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## Publisher's Letter



### Dear Readers,

If you haven't started, now is a good time to set the wheels in motion. It's only a hunch, but I believe we are all in for a healthier year ahead businesswise.

With interest rates at an all-time low and the value of the dollar in a state of flux, it's my suspicion that consumer spending is about to improve. And with it will come, once again, the expectation that an investment in one's property will cause appreciation.

For everyone in the construction industry that has survived this turbulent economic downturn, operating on life support has become somewhat normal. That's not a bad state of existence, because we have all learned valuable lessons, but I believe it is critically important that each of us start planning for a new season of growth. This means that in order to answer pent-up demand from consumers, your company needs to make sure it has the necessary human and material resources close at hand. When the dam breaks, you not only need to concern yourself with achieving the highest level of customer service and quality workmanship, you also need to have a plan in place for how your company is going to compete and win out over other building and finishing options people have traditionally used.

At *Concrete Decor* we believe that decorative concrete is fast establishing a permanent place in the construction and renovation markets and will continue to enjoy increasing acceptance and utilization as these markets rebound. That's one of the reasons we have implemented a complete redesign of *Concrete Decor* that will be unveiled this coming January. While a few might be disappointed at first, we believe this industry will quickly embrace our changes as *Concrete Decor* sets its sights on the road ahead.

Folks — I would like to encourage you to do as we've done. This industry has way too much going for it for me to ever think it could let us down. You are part of a community that embraces education, communication and the highest level of innovation. Keeping yourself and your staff closely tied to these values will only ensure your company's success as well as that of this industry.

FYI: This January, *Concrete Decor* will celebrate its 10th anniversary. Plan to celebrate this momentous occasion with us in Nashville at the 2011 *Concrete Decor* Show & Spring Training. Set your company apart from the competition by joining us there, and the industry will set itself apart from its competition as well.

Sincerely,

Bent Mikkelsen, Publisher

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Enter this access code to view current and older articles in *Concrete Decor's* online archive. The archive can be found and searched at [www.concretedecor.net](http://www.concretedecor.net). The password changes every issue.

To continue receiving both the print magazine and access to our archives, keep renewing your subscription to *Concrete Decor*, the industry's foremost magazine on decorative concrete.



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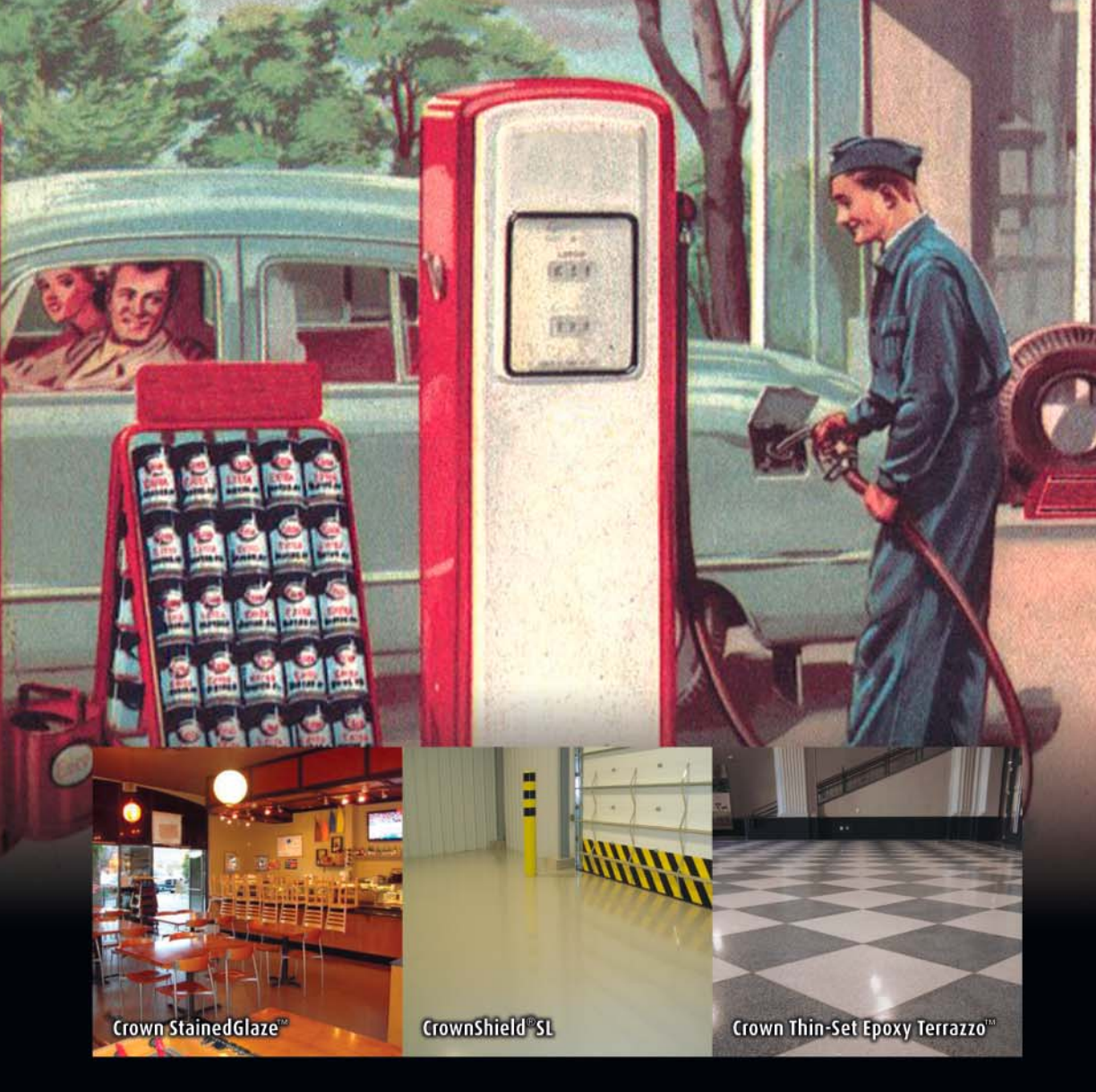
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**Tom Dombalis**, Position  
Atlantic Coast Concrete, Clemmons, NC

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Only a couple of years old, this upstart is already attracting attention to its colorful work in the Cornhusker State.

*by Kelly O'Brien*



## 34 **Recipes:** **Stamping & Texturing**

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*by Kelly O'Brien*



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Check in and check out three examples of decorative concrete at its finest, in Georgia, Tennessee and California.

*by Emily Dixon*



## 39 **Special Effects**

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*by Amy Johnson*

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The expert who explored wet-cast countertop mixes in our Fall Counter Culture supplement returns with a mix design for GFRM.

*by Mark Celebuski*

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An engineer for a manufacturer of machines that use ultraviolet light to cure coatings explains equipment options for contractors.

*by Daniel Dayon*

**On the Cover:** This stamped pattern was created with Proline Concrete Tools' Ashlar Versailles Tumbled Travertine stamp, colored with Dura-Color EZ-Acent Water Based Acrylic Stains in Mission Brown and Pinto, and treated with EZ-Tique Water Based Antiquing Agent in Walnut. For a step-by-step recipe, see page 34.

Photo courtesy of Proline Concrete Tools Inc.



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## Bob Harris releases guide to polished concrete installs

Bob Harris has released his fourth guide, entitled "Bob Harris' Guide to Polished Concrete."

The roughly 150-page guide features A-to-Z instructions for producing exquisite polished concrete surfaces. It discusses how to choose one polishing system over another, important questions to ask before jumping into the business, budget analysis, estimating, surface preparation, crack repair, coloring options, and decorative finish options, including the use of stencils, scoring techniques, sandblasting and engraving. It also covers considerations for concrete hardness, an overview of polishing equipment and diamond tooling, maintenance considerations and tips for marketing polished concrete.

There is also a list of tools, equipment and supplies needed if you're serious about pursuing the polished concrete market, as well as a gallery of completed projects.

[\(877\) 324-8080](tel:8773248080)

[www.bobharrisguides.com](http://www.bobharrisguides.com)

## Buddy Rhodes training offered through Braxton-Bragg

The Buddy Rhodes training program is now available at Braxton-Bragg headquarters in Knoxville, Tenn. The small monthly classes provide a two-day introduction to the Buddy

Rhodes countertop-making process and products.

The hands-on workshop option will provide an overview and beginning hands-on experience with materials and methods used in creating a simple concrete countertop, either precast, cast-in-place or pressed. Participants are given a basic overview of concrete countertop creation and gain the introductory experience necessary to begin making their own decorative concrete countertops. This includes planning, templating, mold-making, mixing and coloring, forming techniques and reinforcement options.

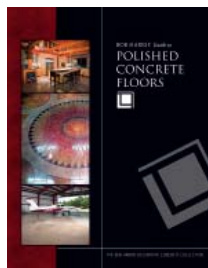
[\(800\) 575-4401](tel:8005754401)

[www.braxton-bragg.com](http://www.braxton-bragg.com)

## Winners of GG Beer Stain photo contest announced

GG Innovative Products has announced the winners of its photography contest, which evaluated photos of jobs completed with GG's Beer Concrete Stain.

First place was awarded to Variegate





Concrete Concepts, out of Lakewood, Colo., for a Denver, Colo., patio with colorful squares.

Honorable mentions were awarded to TR Coating Specialist Inc., out of South Jordan, Utah, for a pool deck, and Concrete Resurfacing Specialists Inc., from Alhambra, Calif., for a poolside birdbath.

As per GG's contest rules, the first prize is \$300. The winning picture will be posted on the home page of the GG website along with information about the contractor for a period of three months. Honorable mentions have won \$100 each, and those pictures will be posted alongside company information on the GG home page for one month.

[www.gginnovativeproducts.com](http://www.gginnovativeproducts.com)

### Riviera Brush forms alliance, enters new foreign markets

Riviera Brush Co., manufacturers of Orange-Crete Brush Applicators, and Zephyr Services Ltd. Group of Companies, headquartered in Belize, have established a strategic alliance which will launch the Orange-Crete

Line into the Central American, Latin American and Caribbean markets.

The partnership puts Orange-Crete on a total of six continents.

[www.rivierabrush.com](http://www.rivierabrush.com)

### Duraamen opens Newark center

Duraamen Engineered Products has opened a new distribution and training center, located at 457 Frelinghuysen Ave., Unit 101, Newark, N.J.

Duraamen is a manufacturer and distributor of products that provide innovative solutions for decorative concrete flooring projects.

[www.duraamen.com](http://www.duraamen.com)

### Goldblatt Tool assets purchased by international investors

Goldblatt Tool LLC has entered into an agreement to sell the company assets to an international investment group focused on the hardware, home center and professional hand tool channels.

Goldblatt will operate under a newly formed company, Goldblatt Industries LLC, which will continue to design, manufacture, market and support the full

lines of Goldblatt, PaceSetter and private-label hand tools out of Olathe, Kan., and Shanghai, China.

[www.goldblatttool.com](http://www.goldblatttool.com)

### Staff changes at APF

Arizona Polymer Floors has hired Daniel Tikusis as technical director, and it has promoted Carlos Santana to outside sales representative for Arizona, California and Nevada.

Tikusis will be focusing his attention on new product development, process development, packaging technologies, quality control and technical service. He has 25 years of experience in the chemical industry that includes synthesis of polymers and specialty chemicals, compounding of thermoplastics, and formulation of architectural and industrial coatings and sealants.

Santana, a technical representative for APF since 2006, will now be filling the role of outside sales representative. He has more than 15 years of experience in the decorative concrete market and floor maintenance industry.

[www.apfepoxy.com](http://www.apfepoxy.com)

## See What Everyone is Raving About...



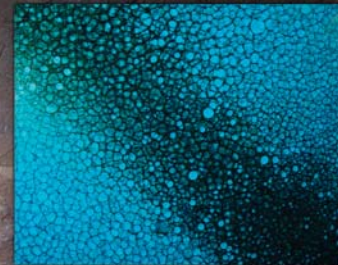
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## Scofield names new VP of sales and marketing

L.M. Scofield Co. has promoted Mike DeCandia to vice president, sales and marketing. DeCandia assumes responsibility for all sales and training in the United States, Canada and the Caribbean.

DeCandia started out with Scofield nearly 25 years ago. For the past 12 years, he has served as the Eastern Division sales manager for Scofield. He is also a current member of the American Concrete Institute and the Concrete Industry Board. Prior to joining Scofield, he served as a national accounts representative for Synergy Methods Inc., a manufacturer of EPDM roofing systems and EIFS wall systems.

DeCandia will be working out of the Eastern Division offices in Rutherford, NJ.

(770) 920-6000

[www.scofield.com](http://www.scofield.com)

## Richard Mandich joins HID Ultraviolet LLC

Richard Mandich, former UV products account manager for Jelight, has accepted the position of mobile UV curing specialist at HID Ultraviolet LLC.

Mandich will operate out of Chicago and serve the global market in the emerging business of field-applied UV curing.

"We are thrilled to have Rich on our team. His knowledge of UV technology and years of experience in the field will be a tremendous asset to HID," said Robert Boyle, CEO of HID Ultraviolet, in a press statement.

HID Ultraviolet's patented instant-start technology and its

customer service have made it a leader in mobile UV curing equipment.

[www.hiduv.com](http://www.hiduv.com)

## Mapei appoints strategic marketing director

Mapei has appointed Real Bourdage to the position of strategic marketing director for Mapei Americas.

Bourdage comes to Mapei with more than 30 years of experience in the flooring industry. He has held senior management positions with H.B. Fuller in Canada and TEC Specialty Products Inc. (a division of H.B. Fuller), Aqua Mix Inc. and Custom Building Products in the United States.

(800) 426-2734

[www.mapei.com](http://www.mapei.com)



## New SW sales manager at Concrete Coatings

Concrete Coatings Inc. has named Kirk Bailey as Southwestern regional sales manager. His responsibilities include maintaining and developing new customers in Arizona, Colorado, New Mexico and northwest Texas. He will also help with product demonstrations and technical support.

Bailey has more than 15 years of professional experience in the concrete restoration industry and a strong background in technical product training and consulting. He previously worked for Bonsal American and Mapei Corp. and holds numerous industry certifications.

[www.concretecoatingsinc.com](http://www.concretecoatingsinc.com)

## Talbot to lead marketing at Hyde Tools

Corey Talbot has been tapped to head the marketing department at industry leader Hyde Tools Inc. As vice president of marketing, he will direct marketing operations, brand vision and management, advertising and communications. He will also oversee channel sales support and the Hyde Tools customer service department.

Previously director of new product development, Talbot will continue to drive Hyde's long-term commitment to product innovation. He joined Hyde in 2007 for the express purpose of increasing the company's new-product output and innovation. In the three years since, new product sales account for 30 percent of total revenue. His team has introduced a wide range of new products and several patented new technologies, including the Hyde Rapid Valve Transfer System for professional airless spray painting and the Hyde Pivot Nozzle Wand for pressure washing.

[www.hydetools.com](http://www.hydetools.com)



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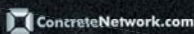
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## Filling the Joint

Isn't it funny how the little things get overlooked on so many decorative concrete projects? Everyone realizes choices need to be made regarding stain colors and design, but it amazes me how puzzled decision-makers look when asked about filling joints or saw cuts.

