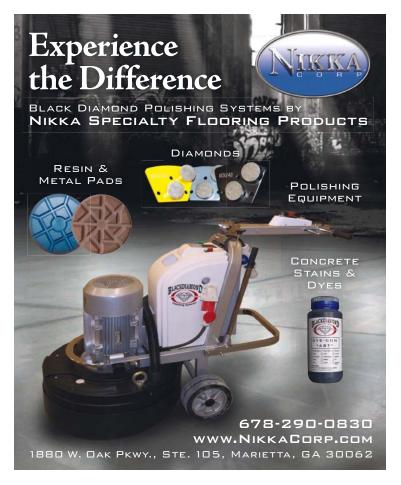




















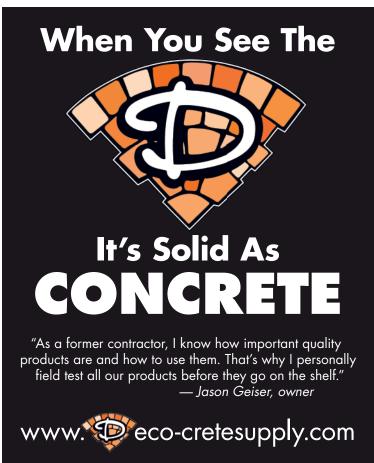






















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### The Joy of Creating

by John Strieder

has excelled in a number of media: textiles, painting, furniture. Last year, he tried decorative concrete for the first time, collaborating with SunWorks, etc. LLC to craft three countertops in his distinctive style for a kitchen in Ellicott City, Md.

SunWorks, a decorative concrete company based in Annville, Pa., had been asked to remodel the kitchen by Ellicott City architect Craig Stewart. The architect sent SunWorks a conceptual drawing inspired by Stadnycki's work. "As it turned out, we knew Robert," says Barbie Sunderlin, a partner in SunWorks with David Leas. "He lived in a nearby town. I asked if the clients would like us to have Robert collaborate on the project. They were thrilled.

"We arranged a meeting with the architect, clients and artist to make sure we were on the same page. The architect had even brought along a piece of Robert's artwork that he had purchased years before, which was great because the homeowners, Craig and Robert



were able to discuss various elements of the piece that they especially liked."

SunWorks used GFRC and large casting tables to cast the pieces without seams, foregrounding the design elements. "Craig and the homeowners were excited to have glass beads, metal shavings and geometric shapes included," Sunderlin says. "With Robert's collaboration, we made round concrete discs in various colors that contained either glass beads, copper, steel or combinations thereof. We then cast the discs into the countertops, along with drain grooves and an inset for a cutting board flanking the sink."

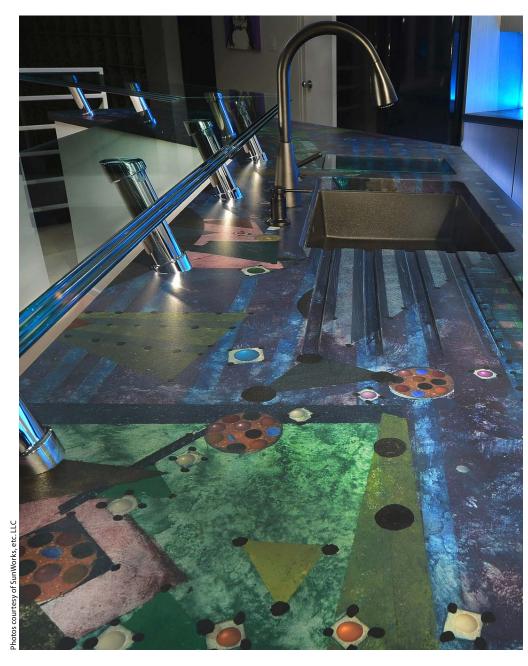
Stadnycki did the staining himself, with technical consulting from SunWorks. "Having never stained concrete countertops, Robert was thrilled to develop new techniques," Sunderlin says. "For instance, he used acetone-based stain and water-based stain, sometimes building layers and sometimes placing stain, then all but removing it. Once he familiarized himself with the parameters of staining concrete, he really flourished."

Mastering the art of staining required new approaches, Stadnycki says. "When I paint a floor canvas, I start with light colors and go to dark. With concrete stain, I realized I had to do it in reverse." He would put down a darker color, then use acetone to wipe away space for lighter colors.

It was worth it — in fact, Stadnycki says the project even helped him beat cancer. "It gave me a lot of motivation to get well," he says. "It was one of the most joyous projects I've ever worked on."

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