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Vol. 18 No. 6
August/September 2018
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Publisher's Letter



Dear Readers,

I admit I've been rigid in my thinking about this decorative concrete industry. I know I'm repeating myself, but it's important to note that I'm a tradesman first. Publishing *Concrete Decor* magazine came later in life.

To be proficient in any one area of decorative concrete, I think members of the trade must first understand the fundamentals of concrete placement, as well as how to restore and repair concrete.

When I started *Concrete Decor*, I was almost irritated with the term "decorative concrete contractor" because it alluded to a "subset" of the concrete trade. What I quickly learned was that decorative concrete and its diverse products was and is attracting a wide array of tradesmen, some already in the concrete industry, and all these people contribute to the industry's ongoing improvement. Of course, there are just as many that bring problems to this industry, but that's something every trade must negotiate.

Over the last 19 years, *Concrete Decor* has created a stronger sense of industry, but that has much to do with how the many facets of decorative concrete are so interrelated and dependent upon one another. Decorative concrete has accomplished much because this critical interrelationship has stimulated ongoing discussion between these groups of specialists. It also makes us competitive in the construction and renovation markets today.

Talking with industry colleagues at the recent DSSG event, we talked about polished concrete and how HTC equipment, in particular, has helped it become a polish-by-numbers application. While I still maintained my view of the trade, I had to step away and sleep on it before I could accept how technology is enabling individuals to achieve industry standards even if they don't subscribe to my school of thought.

Trades have become more specialized, but I still believe if our industry is going to stay competitive and grow, its members must understand the nuances of concrete old and new. They must evaluate and recommend best solutions, even if that means that decorative concrete is not the best solution for a project (although I'm wondering where it's *not* the best choice). LOL

Decorative concrete continues to gain the competitive advantage, thanks to contractors who never settle for second best, supply stores that sharpen their own teams' understanding of products through training events and manufacturers who keep investing in their products to keep you, "the specialist," increasingly capable of delivering high-quality work.

Enjoy this edition of *Concrete Decor*.

Sincerely,

Bent Mikkelsen
Publisher

On the cover: Caleb Lawson of Price Concrete Studio in Orlando, Florida, prides himself on making functional pieces that serve a purpose and make a statement that reflects the client's lifestyle. In this instance, he came up with what he calls a "whiskey sleeve."

Photo courtesy of Price Concrete Studio



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Concrete Decor salutes artisans nationwide for their ingenuity and creativity in designing tables and countertops. Here are 10 of our discoveries.

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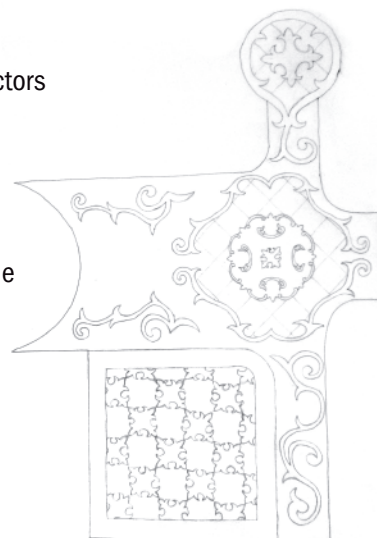
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Greg Cabot, digital marketing manager for Ameripolish, has been with the company since February 2017. He provides technical support, as well as conducts product testing and research. He can be reached at gcabot@ameripolish.com. See Greg's article on page 30.



Greg Iannone is area sales manager for Solomon Colors/Brickform. He has worked in the concrete construction industry for more than 30 years and has provided training seminars throughout the U.S. and Puerto Rico, as well as Mexico and Japan. He can be reached at (801) 376-6750, (909) 434-3274 or giannone@solomoncolors.com. See Greg's article on page 12.



Rick Lobdell, a classically trained artist with a master's in fine arts in painting from the Savannah College of Art and Design, has also studied math and drafting. In this series, the owner of Concrete Mystique Engraving in Tennessee will explain how he conceives his well-known designs. He can be reached at rick@concretemystique.com. See Rick's column, "Design Theory," on page 34.



Chris Sullivan is vice president of sales and marketing with ChemSystems Inc. and a member of the Decorative Concrete Hall of Fame. He has led seminars and product demonstrations throughout North America. Reach him at questions@concretedecor.net. See Chris' column, "Concrete Questions," on page 32.