Not long ago my wife and I were having dinner at a well-known chain restaurant when we noticed that hundreds of feet of saw cuts had been left unfilled. I'm guessing this had to be a health issue. If nothing else, it made the floor look unfinished, to say the least.

Our company has helped with the design and installation of two large projects over the last few years, and neither architecture firm involved addressed what to do with the saw cuts. More than 600 pages of plans, and nothing was specified on what to do with the contracting joints or saw cuts.

If you are turning normal gray concrete floors into decorative works of art, it's only a matter of time until you will be asked what the best choice is for filling the cuts in the floor. Let's take a look at what choice is the best under which scenario.

Let me first say that unless you placed the slab you know little about



*by Doug Carlton*

the concrete, reinforcement, vapor membrane or sub-base. Because of this it is very important to do everything possible to make sure that the process you choose will last and not turn into a yearly warranty program. I won't turn the rest of this article into a yawner by talking water-to-cement ratios but things like this play into your finished look. The fact is that if your slab is contracting at the cuts or joints filled than you will have a big problem if they are not filled correctly. On the other hand, if your slab was placed correctly and with rebar than you have a better chance of a sanded grout lasting. We will talk sanded versus nonsanded grout in a minute so hang tight.

Now I'm a realist, and I completely understand that blasting through a project by using grout is the easiest way to finish and then get paid, but is it the right choice?

### Grouting joints

Grouting is the fastest, most attractive and most economical way of filling joints. Grouting also gets the most callbacks if not done properly. My bet is 90 percent of all residential decorative floors are grouted and half shouldn't be. If you are leaning this way I have a few suggestions before you get started. Start by checking your slab for movement at saw cuts or joints. If the joints are moving with the contraction of the concrete, they are considered "working" or moving joints. If the cuts



# CONNECT

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I learned a lot, and I made  
some valuable contacts."

— Wayne Francis,  
Financial Associates



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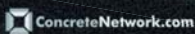
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or joints are working, using a grout is not recommended. If they are not working then grouting may work out fine. I say “may” because there is always the chance the saw cut could turn into a working crack in the future, which is probably not what you wanted to hear. Check with your grout manufacturer on recommended depth, but 1/4 inch is common. I have achieved the best results by using a liquid acrylic grout additive (found in most home improvement stores) in lieu of water to mix with the sanded grout. The acrylic seems to dry with less grout shrinkage. A good time to grout is after the floor is sealed and the sealer has hardened, but just before a finish wax coat is applied.

As promised, here are my two cents on sanded versus nonsanded grout. I like the sanded grout and have had better luck with it depending on the width of the saw cut. If your job is on the fast track and you must grout right behind the sealer, using a nonsanded grout may be your best option for not scratching the sealer. Try not to get yourself backed into a corner if possible, because you are never in so much of a hurry that you can't do it right.

## Joint fillers

If semirigid joint fillers — and knowing when to use them — confuse the heck out of you then you are in good company. But if you have a floor that has working or contraction cuts than you must respect the movement within the floor. Simply grouting the cut will only land you unpaid work in the future. Determining the right joint filler for your project may require a phone call to Metzger/McGuire or a similar manufacturer. My goal is to get you thinking about which is the best application for your job. It very well may be a blend of cuts filled with grout and cuts with semirigid filler. I have both in my floor at home and will be the first to tell you that the grout looks more old-world, but I also have several contracting joints that are filled with colored joint filler.

If you are like me and look down at every exposed concrete floor, you have noticed the movement toward industrial-style polished and stained



A grouted saw-cut joint. The work was performed by Carlton Concrete Inc.



A close-up of a semirigid joint filler in a contraction joint. The work was done by Carlton Concrete Inc.

floors. These large slabs are using polyurea-style joint filler that is usually flush with the concrete. The idea here is to fill the joint and eliminate concrete spalling at cut edges. This type of joint filler will dry in about an hour and be ready for grinding. Another type of filler, more of an epoxy filler, has a longer no-track time (the amount of cure time needed before material can't be tracked). Use caution here because many jobs have been damaged by other trades coming in the next day and tracking joint filler across the floor.

Most of these fillers are available

in many colors and some companies will color-match to your taste. I highly encourage you to take a few minutes to contact folks like Scott Metzger, owner of Metzger/McGuire, who specialize in supplying the right joint filler for the situation. These guys make it their business to know the correct steps from prep to installation and will be more than willing to walk you through your next project. 🛠️

*Doug Carlton operates Carlton Concrete Inc. in Visalia, Calif. He can be reached at [carltondoug@comcast.net](mailto:carltondoug@comcast.net).*



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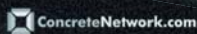
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## Proper Preparation Helps Overlays Stay Strong

**T**he decorative overlay industry has grown exponentially over the last 10 years, and so has the number of failures and problems related to overlay installations.

While I have seen the number of problems decrease more recently, there are still too many instances where an overlay is prescribed as a cure-all for anything even remotely considered a concrete problem.



*by Chris Sullivan*

The most important thing that I want to convey in this piece is that decorative overlays are NOT the answer to all concrete problems. In fact, in most cases, overlays are only as good as the surface they go down on.

Too often do I see projects where the overlay fails after a few months or years, only to discover that the substrate they were applied to was cracked, dirty, soaking wet or at the end of its life cycle.

Most decorative overlays require cracks to be repaired, the surface to be sound and clean and any moisture vapor transmission issues (MVT) be dealt with before the material is applied. Following a few basic guidelines on all overlay installations can go a long way to eliminating failures.

Surface preparation is the most

important factor in any overlay application. Lack of proper surface preparation leads to the vast majority of the overlay issues I deal with. The most common “poor prep” issues usually consist of premature failure or delamination of the overlay from the substrate.

But what exactly is surface preparation? It is more than grinding or etching. It starts with a walk-through and an inspection of the surface. Questions that need to be forefront: What is the condition of the substrate? Are there cracks, and if so, how do they need to be treated? Does a crack suppression mat need to be used? Is any patchwork needed? What type of equipment will be needed to prep the floor? The physical preparation (grinding or otherwise) is the easy part, but often becomes all the focus.

When it comes to the actual physical work, I recommend mechanical preparation and not chemical treatments such as acid etching. By mechanical, I mean actually grinding or roughing up the surface. Be aware that using diamond grinding pads is not the same as using a diamond grinding wheel. I have seen 50-grit diamond pads actually start to tighten and smooth concrete, which is the exact opposite of what we are trying to accomplish.

I stay away from chemical treatments like acid etching because they are inconsistent, and unless you are using an



industrial-grade acid that will burn through stainless steel, the store-bought stuff just does not do that much. Also, acid is nasty stuff to deal with, and the concrete must be neutralized with alkaline soap before moving on. (Baking soda is not an acceptable alternative.)

If the surface is not rough enough, the overlay will not have enough structure for proper adhesion. Poor adhesion leads to premature failure and delamination. To assure proper surface preparation, I use the Concrete Surface Profile Chip system from the International Concrete Repair Institute. This set of nine rubber molded plaques shows different concrete profile levels and how to achieve each profile. Surface preparation is actually quite simple — the surface must be clean and rough. The hard part, and where most installers fall short, is spending the time and money required to achieve the required profile and cleanliness.

Once the surface is prepared properly, overlay application can take place. It is very important to work within the limitations of the particular system you are using. If you are using a microtopping, applying it 3/4 inch to 1 inch thick is probably not a good idea. Thin-section microtoppings are designed to go down thin — hence the name “microtopping.” Applying these thin overlays too thick leads to shrinkage cracks and surface blisters. Trapped air and any gases created during mixing need to get to the surface before the material sets. A thicker cross-section of this material does not allow trapped air to get to the surface. If the air is trapped when the material gets hard, an air pocket (weak spot) is created.

The other downside to overapplication can be premature failure of the overlay, as these materials are not designed to handle excess thickness and weight.

The opposite holds true for thicker overlays like stampable and self-leveling systems. These typically need 1/4 inch of thickness to hold up long-term. They gain strength from thickness, and if underapplied, they will not hold up very long. A lesser-known problem with thicker overlays, especially stampable systems, occurs when the surface is finished too early or too aggressively. Just like with thin-section materials, air and gas created during mixing needs to get to the surface before the material sets. Overfinishing or putting on too tight of a finish too soon can result in blisters and weak spots occurring within the material. Once cured, these spots tend to fail, leading to pop-outs and divots.

This article would not be complete without mentioning priming, or in this case the lack of priming. A primer is an adhesion promoter. It allows a better bond to form between the substrate and the coating. They are common in the paint and coatings industry but don't get the same respect and consideration in the concrete industry. While most overlays recommend or call for a primer, too often I see that critical step being skipped or given little attention.

That primer is very important for two reasons. First, it increases the bond strength between overlay and substrate, and second, it inhibits air and moisture movement from substrate to overlay. Note the many small blisters and air bubbles that form on the surface of microtopping overlays when applied to an unprimed surface. While I don't recommend it, applying an overlay to a damp surface (where

water is the primer) is usually better than applying to a bone-dry surface without any primer. Primers can be viewed as a cheap form of insurance that should be standard on all overlay applications. 🛠️

*Chris Sullivan is vice president of sales and marketing with ChemSystems Inc. He has presented seminars and demonstrations throughout North America, including at World of Concrete and the Concrete Decor Show & Spring Training. Contact him at [trowelander@protrade.pub.com](mailto:trowelander@protrade.pub.com).*



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Photos courtesy of the concretist

## Lead Bricks and Black Holes: Weight and Scale

I'm waiting for a plane in Vancouver, B.C. A flight to LAX. It's Sunday and it's been a great weekend! I arrived late Thursday night with my youngish uncle, Vito. We met frank and feisty Tom Ralston, of Tom Ralston Concrete, Santa Cruz, Calif., and the Australian mad scientist, Gary Jones, of Colormaker, Richmond, B.C., at The Sandbar Seafood Restaurant, snug under the Granville Island Bridge. We ate. We drank. We told the truth and lied, and then admitted that we had lied. We laughed. We talked business. We talked wives. We talked ex-wives. We cried, but just a little.

We added the charming and suave Englishman Paul Taylor at Rodney's Oyster House (where he had overlaid the floor with Colormaker Pentimento, seeded it with crushed oyster shells,

then ground) and subsequently shared Americanos and Cubans on the beach at English Bay. A real concretist "guys' weekend," but with no strippers ... this trip. I guess we're older now? Up to Callaghan Valley and Whistler, where we hiked, talked about rock, concrete and rock formations. Saturday night on Robson Street.

At Whistler, the landscapes were manicured, with homes and hotels gorgeous, and larger than life. Beams were of logs, much too large to have ever been handled by hand. Often, walls were a combination of fluid concrete and quarried stone. "Great weight" was a typical first impression. And these structures were begotten of stunning and difficult sites, also carved from stone. Granite domes, basalt columns, even crumbling slate scree — whether solid or not, they were all substantial, with their own gravity.

And today, Sunday, the culmination of our big concretist weekend, a dim sum brunch with Dave Burnham, husband of my business partner, Kelley.



by Michael Miller





The patinaed appearance of this Grayson Malone sculpture is not the result of an applied finish. It was achieved by utilizing integral raw bronze powder, which replaced pigment and the finest aggregate. This caused the piece to weigh somewhere between the weights of a lead bar and a black hole.

Burnham, of the Kiewit-Flatiron general partnership, gave us an exclusive and fascinating guided tour of the new Port Mann Bridge over the Fraser River. This is a big project. A massive project! Really outside the box. Complex engineering. Spendy (albeit still a good value) at a billion dollars plus. And Dave Burnham knows how big and massive it is. You see, he's an equipment operator, and he's run every crane on the project. He tells me that the steel and concrete in this bridge weigh somewhere between the weights of a really large lead brick and a black hole! And he'd know, 'cause he and his cranes have lifted one helluva lot of it.

According to Dave, the cast-in-drilled-hole pilings of the Port Mann Bridge extend some 200-plus feet below the bottom of the river, through ancient alluvial deposits, through "schmoo" (extremely fine glacial till), and finally, landing on stable bedrock. That bedrock had better be stable, considering the reinforced concrete pylons it supports just some 600 feet above the pilings and the river. That's a lot of mud and iron, and a lot of weight! The bridge looks heavy, and it is, but, aside from Dave and the other "Kiewit-Flatiron Boys," none of us will ever "feel" it. That is, really feel it! We'll see it. We'll sense it. But we'll have never actually understood what it means to heft this kind of weight, to have essentially borne it on our shoulders.

Macho "Big Bad Dave" Burnham and the "weight" of Kiewit-Flatiron's Port Mann Bridge make me think of petite artist Grayson Malone and the gravity of her Cowboy Zen

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sculptures.

Grayson Malone has at least three things going for her, as far as I'm concerned. Now, these are superficial things, but I'm a superficial guy! She's a smart and attractive chick. She's a talented artist. And she works in concrete. I think these alone made her worth the attention. But there's more.

I had discovered Grayson's website, Cowboy-zen.com, while developing my own for the Southeast Asian market. My interest was piqued, so I checked it out. Really cool site! Smart commentary. Work photographed well. Hope I get a chance to see this stuff in person some day.

About a month back, Kathleen, our new neighbor and herself an ex-Berkeley artist, flagged me down and said, "Hey, Mike, I've just come from a craft festival. Do you know a woman named Grayson Malone? She also works in concrete." Sounded familiar. I asked Kathleen what she thought about Grayson's pieces. "They're great," she said. "Really well executed! Rich fine details."

I also asked what their scale was. "The pieces are really small." And this surprised me! I had surmised from the pictures on the site that the pieces would be quite large, like the size of furniture, or perhaps, decorative urns or really



Berkeley, Calif., artist Grayson Malone at the door of her studio, sharing a smile and holding one of her sensory concrete creations.



Photos courtesy of the concretist

Grayson Malone's work often qualifies as applied art. That is, fine art with a function. This mixed-media piece, which incorporates copper pipe, iron nails, and concrete with integral raw metal powders, is both sculpture and a reliquary. She casts, scores, sands and subsequently finishes with oil.

large planters. "No, they're quite small. But, Mike, they're really heavy. Like, really heavy!" Interesting. With Kathleen's recommendation, I decided to contact Grayson and see if I could schedule a visit.

## Grayson Malone, weight and scale

Here's Grayson Malone on the development of her metal-infused concrete pieces: "In my most recent work, I have integrated copper, bronze, steel, and iron (metals which have been ground into very fine particulates) directly into a portland cement matrix. The infusion of metal into cement differentiates my work from what is commonly expected from concrete, both visually and structurally. Not only does the concrete take on most of the characteristics of the specific metal used, it can also increase its compressive and tensile strengths."

What metal and concrete have in common is synergistically amplified when they are combined in this way. Both are really heavy, and so are Malone's pieces. What's more, her pieces weren't large. In fact, they were quite small, and this, in fact, emphasized their weight.


You see, when you look at a cast-in-place concrete structure like a ballpark or stadium, or a large piece of precast like the segments of the Port Mann Bridge, or even smaller elements like a staircase or a countertop, you can visualize the weight of the piece. It is sensed. However, this is a perception, not a physical experience.



For me, part of what makes Grayson's pieces pure sensory concrete is their scale. You can actually heft them, and struggle with their weight. Exciting! It's both an accessible and intimate experience. As a young guy, in my twenties, I used to have to hand-unload boxcar-loads of sacked cement that had shifted in Midwest "bumping yards." Wow ... this was quite a physical experience! However, I still think Grayson's got it beat.