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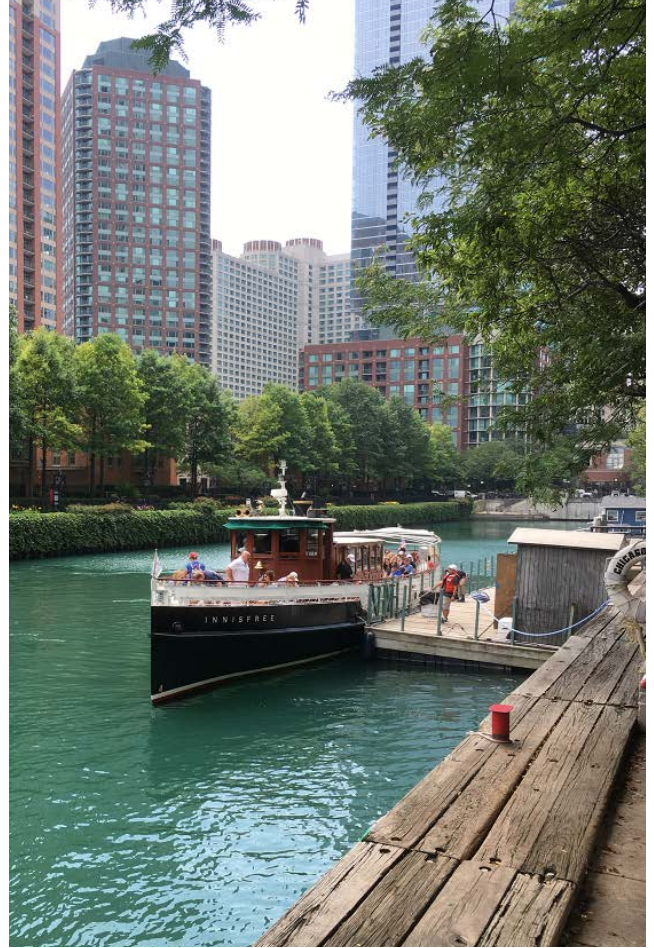
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DSSG 2018 Summer Summit Promotes Healthier Business Relationships

by Bent Mikkelsen

If there is one fact that stands above everything else in this industry, it's when decorative concrete industry professionals connect with one another in person great things happen.

This was the case at the Decorative Surface Solutions Group (DSSG) 2018 Summer Summit where mid- to high-volume contractors met in Chicago July 22-25 for their annual meeting and conference. Present were leading product manufacturers who provide the product quality and support that meet the criteria DSSG established when it launched in 2015.

The event was a members-only gathering in which contractors had the opportunity to hear from key suppliers, discuss project challenges, and exchange business insights and stories about products and processes that are achieving the best levels of efficiency and profitability. These candid discussions, sometimes bordering on abrasive, were a goal of the meetings.

Addressing myriad mechanical and technical challenges, the planned group and one-on-one meetings hashed out better understandings between vendors and contractors. Most importantly,

they promoted healthier business relationships overall.

Entwined in the three days of business meetings and learning opportunities were much-needed social events that gave everyone some relief from all the shop talk. An architectural boat tour of Chicago's downtown waterways gave everyone a stronger appreciation for high-rise construction and the architects' creative inspiration. An onboard bar simply added relief to the otherwise sun-drenched afternoon. It's these kinds of meetings that reminds everyone that day-to-day emails, social media and telephone conversations just don't fill the need for positive human interaction.

DSSG co-founders Curt Thompson, president and CEO of Aggretex Systems; Mike Price, president of Bay Area Concretes; and Jonathan Vasquez, COO of Bay Area Concretes, were outstanding hosts. Had it not been for the Arizona Razorbacks' five runs in the top of the first inning, the visit to Wrigley Field for a Cubs game would have been over the top.

I honestly still don't know how anyone can swing and hit a 95+ mph





pitch. However, when it does happen every conversation in the stands suddenly shifts and centers on what's going on in the field. Even the ongoing blaring of "peanuts, hotdogs or Bud" ceases for a moment or two.

I'd like to make a callout for those amazing Chicago Cubs fans — their heartbeats rise and fall with every moment of the game. They give new meaning to the word "community." Then again, Wrigley Field sits smackdab in the middle of one of Chicago's classic suburb neighborhoods.

Thinking about the great people I got to spend time with at this year's DSSG convention, we no doubt brought a bit of the decorative concrete industry's spirit to Wrigley Field. It just didn't do much good for the Cubs on that Monday night. Next time! 🍷

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Concrete: A Building Material for the Energy Conscious

Decorative Concrete LIVE! Returns to Las Vegas Jan. 22-25, 2019

THE third annual Decorative Concrete LIVE! continues to showcase innovative construction applications for residential and retail at the World of Concrete in Las Vegas Jan. 22-25. Rather than highlighting concrete's uses in a particular environment, the 2019 exhibit will focus on how decorative and architectural concrete can positively contribute to the wants and needs of an increasingly energy-minded society.

"In this day and age building owners want to include energy conservation and sustainable materials and methods in their projects and structures. Decorative Concrete LIVE! will demonstrate how using concrete on floors, walls, ceilings, roofs and exterior cladding can help them achieve their goals," says Bent Mikkelsen, organizer of Decorative Concrete LIVE! and publisher of *Concrete Decor* magazine.