"Although I have created both functional and sculptural bodies of work, it has been most important to me that the object be able to stand alone with strict visual relativity and impact on any given space. I believe I have succeeded, by combining metals with concrete, in bringing into view an unusual medium dressed up in veritable simplicity." Well said, Grayson! Sensory concrete: an unusual medium dressed up in veritable simplicity. Well said.

However, if I were to add something to this statement, it would be that her work expresses more than just visual relativity. There's more to it than a mere

expression of weight. Her infused-metal sculptures are physical and real. Tiny and dense, they are the actual embodiment of pure gravity. 

*Michael Miller is managing principal of The Concretist, an association of artists, craftsmen and others producing sensory-concrete art and architecture in cement, stone, glass and steel. The Concretist is headquartered in Benicia, Calif., with additional locations in northeastern Nevada and Southeast Asia. Visit [Theconcretist.com](http://Theconcretist.com) and [Thevisualconcretegroup.com](http://Thevisualconcretegroup.com). Miller can be contacted at [miller@theconcretist.com](mailto:miller@theconcretist.com).*

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## Myth-Perceptions, Part Two

**A**s I stated in this column in the July 2010 issue of *Concrete Decor*, the one universal truth about the polished concrete industry is that there is no universal truth. We don't agree on the definition of polished concrete, what steps are important, or the best way to steer the industry. Still, there are myths and there are accurate perceptions.



by Peter Wagner

So just as I did two issues ago, I'd like to identify some of the basic building blocks of polishing and examine them in terms of "myth" or "accurate perception."

**Full-range cut:** To cut or not to cut? What steps are required? In the early days of concrete polishing, it was natural to follow the sequencing established in the natural stone industry, where each step is followed by a pass with a diamond grit half the size of the previous one. You did not skip steps. Period. This was important because the intent in polishing is to create a consistent, uniform scratch pattern when you grind and polish. For the greatest clarity, and the most consistent shine and depth to your reflection, you want to stay with this sequencing, skipping no steps.

But the question isn't always about clarity or about removing all laitance.

So the best advice is to be honest with the customer: 1) For crisp clarity and high polish, don't skip steps, but 2) if the customer's budget doesn't allow for the full sequencing and they're primarily looking for a clean floor with the benefits of densification, skipping a step with the right diamonds won't get you in trouble.

**Wet versus dry:** The debate continues on wet versus dry, and the applicator's decision is often based on how they were initially taught and how they receive the best results based on their grinder, diamonds and concrete. Most applicators understand that they can achieve a good polish either way, and with many the method is dependent on the manufacturers with whom they are associated. Many applicators combine the two techniques as they grind and polish, feeling that water assists in the cutting with the early metal steps, but that they achieve a better polish at the top end going dry. Be aware that in going dry the shimmer you receive with phenolic resins can just as easily come from resin melted in the surface as from the diamond polish.

**Keeping your diamonds and floor clean:** Failure to keep the diamonds and floor clean, especially in the grinding stages, can come back to bite you as you move ahead in your sequencing. Even when grinding dry it is imperative that you clean the floor between steps in order to remove fretted diamonds and concrete fines from your floor surface. Water not only helps to



clean diamonds and the floor, but also provides you with the ability to identify depressions that you missed or previous scratch patterns that were never successfully removed.

**What's neutral?** When talking about cleaning concrete you often hear the term "neutral cleaner." "Neutral" when discussing the pH scale generally refers to a reading of 7.0 on a scale of 0 to 14, but your definition needs to take into account the pH of the floor being cleaned. A cleaner with a pH of 9.2 to 9.5 in the properly diluted state actually parallels the pH of concrete, so while it is slightly alkaline, it is "neutral" to the concrete. You do not want cleaners that contain sulfates or hydroxides, because they attack concrete, but you do want a slightly alkaline cleaner.

**Biased testing results:** Testing can either be subjective or objective depending on what results you are trying to achieve. Too often testing in our industry is skewed to deliver results that a particular manufacturer or applicator is seeking. Is testing inherently wrong? No. Can the "skewing" be innocent? Yes. The test areas that are abused the most are also the ones that should be counted on the most to establish performance. Be careful in what you ask for and stand back if you do not understand the individual tests. Use the tests in a uniform, objective way.

**Early cuts — ripping the cap:** We are all familiar with the idea of the "28-day cure," but we have all come upon jobs where we get pushed to be on the slab in seven, 10 or 14 days. Early cuts can cause fractures. The calcium hydroxide is formed during curing, and without it you cannot have complete hardening and strengthening of the slab. Often GCs or applicators who want to argue point to early cutting of the slab when installing cementitious terrazzo. What they don't acknowledge is that this cutting is to promote flatness, that it is done to expose the glass or marble consistently, that a slurry coat is applied to fill all the fissures and fractures created by this early cut, and that the floor is allowed to complete its 28-day cure prior to polishing.

**Tire markings:** Why is densified

concrete so good at resisting tire markings? Consider what happens when a tire marks a floor. Very simply, tire marking on coatings occurs when tire rotation and forklift or truck weight heats the tire rubber and the floor coating. As the tire sheds hot rubber particles under weight, the heated coating absorbs them, and then traps them during the cooling process.

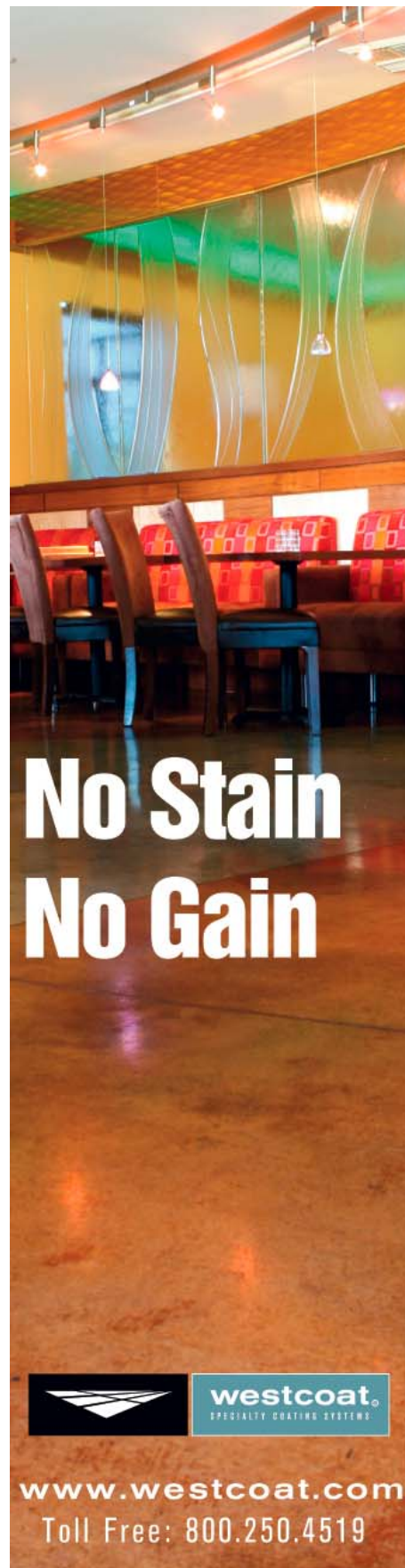
**Whiting/acid neutralization:**

Whenever you apply an acid stain to concrete that will also be densified, you must completely neutralize and remove the acid residue before densifying the slab. You are likely to get whiting from the acid-alkyl reaction between the low-pH acid stain and high-pH concrete. This whiting usually requires grinding to remove it. A variety of products are utilized to neutralize, from ammonia and trisodium phosphate (TSP) to baking soda. Whenever you neutralize with baking soda you must add warm water to ensure that the baking soda goes fully into solution. Allow the neutralizing solution adequate time to dwell and penetrate, or all you will do is neutralize the surface and acids will wick up as the slab dries.


**Acid cutting:** An acid stain is composed of metallic salts, water and acid, with the acid generally being at a 10 percent dilution. Whenever you are trying to lighten an acid stain it is important to first create a "dilution solution" of water and 10 percent acid. As the acid is there to open the pores to receive the metallic salts, an improperly diluted acid stain will only achieve weakened penetration, resulting in a very blotchy job.

**Gloss meter:** I've previously devoted a column to this topic, so I won't be too wordy. Simply, make sure that you utilize the gloss meter to document objective improvement in the floor. And remember, every square inch of concrete varies. 🛠️

*Peter Wagner has been involved in the polished concrete industry for the past decade, both as an applicator and as director of marketing and training for several densifier and dye manufacturers. He is currently working with Deco-Pour and Revolutionary Concrete Chemicals, helping bring water-based concrete dyes and a polished concrete cleaner to market. He may be reached at pbwagner@comcast.net.*



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## A Volatile Issue

**T**here's no way around the fact that volatile organic compounds (VOCs) are nasty stuff. They smell bad, they are highly flammable, they damage the atmosphere, and they can be acutely toxic to human and other living beings. On the other hand, sealers, coatings, adhesives, and strippers made with VOCs as the primary solvent are cheaper and in many cases perform better than the alternatives, although water-, citrus-, and soy-based materials are gaining ground due to environmental concerns, worker safety issues and government regulation.



*by William D.  
Palmer Jr.*

Let's start by looking at what VOCs are. First, the "organic compound" part of the name. There is no perfect definition of organic compounds, but they all start with a carbon molecule and most are based on a carbon-hydrogen bond. The organic compounds we're interested in, the VOCs, are "volatile," meaning they evaporate rapidly into the air at about room temperature.

All that said, the term "VOC" actually has a legal definition created by environmental regulatory agencies. It identifies chemicals that with sunlight can react in the atmosphere to produce ozone, leading to smog. Oddly

enough, the majority of VOCs in the environment are released naturally by trees, but the largest man-made source is solvents, so that's where regulation has focused to reduce smog and improve indoor air quality.

### VOC regulation

VOCs began to be regulated in the United States in the 1970s. The original target was paints, but the scope evolved to include concrete coatings under the classification of architectural and industrial maintenance (AIM) coatings. Today, U.S. Environmental Protection Agency limits on VOCs in AIM coatings apply to the entire country, while certain states or regions have adopted more stringent requirements. To say the regulations are complicated is an understatement.

This is especially true in California, where the entire state is subject to the Suggested Control Measures of the California Air Resources Board (CARB). These VOC requirements are broken down into more than 100 different products, such as coatings, sealers, stains and waterproofing, each with different limits. Then there are 25 different air control districts within California, each with slightly different requirements. And on Jan. 1, 2011, a new California Green Construction Code takes effect with reduced VOC limits for most of the state.

Looking across the country, there



is the Northeast Ozone Transport Commission (the OTC), which has set standards that have been adopted by 13 Northeastern states. These requirements are similar to the CARB rules but with slightly higher limits on 55 categories of AIM coatings.

On September 9, 2010, the entire country of Canada adopted regulations similar to the OTC requirements.

"There is pressure to keep nudging the numbers down," says Dwayne Fuhlhage, director of regulatory affairs for Prosoco Inc., "but it gets more difficult because the products still have to work. Continuing to reduce VOCs reaches a point of diminishing return. In California there's not a lot of VOC left in the products."

Designating the VOC levels in a product is basically left up to the manufacturers. As you might imagine, they sometimes use loopholes in the regulations to make their products appear better than the competition. For one thing, there are VOCs that for various reasons are exempt from the VOC rules. "Exempt volatile organic compounds (such as acetone, T-butyl acetate or PCBTF) are used in the same way as standard VOC solvents but do not count as VOCs because of their exempt status," says Doug Bannister, owner of The Stamp Store.

Another way the issue gets confused is that the VOC limit for a specific product is based on its intended use, which the manufacturer can identify in marketing claims. Products that have multiple uses are required to meet the most stringent requirements. "The regulatory category definition is as important as the category name," wrote Fuhlhage in "Know Your VOCs," a Prosoco white paper. "A film-forming water repellent marketed specifically for concrete and masonry would not be held to the category limit for a flat paint."

## Smog versus IAQ

An important thing to understand is the regulatory difference between VOC-emitting materials used indoors and those used outdoors. VOC requirements are intended to reduce smog, so they apply to all products used in a specific air quality management

district. However, for indoor use, the real objective is to determine a product's impact on indoor air quality (IAQ). For this, the limits are found either in the LEED (Leadership in Energy and Environmental Design) system or in the new International Green Building Code (coming soon to a jurisdiction near you). For example, in LEED for New Construction (commercial buildings), architectural coatings must have VOC

content of less than 250 grams per liter to yield a point.

In reality, VOC requirements are not that meaningful for indoor air quality. To more accurately assess indoor air impact, manufacturers would have to have a vacuum-chamber emissions test conducted by an independent testing lab. "They apply the coating to the concrete and put it in a chamber that models an office or school in terms

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of typical airflow rate and temperature and humidity,” says Fuhlhage. “At day 14 they start testing, then create a report on the specific chemicals that show up in the air. Long-term, I see green building standards having these emissions standards as the primary criteria for indoor use products, but each emission test costs about \$3,000 and every company has to test every product and retest every time there’s any formula changes.”

And in today’s drive to make everything green, many projects will specify LEED requirements for products even if they have no intention of seeking LEED certification of the building. “I’d say 60 percent to 70 percent of the low-VOC products we sell are for use in buildings where there’s no effort to get LEED certification,” says Fuhlhage. “It’s a case of higher sensitivity — especially for a school or hospital. They don’t want complaints.”

### Alternatives to VOCs

To consider alternatives to high-VOC materials, let’s look at why VOCs are used in the first place. “Volatile organic compounds (solvents) are used in coatings to lower the viscosity for better flow, usability and penetration, or to dissolve certain types of resins, such as acrylics,” says Bannister. So high-VOC materials are used when we need some sort of solvent, and water simply does not dry fast enough for most uses. “In water-based coatings,” Bannister says, “water is the main solvent replacement, but the product usually also contains a VOC solvent or an exempt VOC

solvent to aid in film development. New water-based coatings technology has improved such that many are equivalent or superior to solvent-based coatings — however, they normally come with a very high price tag.”

This price differential is significant. Many VOCs used today are byproducts of petroleum refining. They are basically waste products, so the price can be kept quite low. New products, such as soy-based solvents, find it difficult to compete on strictly a cost basis. “I don’t think people would consider switching to soy-based products without government regulation,” says Dan Brown, general manager of Franmar Chemical Inc., which makes soy-based strippers. “It wasn’t until the laws changed that users and manufacturers started looking at changing products. Our Bean-e-doo Mastic Remover is an affordable product at about 11 cents per square foot, but you can do the same job with xylene for 5 cents per square foot.”

To justify this extra expense, there have to be other factors considered, such as worker safety and green benefits. Brown tells a story about a worker using a soy-based stripper who threw his cigarette butt right into the residue, an explosive situation with VOC-based strippers. “He told me, ‘I like using this stuff because then I can smoke on the job.’ Not really what I’d hoped to hear but true nonetheless.”

The soy-based products use an ester distilled from soybean oil — a solvent that is equivalent to the biodiesel sometimes used to run internal combustion engines. “It’s a solvent and it behaves like other solvents, but it evaporates very slowly,” says Brown. Soy-based strippers have to be cleaned up after use because, unlike VOC solvents, they don’t evaporate. “Make sure it is cleaned up properly or else there’s a residue that will prevent adhesion of coatings or floor coverings.” That cleaning is done using water in a very tightly defined procedure.

Solvents are with us to stay, and probably, so too are VOCs. However, rules will continue to evolve and tighten, so be sure to look closely at manufacturer claims and get the best products for your application and customers. 📱

*William D. Palmer Jr., P.E., is with Complete Construction Consultants, where he develops technical and educational resources for the construction industry. He can be reached at [wpalmer@cee3.com](mailto:wpalmer@cee3.com).*

### More information

California Air Resources Board Architectural Coatings Program:

🌐 [www.arb.ca.gov/coatings/arch/arch.htm](http://www.arb.ca.gov/coatings/arch/arch.htm)

VOC regulation updates (and “Know Your VOCs,” Dwayne Fuhlhage’s white paper):

🌐 [www.prosoco.com/Green/Green.asp](http://www.prosoco.com/Green/Green.asp)

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## Todd Rose Decorative Concrete Inc. Lincoln, Neb.



Photos courtesy of Todd Rose Decorative Concrete Inc.

by Kelly O'Brien

**T**odd Rose Decorative Concrete Inc. is only 2 1/2 years old, but already, they've become "that contractor." You know the one. That contractor you call when a project has, midway through, suffered some sort of catastrophe. That contractor you call when you need someone who can carry a project from the architect's sketch through to that final coat of sealer. That contractor you call when some kind of concrete miracle needs to be performed.

The combined skill and experience of co-owners Todd Rose and Keith Heiser

has turned their young company into a go-to contractor for decorative concrete challenges. With offices in Omaha and Lincoln, Todd Rose Decorative Concrete is able to serve the bulk of the Nebraska construction market, offering services that range from the aforementioned sketch-to-sealer jobs (about 25 percent of their projects) to more narrowly focused work, doing staining, stamping, stenciling and restoration as a subcontractor (the other 75 percent).

Aside from Rose and Heiser, the company employs 16 people, most of





whom belong to one of four crews. Although the company serves a variety of sectors (municipal, commercial, residential), its crews are separated into two divisions: the fresh concrete side, devoted to new slabs that are then stamped or stenciled, and the pre-existing concrete side, which encompasses staining, overlays, restoration and even polished concrete. This versatility has definitely played a role in the company's success.

The story of the company's rapid success — in spite of a down economy, no less — began before its launch. Rose

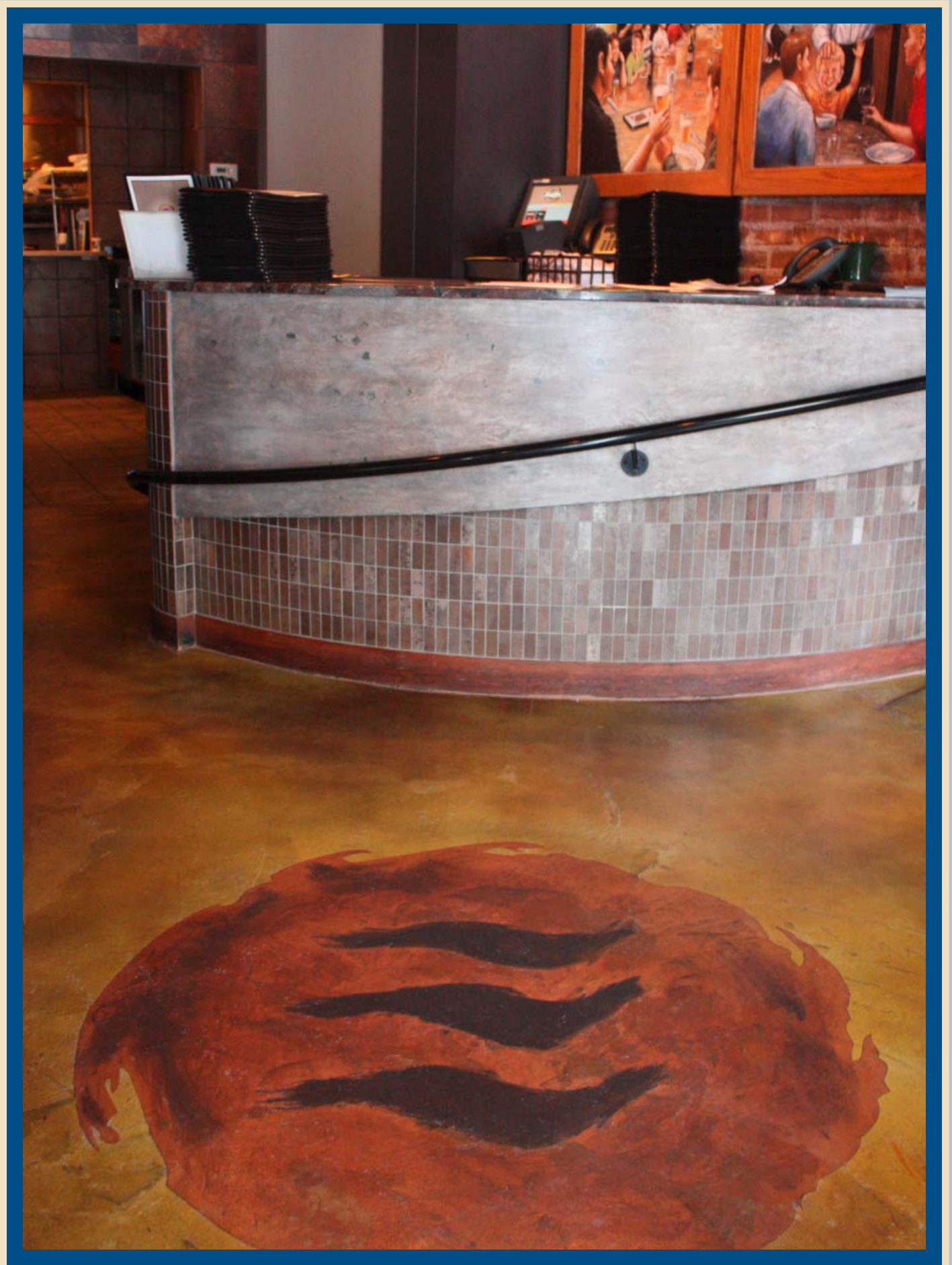
has been working in decorative concrete for more than a decade and Heiser for more than three. They both worked for the same construction firm in Lincoln — Heiser as the head of the residential department and Rose in charge of the decorative concrete division — and they both, says Rose, “enjoyed a decent reputation as individuals.”

Counting on the relationships they'd built in the community, they decided to break away and set off on their own. Rose founded his company with himself as CEO, and Heiser came on as president about six months later.

Their business plan, Rose says, was nothing fancy. Drawing on his college marketing background, the 40-year-old CEO sat down and wrote up a very simple business plan — from which, he says, they haven't deviated a whole lot. Rose borrowed the framework for their business approach from his college coursework. “Marketing 301 taught me that all marketing really is, is to educate and inform and provide a solution,” he says. “We're constantly trying to do that.”

That methodology governs their approach to their clients and to the industry at large. For example, Rose









and Heiser take very seriously the responsibility of helping homeowners make informed decisions on installing or renovating hardscapes. They believe firmly that simple, well-executed decorative concrete is a great way for homeowners to invest in and transform their home. "If you approach it from (the homeowners') standpoint, it becomes a pretty intimate thing," says Rose. "You're giving them much more than concrete."

### Elevating standards

The "educate, inform and solve" concept is even more essential to

the company's approach to fostering relationships in the industry. Although both Heiser and Rose are comfortable up to their elbows in mud, they spend a lot of time in front of local architects, answering questions and championing the decorative concrete cause.

"I think there's been quite a few projects that Todd and I have seen where the installer really didn't know what they were doing," say Heiser. "That sets a big burden on the architect when they want to do another decorative project." Thus, part of the company's mission has become educating the local construction

community about concrete's strengths and limitations. For the price of a few pizzas, says Rose, they've ended up with a building community that is not only more realistic about decorative concrete, but also more excited about it. "The more they know about it, the more they want it," he says.

Their educational efforts aren't just for the benefit of locals, either. Rose and Heiser are both committed to elevating standards across the decorative concrete industry. Rose says he sees an industry-wide "tendency to overpromise and underdeliver," which he attributes to





the industry's rapid growth and the possibility that not all contractors and manufacturers devote as much time or resources to training as they should.

So that covers the "educate" and "inform" elements of the company's approach. What about step three, providing solutions? As it happens, step three is Rose and Heiser's specialty. "The No. 1 thing that has been the backbone of our success is that we have somehow become the name, in Nebraska, if the job has gone wrong or gone south for another contractor or someone can't figure out a solution to their problem," says Rose. "Between Keith and I, we can

figure out a solution for them."

"When you can do that," says Heiser, "it really sells itself."

Take a project that came into their offices a few months ago, bringing a team of six designers with it. A wealthy homeowner was after a high-performance surface for a large driveway and courtyard — oh, and he wanted it to look just like limestone. The first words out of the mouths of the design team were not encouraging. "We hate concrete," they said.

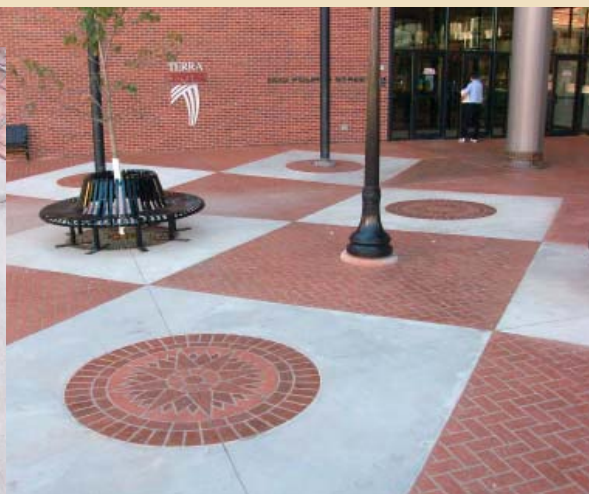
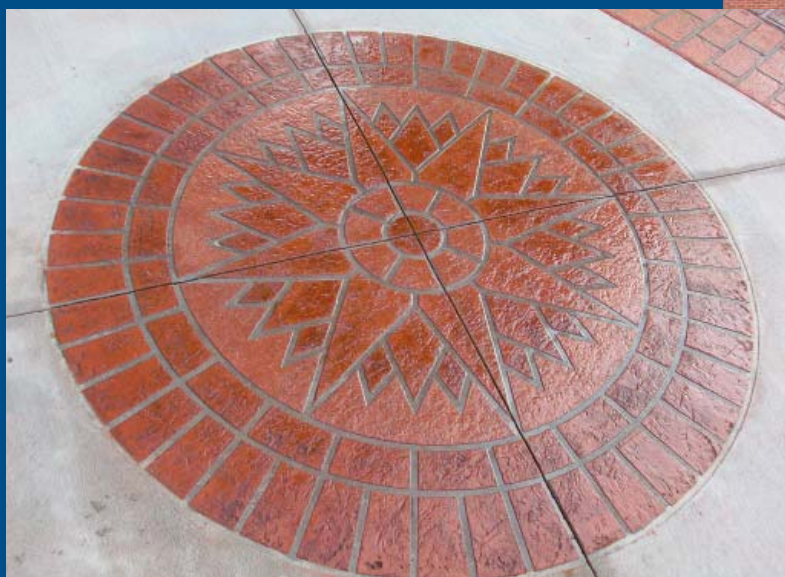
"I kind of laughed," says Rose. "Uh, do you not see the sign on the door?"

Despite their opening volley, the

designers had come in because, while they didn't like the look of gray concrete, they were fans of its durability. It took a lot of experimenting with mix designs (made easier by Heiser's long-standing relationship with Lincoln ready-mix supplier Ready Mixed Concrete Co.), but they finally settled on a mix that gave them the look of limestone without compromising the surface's durability. "It was a great challenge and a fun job," says Heiser, "and it came out great."

For another example of the company's problem-solving prowess, look at one of their first projects, a restoration they did for a realtor's





entryway in downtown Lincoln. The client couldn't close the offices during the week and the work was to be done on the building's sole entrance, so everything — from tearing out the existing slab to placing a new stamped surface with multicolored, exposed aggregate — had to be done between Friday night and Monday morning.

Nothing went as planned. The weather didn't cooperate. The hotel down the block tried to shut them down because of the noise. The crew discovered that beneath the existing surface was a second slab that also had to be removed. Despite all of that, Rose,

Heiser and their crew turned the project around that weekend, much to the delight of the client, and the job became a great advertisement for the company.

"It's amazing, when you take a project on like that, how the building and design community talks," says Heiser.

Challenges like these are what Rose and Heiser thrive on — and what they're counting on to carry them into the future. "We've got some pretty big dreams," says Heiser.

Expansion is part of the plan. They want to expand their scope to focus more on the region than just the state,

and Heiser says they hope they continue to get good men. (They credit a lot of their current success to the quality of their crews.)

Meanwhile, Rose's priority continues to be delivering quality craftsmanship and education, hoping that will raise the bar for the industry. "We believe in the industry as a whole, and we believe that bad installations hurt all of us," Rose says. "We want to see every install, whether we do it or not, done successfully."

[www.toddrosedecorativeconcrete.com](http://www.toddrosedecorativeconcrete.com)



# Recipes: Stamping & Texturing

by Kelly O'Brien

It's well-known that one of the best selling points of decorative concrete is its ability to mimic other materials with incredibly fidelity while still delivering the versatility, affordability and durability of concrete. Stamped and textured concrete is an area of decorative work where that quality really shines. We reached out to some stamping and texturing veterans and collected the standout techniques below — an authentic travertine tile look, a classic cobblestone finish, and a hand-tooled brick-bordered patio. All would be welcome additions to any stamper's playbook.

## Brick Circle

Becker Architectural Concrete — Woodbury, Minn.  
[www.beckerconcrete.com](http://www.beckerconcrete.com)

A soldier course of hand-tooled bricks puts this subtly textured technique over the top.

### Ingredients:

Legacy Decorative Concrete Systems Colour-Hard: Sand (primary); Nutmeg, Brick Red, Terra Cotta (accents)

Legacy DCS Accent Liquid Release

Legacy DCS Accent Colour Release: Nutmeg

Proline Seamless Texture Skins: Belgium Slate, Travertine

W.R. Meadows Decra-Seal, with W.R. Meadows Sure-Step slip-resistant additive

Special equipment: 8-inch hand chisel, homemade template/scribing tool set for marking a soldier course of 8-inch by 4-inch "bricks"

### Directions:

- Place a slab of natural gray, 4,000-psi concrete with 3/4-inch aggregate.
- Float the surface, and broadcast the Colour-Hard in Sand until you reach 80 percent coverage.
- By hand, chisel a border of soldier course bricks along the edges of your surface. (This technique looks great on patios, terraces and even stairs.) Using your template or scribing tool, cut an even course of 8-inch by 4-inch bricks.
- Mix 8 ounces of powdered release with 3 gallons of



Photo courtesy of Becker Architectural Concrete

liquid release, and spray an even coat of the this mixture across the entire surface.

- Use the Travertine skins to texture the surface of your soldier course borders.
- Use Belgium Slate skins to texture the main fields.
- Once everything is textured, touch up brick joints with the chisel.
- Let surface cure overnight.
- The following day, pressure-wash the area to remove the colored release. However, don't try to clean out every last bit of release from where it's collected in the impressions of the textured surface — color left there will add depth.
- Apply your accent colors to the individual bricks in the soldier courses to create color variations, as desired.
- Finish the surface with two coats of sealer.



## Cobbled Together

Colorado Hardscapes Inc. — Denver, Colo.  
www.coloradohardscapes.com

This cobblestone look is tidy and attractive, perfect for bringing some classic, old-world charm to a patio or walkway.

### Ingredients:

Fritz-Pak Control Finish

Bomanite imprinting tools: Running Bond  
Belgian Block

Bomanite Color Hardener: Steel Blue

Bomanite Release Agent: Cobblestone Gray  
Okon S-40 sealer

### Directions:

- Once you've placed a reinforced, 4,000-psi slab, bull float the entire surface.
- Using an airless sprayer, apply an even coat of Control Finish.
- Broadcast your color hardener across the surface and trowel it into the surface.
- Spray a second coat of Control Finish across the surface.
- Broadcast the release agent across



Photo courtesy of Colorado Hardscapes Inc.

the surface and stamp the surface using the imprinting tools.

- Carefully lift off stamping mats and let the surface cure overnight.
- Saw-cut your control joints the

following day.

- After 2 to 3 days have gone by, power-wash the surface thoroughly to clean it, and once it's dried, finish it with the sealer.

## Totally Travertine

Proline Concrete Tools Inc. — Oceanside, Calif.  
www.prolinestamps.com

This grouted stamp technique delivers a finished surface that is nearly indistinguishable from actual travertine tiles.

### Ingredients:

Proline Dura-Color Hardener: Adobe Beige

Proline Dura-Liquid Release Agent

Proline Stamps: Ashlar Versailles Tumbled Travertine

Proline Dura-Color EZ-Accent Water-Based  
Acrylic Stains: Mission Brown, Pinto

Proline Dura-Seal HG high-gloss sealer  
Sealer thinner (varies, depending on local  
code regulations)

Sanded polymer-modified tile grout,  
neutral color

EZ-Tique Water-Based Antiquing Wash:  
Walnut

### Directions:

- After placing concrete, broadcast an even layer of the Dura-Color hardener and work it into the surface with a float or trowel.

- Apply a thin coat of the liquid release agent and stamp the surface with the Ashlar Versailles Tumbled Travertine stamping tools.

- Once the concrete has cured, apply the Mission Brown and Pinto stains on a few of the stones to add accent color. To apply the stains, moisten the concrete with water and mist the stain with trigger sprayers onto the desired areas. Using a brush, rub the stain into the surface, which will leave the stones with a subtle, natural-looking hint of the accent color.

- After the stains have dried, applied a thin coat of sealer, diluted 1:1 with your sealer thinner.

- Once the sealer has dried, mix the grout and add EZ-Tique until you achieve the desired color, then grout the entire surface, including grout lines and surface texture. To apply the grout, use standard grouting techniques — use



Photo courtesy of Proline Concrete Tools Inc.

a sponge float to apply grout and then wipe clean with grout sponges.

- Once the grout dries, apply a coat of the high-gloss sealer and let dry. 🛠️



# Design Ideas



Photos courtesy of Concrete Solutions



## Hotels & Resorts

by Emily Dixon

**Sycuan Resort, El Cajon, Calif.**

**Contractor: TH Designs, Ontario, Calif.**

**W**hen the Sycuan Resort in El Cajon, Calif., was looking to update its wedding reception and ceremony area, the building committee knew exactly who they wanted to do the work. They had seen Tony House's work on the Concrete Solutions website and thought he was just the guy for the job. They got in touch with House, owner of TH Designs, and the rest was history.

The resort wanted to do something unique with its concrete sidewalks and hardscapes, which were at the time a dull salmon color. The area serves as a gathering area for golfers and wedding parties, so the client wanted to create a richer look that blended more with the surrounding landscape. House and his crew used products from Concrete Solutions to create a gorgeous masterpiece.

To start, they stripped the existing concrete sidewalks with a caustic cleaner, then

power-washed the solution off the surface and put down a Moisture Guard treatment.


The next step was to add color. For the walkways and brick around the reception area, House used a mixture of Ultra Surface Concrete Dye in English Leather and Earthstone. For the retaining walls, House only used Earthstone.

"They wanted it to stand out a little bit," he says. "It's a little bit darker in color than English Leather."

After the color was set, House applied coats of Ultra Surface Stamped Concrete Sealer and Sealcoat 1000.

In total, House and his crew were responsible for improving more than 11,000 square feet.

"It was a pretty straightforward project," he says. "We had a little bit of a rain delay, but that was about it."

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## Hyatt Regency, Atlanta, Ga.

**Contractor: Nawkaw Corp., Bogart, Ga.**

**T**hough the Hyatt Regency in Atlanta, Ga., is relatively new as far as restoration projects go — less than 50 years old — completing the work was no small task. Nawkaw Corp. was called upon to restore the exterior of the hotel, billed by the chain as the world's first "contemporary atrium" hotel. The project required thorough cleaning and faux finishing of a few areas to create the look of exposed aggregate.

When the Hyatt was built in the mid-1960s, builders utilized cast-in-place vertical concrete, incorporating river rock from local rivers for exposed aggregate. However, according to Nawkaw's Southeast regional manager, Nathaniel Jones, there was a lot of inconsistency in the walls. "Some panels were completely void of river rock, but others had a lot," he says.

In addition, he says, some of the concrete was discolored, and there had been patches applied to the surface during its lifetime. The Hyatt's goal was to not only even out the discoloration, but also to fill in the spaces missing the river rock.

To start, Jones and his crew pressure-washed the surface, and after it dried, an application of Nawkaw's NWRT-91 water-repellent stain in a light tan color was applied with a roller.

"We tried to spray it, but it didn't work because of the wind," Jones says.

Once the stain was absorbed, the surface was pressure-washed again to remove the excess stain.

Working their way down the building, they began to do faux finishing work where the missing aggregate was visible to the pedestrians on the sidewalk below. To do so, they used three different sizes of custom river rock templates from Modello Designs to give color and texture to the area.

In all, Nawkaw was responsible for restoring some 70,000 square feet during an 8-month span.

Because the building soars 27 stories into the Atlanta skyline, working at the upper levels proved tricky. The crew had to access the higher elevations with swing stages via roof access. Thankfully, Jones says, project engineers were able to assist with the logistics.

In addition, much of the cleaning work on the lower elevations had to be completed at night. Once the cleaning was complete, work was allowed during the daylight hours,



but there were still restrictions limiting the crew to early morning or late evening hours. As a final challenge, Nawkaw also had to close off a busy street in order to safely complete some of the work. "It was a challenge to figure out the best times to close the street and redirect traffic and pedestrians," Jones says.

It appears that all that the team's hard work paid off. The project took first place for restoration at the 2006 Dan R. Brown Awards, given out by the Georgia chapter of the American Concrete Institute.

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## The Park Vista, Gatlinburg, Tenn. General Contractor: Pools by Bill Inc., Lenoir City, Tenn.

**A**s part of an \$11 million renovation, The Park Vista hotel in Gatlinburg, Tenn., gave its indoor pool area a major facelift. The 300-room Doubletree property is nestled in the Great Smokey Mountains, and the owners wanted to create a private water park attraction for their guests.

In order to complete the project, the hotel contacted Bill Mackebee Sr. with Pools by Bill Inc. The Lenoir City, Tenn., company has been in the water park business since 1954, and it would serve as the general contractor for the 15,000-square-foot area, which features rock caves, multiple slides, two pools and even concrete trees.

To start the deck work, Nick Powell and Reflective Floor Treatments Inc., Powell, Tenn., removed most of the old deck's surface using two HTC 800 Classic grinding and polishing machines outfitted with T-Rex tooling. Next they ground to 80 grit to further smooth and level the concrete. To reach some of the corners and pool copings, Powell and his crew used a 7-inch cup grinding wheel, also from HTC.

Although this would typically be a cut-and-dried job, the Reflective Floor Treatments crew faced some challenges, as the floor surface was not flat. "It had some sharp changes in elevation, and it's not real common for these grinding machines to work on a floor with such an angled surface," says Reflective's Chuck Powell.

With the surface prepped, it was time for Paul Spurlock at Signature Concrete Products to apply a concrete overlay to the pool deck using Specialty Concrete Products' Stencil-Crete Resurfacing System. He first had to use the overlay material to repair some of the pool copings, as Pools by Bill had installed a couple of plumbing trenches. Spurlock applied polymer-modified Stencil-Crete Mix in an Adobe Buff color with a trowel and hand-carved the copings, adding Sun Gray-colored Stencil-Crete by brush to the carved areas to recreate the grout look of the existing copings. The surface was then



Photo courtesy of Paul Spurlock

sealed with SCP's Chrome-Seal 30% Solids Clear Sealer.

Once the sealer dried, the parts colored with Adobe Buff received two applications via foam roller of Walnut-colored SCP Stone-Shade Liquid Antiquing Agent. For variation in color, some of the "stones" received heavy or light coats of color, and the surface was again sealed with an application of Chrome-Seal.

Once the copings were repaired, it was the original copings' turn. They were pressure washed and given an application of Chrome-Seal. One coat of Stone-Shade in Walnut was applied with a foam roller, and some of the "stones" received an additional application for variation. They were finally sealed with Chrome-Seal.

"This technique was required to match the colors of the existing pool copings and the newly created pool copings, because the Adobe Buff base-coat color did not match the base color of the existing pool copings," says Spurlock. "This technique worked beautifully on this application and created about four different shades."

With that complete, Spurlock moved on to filling in the seams and plumbing cuts with a crack weld repair system from SCP, treating them just like cracks. Next the crew pressure-washed each section, and once it was dry they troweled on Adobe Buff-colored Stencil-

Crete and hand-carved a flagstone pattern.

The crew applied one coat of Chrome-Seal, then applied one application of Walnut Stone-Shade with 4-inch foam rubber rollers. To finish, another coat of Chrome-Seal was applied.

Because the pool renovation was done on such a large scale, there were many different workers in the area at any given time, so Spurlock, Powell and Mackebee Sr. all had to work around other contractors. As a result, each could only work on a small section at a time.

Spurlock was able to rise above the challenge, however. "I'm used to doing that," he says. "I come from a commercial background, and the general contractor would always use the flooring contractors to push the other subcontractors out of the way so they wouldn't have to cover the floors to finish their work."

Although the project ran over schedule, Mackebee Sr. is quite pleased with the outcome. "Everything about it is just completely different," he says. 🛠️

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# Special EFFECTS

Photo courtesy of Ambient Glow Technology

Glow-in-the-dark large sand aggregate from Ambient Glow Technology was hand-seeded between the sinks of this vanity.

*by Amy Johnson*

**D**ecorative concrete contractors are an inventive lot. They are always finding ways to add sizzle to their work. Sometimes they improve on time-honored practices. Other times they come up with entirely new ideas and the methods for making them happen.

These are just a few examples of unique upsells that demonstrate this industry's outstanding creativity. Some of these examples are unique finishes, as you might expect. Others go much further.





Photos courtesy of Ambient Glow Technology

AGT aggregates, about the size of grains of rice, add a striking accent to the vanity in daytime. At night, the sky blue afterglow becomes the star attraction.

## Aggregate that sparkles and shines

The oldest methods of adding glitter to concrete are shiny aggregates — mica, glass, bits of mirror and so forth. More recent additives include silica carbide, spar, and “pixie dust” made of small glass beads.

Making concrete sparkle is not as simple as waving a magic wand. Unusual additives and aggregates require specifically formulated mixes to keep them in place.

For example, Bill Kulish, owner of Quintechs LLC in Wilmington, Del., adds VCAS white pozzolan from Ball Consulting Ltd. to a basic countertop mix to increase strength and density and reduce porosity. He also adds Ball’s Forton VF-774, which also reduces water and increases strength but has the added benefit of allowing a dry cure, so it is not necessary to keep the surface hydrated for the cement to reach full strength.

The sparkle aggregates are applied next, usually surface-seeded to deliver maximum visual impact. Contractors can

give their customers the best outcome by working with suppliers who can provide proven formulations, training, and even licensed systems.

To go beyond concrete aggregates that reflect light to those that actually radiate it, designers are discovering photoluminescent aggregates. Early experiments with a countertop 10 years ago led Peter Tomé, founder and president of Ambient Glow Technology (AGT), to develop powerful glow aggregates specifically for decorative concrete, cement, terrazzo, stucco and floor epoxy systems. Available in a variety of colors, AGT aggregates absorb light during the day and glow for more than 12 hours in the dark. They have a life span of more than 20 years, with the brightness diminishing very gradually over that time.

Photoluminescent aggregates in countertops are a friendly feature for people enjoying midnight snacks or making nocturnal trips to the bathroom. They are a great special effect for outdoor bars and patios too. “Everyone that has seen the glowing aggregates is blown away,” says Tom Ralston, president of Tom Ralston Concrete, Santa Cruz, Calif. “The first client I showed them to wanted the AGT fine sand dusted on his porch like a galaxy of stars with the constellation of Cancer (his wife’s zodiac sign) seeded in larger aggregates.”

Photoluminescent aggregates light up more prosaic applications too. “They may find a lasting home in the field of safety,” Ralston explains. For example, he has filled saw cuts on stair edges with glow aggregates so the steps would be clearly visible in the dark. Glow aggregates can be stamped into pool decks, used to light stepping stones outside cabins or cottages, or provide ambient light for a path from a beach house to the water.

Some AGT aggregates are as fine as sand and others range from 1/4 inch to 1/2 inch in size. AGT aggregates can be used in both precast and cast-in-place applications, as well as in stamped concrete. The incorporation process is like that with any other exposed aggregate. “Pour your batch, then before hard troweling, hand-broadcast the glow aggregates over the surface. Cover with the cream, and then when cured, grind or polish to expose the aggregates.” Tomé recommends using recycled glass or other decorative aggregates as well, “so during the day you don’t have blah gray concrete. The recycled glass gives it a beautiful aesthetic. Then at night the surface comes alive.”

[www.ambientglowtechnology.com](http://www.ambientglowtechnology.com)

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## Concrete that smells delicious

**A**rtisanal concrete is a treat for the eyes, but what about the other senses? Bill Kulish, owner of Quintechs LLC in Wilmington, Del., and self-described “foodie,” asked himself that question. He put his chef’s skills to work to devise a way to add delicious-smelling, long-lasting fragrances to concrete.

Kulish started experimenting with vanilla about five years ago. His current “recipe” is to cook black Madagascar vanilla beans in water, simmering them into a thick oily substance. “It’s like a reduction for a sauce,” he says. Then he adds a scent-free carrier like isopropyl. Smaller pieces, like sculptures or stands for animal dishes, can be immersed in the mixture right in the pot and left on low heat for three or four hours.

For larger surfaces like kitchen counters or tabletops, Kulish puts the concoction in a spray bottle. He sprays the underside of the cured piece before it is installed because the oil could interfere with a countertop sealer. The natural wicking ability of the concrete pores draws the mixture into the slab. He recommends spraying multiple times, paying special attention to the edges that will become the counter overhang, as that is where the underside is most exposed. He also recommends concentrating the scent in the part of the counter that will be over the dishwasher or near the stove, because warm concrete releases more of the fragrance.

Building on his early successes, Kulish has branched out into other fragrances. For example, thyme or lavender is nice for a powder room or a bedside table. “Any essential oil will do,” he says, “and they are already reduced, so they only need to be diluted with alcohol to be ready to use.” Essential oils can be purchased at bath shops or home decorating stores.

The smells of hot drinks are popular too. Kulish made two round “coffee

Photo courtesy of Quintechs LLC




These tabletops infused with the aroma of espresso and vanilla complete the coffeehouse experience.

tables” using a Buddy Rhodes colored brown with an Elite Crete integral color. Once they were in the forms, he added a cream-colored mix and stirred it in circles through the brown to get the look of café au lait. Then he completed the effect with a scent created from an espresso reduction. Another time he combined coffee and cocoa scents. “Concrete can feel cold, hard and boring,” he explains. “These scents make it warm and fuzzy.”

Of course adding scents only increases the importance of samples and mock-ups. Kulish has samples of each of his scents in the Quintechs showroom. “Customers look at me like I’m a mad scientist when I invite them to smell it,” he admits. “But once they do, they love it. They ask, ‘Why doesn’t everyone do this?’” He has never been asked to try to remove or mask a scent. Usually he is asked to make scents stronger. In these cases, or if the scent starts to wear off, another round with the spray bottle usually does the job.

Family and guests gather in a kitchen full of wonderful aromas. People love to luxuriate in a bathroom or spa smelling of relaxing herbs. Now they can enjoy these scents even when there are no cookies baking or there’s no fresh potpourri on the shelf.

 [www.quintechs.com](http://www.quintechs.com)





Photos courtesy of Quintechs LLC

## Scent, embeds and human ashes, all in one countertop

Concrete artisans are adept at dovetailing different techniques to amplify the impact of their finished work. Bill Kulish, owner of Quintechs LLC in Wilmington, Del., had a once-in-a-lifetime opportunity last year to combine a couple of the special effects described in this feature (and a couple that aren't) in a highly personal kitchen counter.

His Yorklyn, Del., client wanted to celebrate her victory over cancer and her joy in life by preserving mementos and treasures in a sculptural countertop. She invited loved ones to send her objects that meant something to them and to her. She compiled a collection that included petrified wood, a dog bone, ammonite, a fossil, marble pieces, a quarter, river stone, rocks from various backyards, shells, quartz, buttons, gemstones and a string of beads.

Then, in a gesture of love and remembrance, she also asked Kulish to incorporate the ashes of her late husband, whose favorite room had been the kitchen, into the concrete mix.

To create the counter, Kulish arranged hundreds of items in a

melamine form. He added bits of tumbled glass and mirror and placed photoluminescent stones in the shape of the Little Dipper.

With the objects in place he mixed concrete using a terra cotta liquid integral color from Elite Crete Systems. Since human ashes are carbon-based, they had little impact on the mix. He placed the concrete by hand around the mementos in the form.

Then he took the remaining concrete, added a charcoal color, and hand-placed that around what he'd already done to create the look of darker currents running through the red. He added more black to the remaining mix and repeated the process.

Once the concrete was cured Kulish added a vanilla scent (using the process described in this feature). Then the counter was ready for grinding and polishing. Here, Kulish says, his client was the risk-taker. He thought he was done polishing, but she urged him to keep going. Objects near the surface became near abstractions — "There's just a hint of the quarter," he says. But the overall effect, a piece molded with a

rock edge and polished to a burnt red, was just what the client wanted.

Now at night the kitchen glows with the starlight of the Little Dipper and warm tea-light candles release the vanilla aroma. "It's a very spiritual experience," Kulish says.

[www.quintechs.com](http://www.quintechs.com)



## Salting your slab

**T**om Ralston, president of Tom Ralston Concrete, Santa Cruz, Calif., has a client who requested worn, craggy-looking concrete for his bathroom, fireplace and front porch. “He had a particular look in mind,” Ralston says, “and it was an old slab, probably 30 years old, that was obviously poured by amateurs. Apparently on the day of the pour it rained on the slab as well.”

To get the look, Ralston scattered rock salt here and there on the fresh pour, along with drops of retardant. After washing away the salt and retardant the next day and attacking the concrete with an acid-water solution and a wire brush, his team had the aged, corroded effect they wanted.

A rock-salt finish can give a slab a vintage feel even without any other weathering effects. Coarse rock salt is hand-broadcast into concrete just beginning to set, pressed in so about half the salt protrudes above the surface. It's left until the slab has cured enough to be walked on. Then the salt is washed or swept off, leaving behind small holes of different sizes and shapes.

This handcrafted technique has several difficulties. One is the challenge of achieving even coverage. Of course the randomness is part of its charm to a point, but it doesn't look natural if the pressure is too uneven, if there are big bare areas, or worse, if it looks like a bag of salt got spilled in one spot. Which leads to the second challenge — mistakes are almost impossible to correct. The salt cannot be rescattered and the surface retroweled.

Third, the process is quite labor-intensive and requires experienced workers. It is slow going, so the finish is most popular for smaller projects, such as pool decks, or for partial areas of larger decorative installations.

Even in small areas, texturing with embossing skins is a faster way to achieve a more uniform salt finish look than hand-broadcasting.

Like most stamped or textured concrete, rock salt finishes usually look best with colors in neutral earth tones, according to Cam Villar, director of marketing for L.M. Scofield Co.

Bob Zieger, artisan and president of Simple Solutions/Salt Roller Inc., a Chandler, Ariz., tool company, once bumped up against the limitations of rock salt when a large residential developer asked him to use it to texture the sidewalks, clubhouse patios and driveways of model homes. He had trouble with bare spots, and production was slow because he had to take people away from placing the concrete in order to spread the salt. He hit upon the idea of a roller with protrusions shaped like salt pellets. The client liked the result so much that the same technique was specified for another project.

With some improvements to the original ad hoc design, Zieger has come up with a durable, lightweight steel tool that can easily be used by one person to texture 1,600 square feet (20 cubic yards) in time to place a second pour in the same day. The roller requires no release agent, just periodic cleaning with water like any other finishing tool. Even though salt is a natural substance, it can wreak havoc with landscaping, so with no salt or finishing agent to wash off, the roller makes



Photo courtesy of Simple Solutions/Salt Roller Inc.

cleanup simpler and safer.

Between hand broadcasting, embossing skins and the Salt Roller, designers and contractors who want the antiqued, aged look that a rock salt finish gives to decorative concrete have more options now than when the first rock salt was spilled on the first concrete pour. 🛠️

🌐 [www.scofield.com](http://www.scofield.com)

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Photos courtesy of L.M. Scofield Co.







# High-Performance Mix Design Understanding GFRC Mixes

Photo by Mark Celebuski

Objects such as this counter, wall and column can be easier to form and cast when using glass-fiber reinforced concrete.

*by Mark Celebuski*

I've heard it said that Las Vegas would not exist as we know it without glass-fiber reinforced concrete. If you took away all of the fountains, pyramids, fake ruins, boulders, castles, and building facades made with GFRC there wouldn't be much left to look at.

GFRC is a combination of fine aggregate, cement, water, polymer, chemical admixtures and glass fiber. The key to GFRC is the glass-fiber reinforcement. The fibers take the place of steel in a wet-cast mix. They allow GFRC to develop much higher flexural strengths than typical wet-cast concrete,

allowing you to cast thinner, lighter sections and pieces.

There is endless debate among concrete countertop professionals about which is better, wet-cast or GFRC. I don't see either as better. If I were going for a look with a lot of exposed larger aggregate I'd wet-cast the piece, but if I were making an 8-foot ramp sink with a slot drain and a limestone-type look I'd use GFRC. I look at the project and decide what it needs to be. Sometimes it could be either, but sometimes one makes more sense than the other.

One of the main differences between



the two is that you do not need a backup mold (on a sink or a drop-down edge) with GFRC, while you do need one with wet-cast. Another difference is the lack of larger aggregate in GFRC mixes.

GFRC concrete countertops and sinks typically consist of a sprayed-on face coat and a hand-placed fiber-reinforced back coat. This is known as “premix GFRC” — the fiber is mixed into the backing mix prior to placement. While the back coat in premix GFRC is typically hand-placed, it can also be sprayed with properly designed equipment. Larger GFRC producers use the “spray chop” method, which involves a specially designed gun that sprays cement slurry and chops AR (alkali-resistant) glass fiber, shooting both simultaneously into the mold.

You can also make self-consolidating GFRC pieces with no face coat. The fiber won't show as long as you don't polish the piece.

## Ingredients and their functions

**Cementitious binder:** The glue that holds things together.

■ Portland type I is fine, white or gray — the choice is based purely on aesthetics. Find a source and stick with it. CSA (calcium sulphoaluminate) cement will also work.

■ There are “all-in-a-bag” mixes, such as Fast Stone CW, produced and distributed by Ball Consulting Ltd. It contains white type I portland, Qwix cementitious additive and VCAS pozzolan. This mix features a 3-hour to 4-hour demold time.

### Pozzolan:

■ You do not need to use a pozzolan in your GFRC mix. However you can make denser, stronger and greener GFRC when you use one. I've been using a pozzolan made from post-consumer glass bottles with great success.

### Fine aggregate:

■ Most GFRC producers use gap-graded sand. “Gap-graded” means that the particles in a batch will fit through a screen with certain-sized gaps. A few smaller or larger particles might be mixed in. Sizes of sand used range from #30 to #60.

■ I use concrete sand in my GFRC. I

screen out the particles larger than #30 and am left with a mix of sizes up to #60. At \$20 per ton it's a bargain.

■ As long as the particles don't clog up the sprayer, just about any sand, inorganic sand will work to get the look you want.


### Fibers:

■ AR (alkali-resistant) glass fibers are used in the back coat. You can use 1/2-inch or 3/4-inch fiber in your back coat. You will get slightly higher flexural strengths with the longer fiber.






■ There are two different types of AR glass fibers. One is 100 filaments per strand and the other 200 filaments per strand. The 100-filament fiber is better for the direct-cast method (with no face coat) because it hides better in the matrix. The 200-filament fiber is better for the backup mix because it is stronger.


■ There are also 1/8-inch and 1/4-inch dispersible fibers that work well in the direct-cast method in combination with the 100-filament products.

■ I would consult your AR glass fiber supplier to determine the best choice for




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the intended use.

#### Basic chemicals:

■ Your dosage of superplasticizer, also known as high-range water reducer, will depend on what you are casting. A self-consolidating back coat will require more than a hand-placed vertical back coat.

■ We will be using a polymer in our GFRc mixes.

#### Additional chemicals:

■ Nonchloride accelerating

admixtures should not be needed as long as you cover the piece and keep it warm. Cement hydration slows to a crawl below 62 degrees. The solution is to cover the piece and add external heat if your shop is too cool. I use a PowerBlanket electric concrete-curing blanket to heat my GFRc to 120 F overnight.

■ Qwix is a cementitious additive that increases the strength development of concrete mixes. It is also a very powerful

accelerator. I prefer to use a combination of portland cement plus Qwix rather than using straight CSA cement when I need a faster turnaround. I have fewer bags laying around, it is more economical than shipping CSA cement to the job site, and straight CSA cement is difficult to work with in warmer weather.

■ I would not recommend using a shrinkage-reducing admixture (SRA) with GFRc. The polymer already acts as a shrinkage reducer, making SRA use redundant with most polymers and possibly harmful when used with others.

### Designing your GFRc mix

GFRc mixes are pretty basic. They are about a one-to-one ratio of sand to cement with water, polymer, fiber and chemicals. We'll keep it simple and look at a typical batch rather than using the volumetric method.

This batch will have a density of about 125 pounds per cubic foot. The total weight of the batch is 236 pounds, not including fiber. The yield:

$$236 \div 125 = 1.9 \text{ cubic feet}$$

**Cement:** 100 pounds

**Sand:** 100 pounds

**Polymer:** 10 pounds Forton VF-774, an emulsion with 51 percent polymer solids.

**Water:** Given a 0.31 water-to-cement ratio, you need 31 total pounds. There is water in the polymer emulsion, so how much should you add?

■ You need to calculate the amount of water in your polymer. Forton VF-774 contains 51 percent solids and 49 percent water. You have 10 pounds of VF-774, and 49 percent of 10 pounds = 4.9 pounds.

Total weight of water to add to batch:  
31.0 pounds (total water required)  
– 4.9 pounds (water in the polymer)  
= 26.1 pounds (water we will weigh and add).

■ Remember you will also have to compensate for moisture if you are using sand with moisture in it.

**Water:** 26.1 pounds.

**Superplasticizer:** 3 ounces

■ Optimum 380 should be added at 3 ounces per hundredweight of cement. We have about 1 hundredweight (100 pounds) of cement in our example mix

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so we'll start with 3 ounces.

■ Add more as needed to maintain your water-to-cement ratio while achieving your desired fluidity.

■ Fluidity per dosage of superplasticizer will vary with cement brand, cement type, aggregate size, aggregate shape, and fiber type and loading.

**Finally ... Fiber:** 7 pounds

■ Fiber should be added at a rate of 3 percent of the 236.1-pound total batch weight (without it).

$$236.1 \times 0.03 = 7 \text{ pounds}$$

That's it. Simple math gets you quantities required for a specific project. For example: Say you need to cast a 4-foot by 8-foot slab that is 0.083 feet (1 inch) thick.

$$4 \times 8 \times 0.083 = 2.66 \text{ cubic feet} \\ \text{required} \div 1.9 \text{ (cubic feet per batch)} \\ = 1.4 \text{ batches required.}$$

How you determine how much you mix at a time depends on your capacity.

## Mixing GFRC

The goal when mixing GFRC is to end up with a thoroughly homogenized mix without beating up the fiber. The fiber is glass and will break down.

The optimum mixing method for GFRC is a high-shear mixer. A small high-shear mixer example would be a heavy-duty drill and paddle. Drill and paddle mixers work well for small face-coat batches with no fiber. Much larger-capacity specially made high-shear mixers are available to mix larger quantities of back coat at a time.

Another option is to mix your back coat in a barrel mixer or a vertical shaft mixer. I can mix 250 pounds of back coat at a time in my small barrel mixer and about 800 pounds of back coat at a time in my Imer vertical shaft mixer.

Mixing without getting cement lumps is a little tricky.

■ Add all of the sand, some of the water and one fourth of the cement, and mix it.

■ Gradually add the rest of the cement and water. Hopefully you will not get lumps of cement that don't break up.

■ Once this is fully mixed, add the fiber. Do not overmix the fiber, because you will break it up, rendering it useless. I would say that with my mixers, 1



Troy Thompson, of Des Moines, Iowa, crafted this countertop with a sprayed-on face coat.

Photo by Troy Thompson

minute of mixing time after the fiber is added gets it mixed in.

## Green GFRC mix design

I've heard arguments stating that GFRC is green because it uses less material than wet-cast. That's a tough argument to make due to the 50 percent portland cement content of GFRC versus the 25 percent cement content of wet-cast concrete. We all know that every pound of portland produced equals one pound of carbon dioxide released.

There are steps you can take to make greener (always a relative term) GFRC. Here's a sample recipe.

**Cement:** 80 pounds

**Bottle-glass pozzolan:** 20 pounds

**Glass sand:** 100 pounds

**Polymer:** 10 pounds Forton VF-774

**Water:** 26.1 pounds (0.31 water-to-cement ratio, or 31 total pounds in this case, minus the 4.9 pounds of water in the polymer. The pozzolan is counted as cement. For more explanation, see the discussion and numbers in the "Designing your GFRC mix" section.)

The neat thing about this mix is the bottle-glass poz and the glass sand all come from used bottles, giving this mix about 60 percent post-consumer waste product content. 🗑️

Mark Celebuski is the general manager of Pinnacle Cast Concrete, a Brownstown, Pa., concrete countertop company. He covered **high-performance wet-cast mixes** in the Counter Culture section of the August/September 2010 issue of Concrete Decor. Mark can be reached at (717) 823-7408 or [mark@pinnaclecastconcrete.com](mailto:mark@pinnaclecastconcrete.com).

## More about polymer

A data sheet about polymer, from Ball Consulting Ltd.:

🌐 [www.ball-consulting-ltd.com/site\\_content/documents/why%20use%20polymer%20data%20sheet.pdf](http://www.ball-consulting-ltd.com/site_content/documents/why%20use%20polymer%20data%20sheet.pdf)

## More about chemicals

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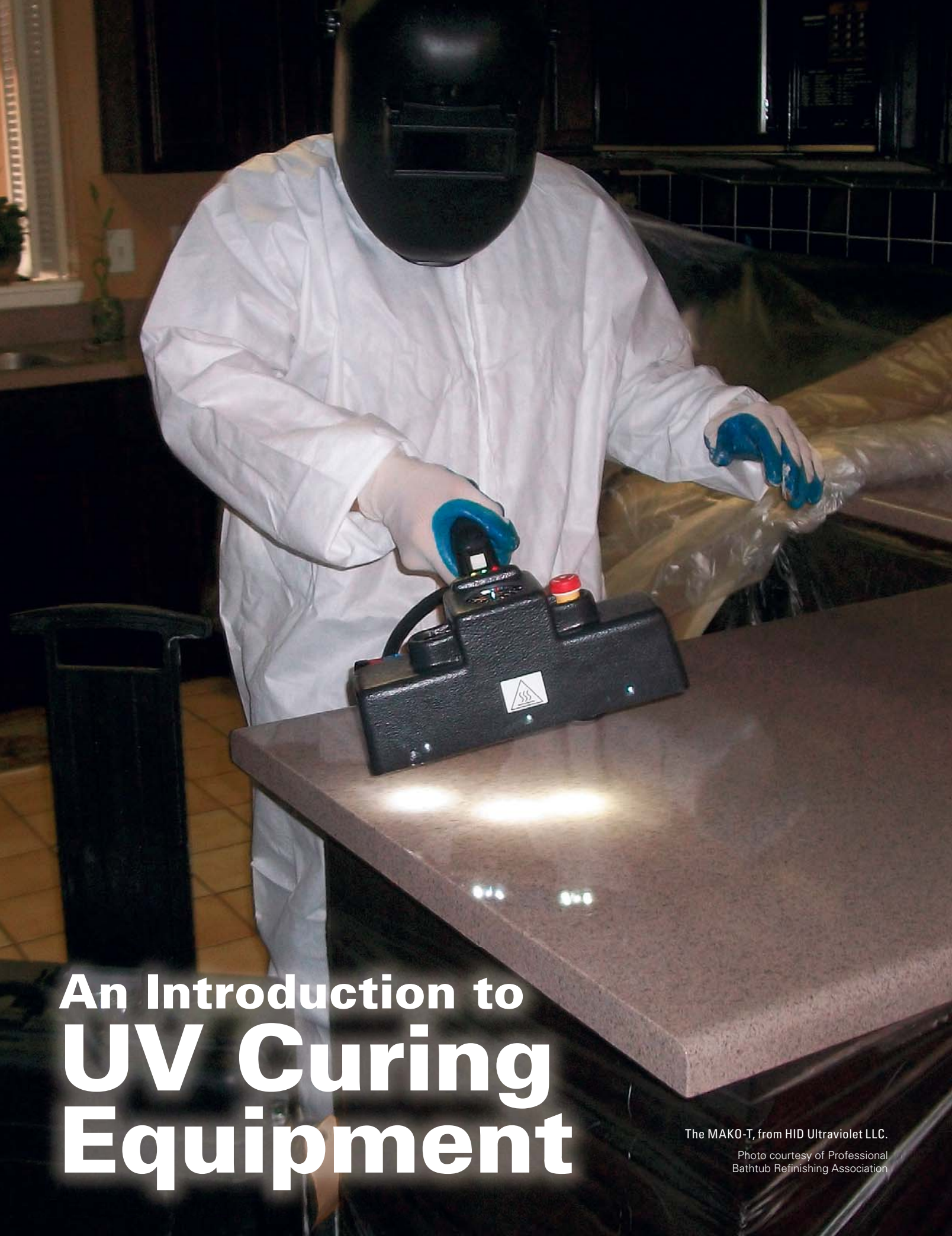
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# An Introduction to UV Curing Equipment

The MAKO-T, from HID Ultraviolet LLC.

Photo courtesy of Professional  
Bathtub Refinishing Association



## ***Machines that cure specialized concrete coatings with ultraviolet light exposure come in two categories: Floor and hand-held. Both may prove useful to your business.***

by Daniel Dayon

**F**or many years, UV-cured coatings (which cure when exposed to ultraviolet light) have been proven to be durable, reliable and long-lasting in factory settings. They are extensively used in manufacturing practically every type of product. Automobiles, airplanes, prefinished hardwood floors, furniture, cabinets, business cards, musical instruments, coated pipe, appliances and many more products are all coated with UV-curable coatings. These products are then exposed briefly to a powerful UV source, and the coating is instantly transformed from a liquid state to a solid state with physical properties that are superior to those of most other types of coating.

With the advent of specifically formulated site-applied UV-curable coatings and the availability of quality UV curing equipment, these benefits are now also available in the field to concrete contractors working on a wide variety of surfaces.

Portable UV curing equipment is largely divided into two categories based on the physical size of the machine. Floor models are larger, heavier, equipped with wheels and designed to be rolled over the surface to be cured. Hand-held models are smaller, lighter and are designed to be held over the surface to be cured.

Both types of equipment have a rectangular-shaped curing window that is directly under a UV lamp. The size of this window determines how much surface can be cured with each pass of the equipment. The larger this area, the more surface area can be cured in a single pass. The speed with which the UV equipment can pass over the surface is determined by the coating type, the amount of pigment in the coating, the thickness of the coating and the power output of the UV light source. For the best results, it is very important to always follow the application directions provided by the coating manufacturer.

Floor machines vary greatly in power and size from a few hundred watts up to 10,000 watts. The width of the area they can cure in a pass varies from 1 foot to 3 feet. Some of these machines feature a speed indicator, letting the operator know exactly how fast the machine is being pushed forward. This can be important for ensuring that the coating is cured to the manufacturer's specifications — otherwise, there is a risk of premature failure of the coating, as well as of an incompletely cured surface that will be marred by foot traffic. Higher-end equipment is completely self-propelled, usually requiring the operator to merely enter a speed on a control panel and squeeze a trigger to ensure proper UV exposure.



Above: The HID Ultraviolet Hammerhead 26-8000A, a floor-curing unit.

Below: The HID Ultraviolet MAK0, a hand-held unit.



Hand-held machines generally range in power from 250 watts to 1,800 watts with an effective curing width of up to 12 inches. These are used extensively when refinishing countertops, bathtubs, sinks, and so on, and they are also an essential part of the floor-coating toolbox for curing areas under stationary equipment, corners and stair treads. A hand-held unit is used everywhere a floor machine can't be practically used.

The source of UV light is almost always a high-intensity discharge lamp. Such lamps must contain a metal to provide the UV light required. Iron and gallium are commonly used in other industries, but the standard for site-applied coating machinery is mercury. The core gas of the lamp is made up of argon or xenon, a difference that mainly impacts the start-up time of the machine. Most manufacturers that use argon lamps build in some form of mechanical shutter or holster to block the UV light during the warm-up period. Most machines that require a warm-up period also require a cool-down period before the UV lamp can be turned on again. Some manufacturers use continuous-wave xenon (CWX) lamps instead for instant starting and very rapid warm-up, requiring no shutter or cool-down/warm-up cycles between uses.



## Safe usage is critical

It is essential for the operator of UV curing equipment to be trained in proper operating and safety procedures and for all personnel in the area while equipment is in use to be equipped with proper safety equipment. UV radiation can cause serious skin and eye damage if proper protective gear is not worn at all times.

Some hand-held equipment manufacturers include proximity sensors in their hand-helds to reduce unwanted exposure by disabling the

light source when the machine is not close to a surface. Floor-curing equipment often contains safety-tilt sensors to disable the light source when the machine is tilted back to eliminate stray UV light. They also can be equipped with sensors to do the same when the machine is left motionless for too long, as the UV lamp operates at a very high temperature and can scorch floors if left on while stationary.

UV curing shows much promise for eliminating many of the problems and shortcomings that come with more conventional coatings, such as VOC emissions that keep people out of an area for a period of time after the

coating is applied, long cure times, and wait times between recoat applications. Also, UV coatings can be considered a truly green technology due to their lack of emissions and the potential for immediately putting the coated surface back into use. Floor-curing equipment can cure a floor faster than a coating can be put down, and hand-held units allow the same advantages of these advanced coatings to benefit virtually any surface.

Usually, equipment manufacturers and coating formulators offer training on safety and application techniques. These resources should be utilized to ensure best results and safety when working with this versatile and capable technology. 🖱️

*Daniel Dayon is an engineer for HID Ultraviolet LLC, a New Jersey-based manufacturer of ultraviolet curing equipment. He can be reached at [ddayon@hiduv.com](mailto:ddayon@hiduv.com) or by calling (973) 383-8535.*

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From left to right:  
The Jelight Co. Inc.'s JUVVC-5E,  
the HID Ultraviolet Bulldog 15-1700  
and the Jelight JFC-426.



## Roller Covers

by Chris Mayo

**A** roller sleeve or cover is commonly thought of as something found in a painter's toolbox rather than a concrete contractor's. However, rolling sealants and colors onto (and into) concrete has become an increasingly popular option in decorative concrete applications.

It's sometimes said that anyone can roll paint. However, professional painters argue that's not true. It takes skill to apply paint to a surface in such a way that it looks as though it was there all along. The same is true for roller-applied coatings on concrete. Perhaps anyone can do it, but it takes skill and experience to do it right.

There are times to use rollers and times not to. There are also pitfalls to be aware of and different methods of use, all of which affect the desired finished product.

### When to use a roller

In decorative concrete, rollers are most commonly used to apply coatings and sealers, says Chris Sullivan, vice president of sales and marketing with ChemSystems Inc. They can also be used for applying some nonreactive stain and dye products.

Rollers are even an option for spreading release powder for stamping, he says. "For release powder, use a very fluffy (3/4-inch or longer) nap. When done right, rolling leaves a nice, even

spread of release powder and cuts down on the dust and mess that occurs when throwing the powder onto the concrete."

### Nap time

One important distinguishing feature of each roller is the "nap," the length of its fibers. Different naps are recommended for applying different materials.

"Choose the appropriate length of nap for the job — shorter nap for smooth surfaces, longer for rough," says Sullivan. "Also, consider the manufacturer's specifications for the material you're going to spread, i.e., make sure you choose a nap that isn't going to spread the product too thickly or thinly. Third, match the sleeve fabric with the product you're using. If you're spreading a product with high solvent content, choose a roller sleeve that is solvent-resistant."

Tim Bales, owner of Bales Concrete LLC, offers several recommendations: "For countertops, use a lint-free short-nap roller (1/4-inch to 1/2-inch). A longer nap is best for sealing textured or stamped concrete. A good rule of thumb for roller covers is the smoother the surface, the shorter the nap."

Jason Geiser, owner of Deco-Crete Supply, also uses a long nap (1 1/4 inches to 1 1/2 inches) on textured and stamped concrete. "The longer nap



ensures that you're getting the product all the way into the textured slab. Rolling also tends to pull the sealant from low spots where it wants to pool."

## Common mistakes

Choosing the right roller sleeve is important because with rollers, you get what you pay for, says Sullivan. "Consider the core, the length of the nap, and what the cover is made of. A cardboard core is generally okay for one-time use. If you're going to reuse the sleeve, look for a resin core."

What else should concrete artisans watch out for when wielding rollers? "When applying liquid sealers, dyes and stains with rollers, the biggest issue is lap lines," says Sullivan. "Lap lines tend to occur when there is too much product on the roller sleeve, which forces more fluid to the outer edges as you roll. If you're going to use a roller for stains or dyes, a high-quality, tapered-edge roller sleeve is best. It's also important to follow the manufacturers' guidelines and use a light touch."

"With textured work, you can either roll or you can spray first and then back-roll," says Jason Geiser, owner of Deco-Crete Supply, based in Orrville, Ohio. "With stamped concrete, I always spray and back-roll. Since the roller isn't saturated when you're back-rolling, leaving roller marks is less of an issue."

Another common mistake, says Sullivan, is using rollers to apply acid stain. Don't. "The inherent problem of leaving lines when rolling is exacerbated when the lines actually penetrate into the concrete, which is what acid stains are supposed to do."

"You want an acid stain finish to look natural," says Tom Ralston, president of Tom Ralston Concrete, Santa Cruz, Calif. "Rolling makes it look man-made or contrived. Rolling acid stain essentially reduces the finished result from a deep three-dimensional look that draws the eye into the concrete to a flat two-dimensional appearance."

If you are planning to roll sealer onto concrete, weather conditions should always be considered, says Sealant Depot owner Don Schmitt. "Roller lines often happen because the sealant is drying too fast. With most sealants, we would recommend a maximum of 80 F and a minimum of 50 F."

Finally, many applicators simply choose the wrong roller sleeve, says Matt Short, president of Sealant Depot Inc., Cinnaminson, N.J. "Contractors sometimes choose a longer-nap roller sleeve because they can spread the material quicker than with a short-nap roller sleeve or a sprayer. The problem is they end up putting the product on thicker than the manufacturer specifies. The end result is an orange-peel appearance or a whitish pigment, which is caused by trapped moisture."

## Better than sprayers?

Still, despite all their potential issues, rollers are often preferable to sprayers.

"Sprayers are a good option, but they present problems too," says Short. "Many solvent-based sealers contain a lot of acetone, which is really hard on sprayers. Plus cleanup is

labor-intensive with sprayers. When you include cleanup time in your labor estimate, rolling is often the better way to go."

"Sprayers have a tendency to gum up and drip, which shows in the finished product. The drips dry darker," says Schmitt. "Spray is hard to control, especially on a windy day. The solvents can kill surrounding shrubs and grass."

"It's almost impossible to get perfectly even coverage with a sprayer," Geiser says. "By back-rolling, you not only even out the coverage of the product, you also pull the liquid from low spots and push product into any nooks and crannies."

## Textures and tricks

Besides being used to spread a product on concrete, rollers can apply light texture, according to Short. "One trick I like is to coat a short-nap (1/2 inch or so) roller cover with resin and let it dry. Now you have a textured roller that can be used to add a light texture to edges."

"Stamps often leave suction marks when you lift them off a slab," says Ralston. "I've found that coating a 1/2-inch to 3/4-inch nap roller cover with release agent and rolling it over newly stamped concrete is a good way to roll out the suction marks."

Ralston has also used rollers to embed thin overlay stamps in custom jobs. To apply stamps he recently created with seaweed, he used rollers to apply enough light pressure to embed a shadow print on the concrete floor of an oceanfront home.

"I've seen rollers used to produce a number of light textures and finishes," says Sullivan. "You can slide the roller, use it for dimpling, or press it lightly into the concrete for a faux finish, for example."

## Rollers

### ArroWorthy — The Microfiber Roller Cover



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- Available in 1/4-inch, 3/8-inch and 9/16-inch naps.
- Widths range from 4 inches to 18 inches.

 (631) 643-0436

 [www.arroworthy.com](http://www.arroworthy.com)



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- Perfect for use with floor finishes, sealers, paints, stains, epoxies and waxes.
- Provide a streak-free and lint-free application on hardwood, concrete, vinyl, tile and terrazzo surfaces.
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- Waterborne and solvent-modified finishes and waxes are applied in thin coats or thicker-mil thicknesses depending on the applicator used.
- The heavyweight tool is used to apply a uniform thin coating.
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- Available made from lambswool, woven fabric or Nylfoam.
- Sizes range from 12-inch to 30-inch widths.

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🌐 [www.padco.com](http://www.padco.com)

## Purdy Corp. — White Dove Roller Cover

Among Purdy Corp.'s wide array of roller covers, the White Dove is the best cover to use on a smooth surface when a decorative finish is the desired result:



- Provides the industry's most lint-free finish.
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- Available in widths ranging from 3 inches to 18 inches.
- Nap depths range from 3/8-inch to 3/4-inch.

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🌐 [www.purdycorp.com](http://www.purdycorp.com)

## The Wooster Brush Co. — Wooster Epoxy Glide

Epoxy Glide roller covers smooth and level all epoxies and urethanes with ease, including



floor coatings, bonding sealers and polyamides. They can be used with waterborne and solvent-borne coatings. Other features include:

- Great pickup, gliding flow and impeccable release.
- Resists matting and maintains bounce for even application.
- Excellent control of film thickness.
- Doesn't pick up what has already been released, eliminating drag problems.
- Available in 4-inch, 9-inch and 18-inch lengths.

☎ (330) 264-4440

🌐 [www.woosterbrush.com](http://www.woosterbrush.com)

## The Wooster Brush Co. — Wooster Super Doo-Z

The Super Doo-Z roller covers feature shed-resistant fabric.

Other features:

- The covers offer the smoothest, lint-free finish with paints, enamels and varnishes.
- Dense fibers reduce dripping and spatter for neater results.
- A top roller is good for putting down epoxies.
- Available in 4-inch, 7-inch, 9-inch, 14-inch and 18-inch lengths.
- Nap heights range from 3/16-inch to 3/4-inch. 🛠️



☎ (330) 264-4440

🌐 [www.woosterbrush.com](http://www.woosterbrush.com)






# Product News



## New dye from Concrete Coatings

Concrete Coatings Inc. has created a solvent-based powder dye that can be used on interior applications. QuickDye was developed for use as a touch-up product for Vivid Acid Stain, also from Concrete Coatings, or as a stand-alone product. Like Vivid Acid Stain, QuickDye gives a mottled, aged and antiqued look.

When added to acetone, QuickDye offers quick color application. It is available in 11 standard colors, and 18 additional colors are available within a four-day turnaround. Colors can be combined to create nearly unlimited color variations. A penetrating additive can also be used to help create a richer, more vibrant color.

 (800) 443-2871

 [www.concretecoatingsinc.com](http://www.concretecoatingsinc.com)



## Scofield introduces new Solachrome High-SRI Topping

L.M. Scofield Co. has added Solachrome High-SRI Topping to its line of Solachrome High-SRI Concrete

Coloring Systems.

The topping is designed to provide a heat-reflective surface to exterior concrete.

Solachrome Topping is ideal for projects where cooler pavement is desired, including theme parks, pool decks, outdoor cafes, plazas and walkways. It is a cost-effective way to increase the solar reflective index (SRI) and lower the surface temperature of existing concrete.

Solachrome High-SRI Topping is a trowelable, cementitious topping material that cures to create a hard, abrasion-resistant wear surface. It will provide an appropriate topping for stenciling, embossing or troweling, and it can be used to restore and beautify existing concrete flatwork while providing excellent solar reflectance and cooler pavement temperatures. It is available in 24 colors.

 [www.scofield.com](http://www.scofield.com)

## PowerGloss polishing pads from Amano Pioneer Eclipse

Amano Pioneer Eclipse has introduced PowerGloss polishing pads as part of its concrete floor maintenance system. Though PowerGloss pads resemble common cleaning or stripping pads, their innovative design includes strategically placed diamond-impregnated pucks that effectively polish





concrete floor surfaces.

Designed to be used on standard floor-scrubbing machines, PowerGloss pads are available in a variety of grits. The more aggressive lower grits help remove minor surface scratches during light restoration work. The higher, less abrasive grits impart a smooth, shiny surface during periodic maintenance operations.

PowerGloss pads are available in many popular sizes and are color-coded for easy recognition.

☎ (800) 367-3550

🌐 [www.pioneer-eclipse.com](http://www.pioneer-eclipse.com)

### American Polymer announces new countertop sealer

For nearly 20 years, American Polymer has been making a name for itself in the graffiti abatement industry. Its new countertop sealant, Amperseal, is putting those years of experience at the service of decorative concrete professionals.

A three-component sealing system, Amperseal provides an invisible stain-proof coating suitable for both interior and exterior countertop surfaces. The product is available in three finishes: high-gloss, eggshell and matte.

🌐 [www.americanpolymer.com](http://www.americanpolymer.com)

### Blastin' Betty anchors new Engrave-A-Crete system

Engrave-A-Crete has introduced the Blast Force System, its latest decorative concrete engraving process. The core of the Blast Force System is Blastin' Betty, a specialized blasting machine that features wide rollers for maneuvering over a wide variety of surfaces.

Contractors can use Blastin' Betty to engrave highly detailed, intricate patterns and designs, including custom logos, into existing concrete faster than ever before. The machine is also an excellent floor prep tool and is perfect for blasting away old floor coatings, paint, carpet glue and old overlay material.

☎ (800) 884-2114

🌐 [www.blastforcesystems.com](http://www.blastforcesystems.com)

### E-Screed from Allen Engineering

Allen Engineering Corp.'s new E-Screed by Magic Screed features a high-frequency electric motor with zero



moving parts, plus a rechargeable and easily replaceable 36-volt battery.

The no-maintenance motor is precisely regulated with a variable speed controller, and the battery delivers charge-anytime performance over the course of 1,500 life cycles.

Like other Magic Screeds, the tool is precision engineered to provide easy single-operator strike-offs of concrete with uniform vibration across the entire blade.

🌐 [www.alleneng.com](http://www.alleneng.com)

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## New wet stone cutter from Applied Diamond Tools

Applied Diamond Tools has introduced the Cutter's Way 5-inch Wet Stone Cutter to the market. This wet stone cutter is ideal for cutting a variety of stones such as granite, marble, limestone and slate. It also accepts 5-inch diamond contour blades for under-mount sink cutouts thanks to its specially engineered housing and flanges. The cutter is equipped with a water-feed system that eliminates harmful dust particles.



☎ (800) 980-7808

🌐 [www.toolocity.com](http://www.toolocity.com)

## Kraft releases new trowels, mop and self-leveling kit

Kraft Tool Co. has introduced a new line of trowels, the Elite Series Five Star Concrete Trowels. Designed for the professional finisher, the trowels possess a truly "broken-in" blade ready for immediate use. Elite Series Five Star Trowels are available in three new handle styles: soft Proform, Hardwood and Leather.



Also added to the Kraft line is a Rub Brick Mop used for concrete smoothing, dressing down and removing form marks. The 20-grit rub-brick surface is ideal for concrete restoration and repair. The bricks are replaceable.

Finally, Kraft is now offering a self-leveling tool kit that comes complete with all tools needed to mix and install self-leveling products. The kit includes a plastic 15-gallon mixing barrel, a 5-quart measuring pitcher, an oval mixer, spiked shoes, a gauge rake head, a wood-framed stainless steel smoother and a 5-foot, three-piece aluminum handle that fits the gauge rake and smoother.

☎ (800) 422-2448

🌐 [www.krafttool.com](http://www.krafttool.com)



## Stain resister from Amano Pioneer Eclipse

Amano Pioneer Eclipse has released PowerStar Stain Resistant Top Shield. Called an "intelligent floor-care treatment," Top Shield is an important part of the PowerStar concrete floor maintenance system.

Top Shield creates a durable, ultrahard surface that repels water and stains, improving the low-maintenance characteristics of a concrete floor. Just as important, Top Shield allows the slab to breathe, releasing underlying water vapor that could lead to interior damage and surface deterioration. This treatment also helps improve the effectiveness of daily cleaning procedures and extends the life of the floor.

Available in a ready-to-use 2.5-gallon bottle, Top Shield is the star of the Amano Pioneer Eclipse concrete floor maintenance program. Applied at the end of the concrete floor polishing operation, it can be walked on in as little as 30 minutes. This unique characteristic reduces application time while producing optimal and predictable results.

PowerStar Stain Resistant Top Shield also makes concrete floors shine. Properly applied, it can elevate the gloss level of an untreated floor by almost 10 points.

☎ (800) 367-3550

🌐 [www.pioneer-eclipse.com](http://www.pioneer-eclipse.com)



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## Husqvarna unveils new power cutter

Husqvarna Construction Products has released the K970, an innovative power cutter better able to facilitate the work of cutting professionals. It replaces the popular K960 model.

Features of the K970 include a powerful X-Torq engine that produces 6.4 horsepower while reducing emissions by up to 75 percent and lowering fuel consumption by 20 percent. Also featured are an Active Air Filtration system and a dust-sealed starter.

In addition to the technical features, the K970 has



outstanding ergonomics. Several improvements include a rear handle that has been equipped with a soft insert to ensure the operator has better grip and hip support, a tank lid located to better accommodate filling, and a vibration-dampening system that reduces operator fatigue and enables a longer cutting time.



The Husqvarna K970 is well suited for cutting concrete and stone in reconstruction, renovation and new construction jobs. It is also capable of cutting curbstones and pavers.

[us.husqvarnacp.com](http://us.husqvarnacp.com)

### High-performance blades for Arbortech saw

Arbortech has introduced high-performance blades for harder, faster and longer cuts. The blades are available as aftermarket accessories in both the general-purpose and plunge styles for its AS170 brick and mortar saw.

An improved carbide formula and tooth design, plus higher-temperature brazing, allow the blades to aggressively cut hard mortar while staying sharper for a longer period of time. The blades are 50 percent faster than standard

blades, allowing for increased cutting speeds.


The new high-performance blades are available as general-purpose blades (4 1/2 inches deep and 1/4 inch wide) and plunge blades (4 3/4 inches deep and 1/4 inch wide).

[www.arbortech.com/au](http://www.arbortech.com/au)



### Stone extends warranties

Stone Construction Equipment Inc. has extended the product warranties on a majority of its product lines.

Stone Champion Mortar Mixers and Silo Mixers, as well as Buddy by Stone Mortar Mixers, already carry a lifetime warranty on seals and bearings. Now the spindle bearings on Stone Champion Concrete Mixers also carry a lifetime guarantee. Warranties on components for several other product lines now range from two years to five years. 

[www.stone-equip.com](http://www.stone-equip.com)

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
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# Association News

## **American Concrete Institute President Richard Stehly, R.I.P.**

The president of the American Concrete Institute, Richard D. Stehly, passed away Sept. 28. A member of ACI since 1980, Stehly was elected president of the Institute in March 2010. During his short time as president, he championed several ACI initiatives in sustainable development regarding the use of concrete.



Kenneth C. Hover, Ph.D., P.E., will serve as the new president.

"We are confident that Ken will continue Dick Stehly's ambitious visions for ACI during this time of tremendous loss for the Institute and the entire concrete industry," said Ron Burg, executive vice president of ACI, in a news release.



[www.concrete.org](http://www.concrete.org)

## **New publications released**

The American Concrete Institute has made three new publications available to educate and inform industry professionals.

The new titles are: Specification for Tolerances for Concrete Construction and Materials and Commentary (117-10), Guide for Obtaining Cores and Interpreting Compressive Strength

Results (214.4R-10), and Report on Floating and Float-In Concrete Structures (357.2R-10).


[\(248\) 848-3800](tel:2488483800)

[www.concrete.org](http://www.concrete.org)

## **Seminars to be offered this fall**

The American Concrete Institute will offer five educational seminars across the country this fall to help concrete professionals remain up-to-date on concrete construction and technology.

The seminars are: "Concrete Repair Basics," "Concrete Slabs-on-Ground," "Anchorage to Concrete," "Simplified Design of Concrete Buildings of Moderate Size and Height, from ACI and PCA," and "Troubleshooting Concrete Construction."

In addition to receiving current information at each seminar, attendees will come away with 0.75 Continuing Education Units or 7.5 Professional Development Hours per day, as well as free ACI publications. 

[www.concreteseminars.com](http://www.concreteseminars.com)



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# Final Pour



Photos courtesy of Surfacing Solutions Inc.

## Countertops over Oceanside

**T**he Montego is a three-story condominium building in Oceanside, Calif., that offers roof access for its residents to relax or entertain. The building is a couple of blocks from Oceanside Pier, so the rooftop overlooks the beach. Sounds idyllic, right?

Well, imagine you're the guy picked to create and install concrete countertops in two rooftop BBQ areas — about 250 square feet of concrete in each. That's a lot of sweat so clients can enjoy a breeze.

Surfacing Solutions Inc., based in Temecula, Calif., was tapped to do the job, which was completed in April. Each BBQ area consisted of more than 10 pieces, some with close to 10-foot spans, with backsplashes fitting behind lower-deck countertops in the assembled BBQ kitchens.

Pieces were precast in glass-fiber reinforced concrete at Surfacing

Solutions' shop. Why GFRC?

The general contractor wanted the least amount of weight on the roof as possible, while the client wanted custom pieces that incorporated the bar tops and backsplashes as seamless units.

After casting, there was, of course, the matter of getting the pieces up to that beautiful viewpoint on the third floor. Whew. "The crane lifted many piles that day to get them all up there," says Surfacing Solutions president Shawn Halverson. "No elevators were functioning on the job at the time."

Each countertop incorporated No. 16 sand in the face mix, and a light polish exposed sand aggregate for a beachy feel. The 3 1/2-inch drop faces on each piece were formed using a Roman slate edge form from Proline Concrete Tools cut and hand-placed to



create a unique design.

"The coloring was done after exhausting ourselves to meet the demand from the owners and designers," Halverson says. "It turned out to be a root beer coloring — browns basically." Specifically, they used Nutmeg integral color from Concrete Solutions.

The counters were sealed with gloss urethane from Westcoat Specialty Coating Systems.

"The client was very impressed with the design, colors, textures and installation of the job," Halverson says.

 [www.surfacingolutionsinc.com](http://www.surfacingolutionsinc.com)



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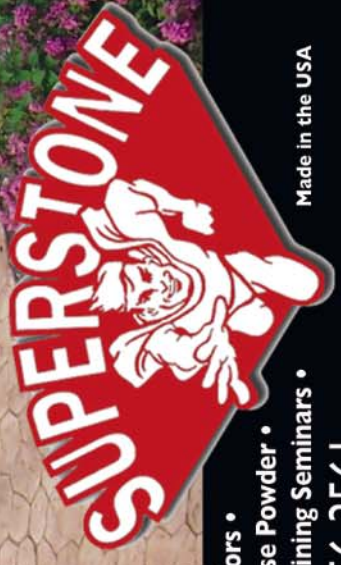


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