One key element of this hands-on, interactive event will be demonstrations of energy-efficient building construction techniques. One featured method will involve insulated concrete forms (ICFs), cast-in-place, reinforced concrete building components. There are also plans for a second construction

approach involving structural concrete insulated panels (SCIPs), panels with foam cores that have wire grids on each side and are faced with shotcrete.

"Both ICFs and SCIPs will give you well-insulated, airtight buildings where the thermal mass becomes a component of the building envelope and changes in outdoor temperatures won't affect the indoor conditioned space as dramatically," Mikkelsen says.

Consequently, buildings constructed with these materials enable designers to downsize heating and cooling systems. "The HVAC system also doesn't have to work as hard to maintain a comfortable temperature," he adds, which results in year-round lower utility bills.

Decorative Concrete LIVE! will again feature a wide range of exterior finishes made of cementitious materials for these and other substrates. While contractors will use materials to provide traditional-looking finishes, Mikkelsen's sight includes introducing a new finish to the concrete construction industry.

"At any rate, we're going to show attendees and our readers techniques they can use with newer cementitious products in innovative and better ways," he says. "Rather than promoting the

traditional ways of doing things, we are going to encourage forward thinking to better compete in the building industry."

Mikkelsen hopes to include techniques and tools that feature innovations that reduce the energy usage involved in the construction process. The combustion engine is on its way to becoming a thing of



Photos by Concrete Decor staff

the past, he says, as "America is bent on cutting CO₂ emissions."

Pervious concrete, a porous material that helps reduce stormwater runoff and recharge groundwater, will be among this year's sustainable products featured at Decorative Concrete LIVE! Also known as permeable concrete, it is among the Best Management Practices recommended by the Environmental Protection Agency to control stormwater and reduce a community's reliance on water treatment facilities.

Mikkelsen plans to show how decorative concrete construction materials and techniques can be blended in with other energy-saving features on commercial and residential projects. One design feature in the works includes a solar array on a concrete rooftop that could also serve as a decorative-type cladding that generates power to offset utility costs.

"Using concrete for more sustainable applications that promote energy conservation will benefit our entire industry," Mikkelsen says. "So I'm on the lookout for products and methods that will guide us in that direction."

For more information on how you or your company can become involved with Decorative Concrete LIVE! at World of Concrete in 2019, call (877) 935-8906. 📞





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Safer cleaning products now available

Redi-Mix Colors has partnered with Ghostshield to bring a new level of environmentally conscious and effective products to the concrete market. The new eco-friendly, environmentally safe cleaning products with no VOCs (volatile organic compounds) include:

- Eco-Etch 1001 – This nonacid-based concentrated combination etch and cleaner safely brightens and cleans concrete and masonry surfaces. It provides excellent results while still being safe for the environment.
- Micro-Degreaser 1100 – Also nonacid based, this concentrated concrete cleaner and degreaser safely removes dirt, oils, grime and more, without any harmful side effects.



At press time, another new offering, Hydro-Stain, will be available soon.

Industry leaders known for cutting-edge technology in cleaning products, sealers, urethanes and epoxy products, Redi-Mix and Ghostshield serve the flatwork, decorative, precast, artistry and vertical concrete market. Both companies operate internet-based ordering systems.

Priding itself on “innovation with a conscience,” Ghostshield manufactures water, oil and salt-resistant concrete sealers and coatings. Its products are offered in ultra-concentrated form resulting in less packaging, less transportation cost and less container waste than many of its competitors.

Aiming to bring transparency to the rapidly growing colored concrete market, Redi-Mix Colors started in 2016. It prides itself with customer service that includes immediate quotes and free shipping on most orders.

www.redimixcolors.com

(508) 823-0771

www.ghostshield.com

(855) 573-8383

New wheel barrow makes six

Bon Tool Co. recently expanded its offering of the popular Trade Tough Wheelbarrow. This single-wheel barrow first introduced in 2015 is now available in three tire types — knobby, ribbed or flat free — with either wood or steel handles.



The wheelbarrow’s “tough” design features a heavy-gauge seamless steel tray and includes a reinforced leg brace and a four-bolt nose piece. There are currently six Trade Tough Wheelbarrow designs available from Bon.

www.bontool.com

(800) 444-7060

Laser connects with Bluetooth

Calculated Industries headquartered in Carson City, Nevada, recently introduced Laser Dimension Master 165-BT, an innovative measuring device that incorporates Bluetooth technology.

By combining the precision of laser measuring with the convenience of Bluetooth wireless technology, the LDM 165-BT can take accurate measurements that are then sent to a smartphone, tablet or laptop. It allows a single person to measure up to 165 feet, upload the measurements to his or her phone and then send it to an estimator within a few seconds. It can store 50 measurements in its memory for convenient recall.

The LDM 165-BT can measure length, calculate area, determine basic indirect height and compute volume all within 1/16-inch accuracy. When measuring area, the unit displays the length, width and area on the screen. A volume measurement will indicate the width, length, height and cubic volume on the display.

LDM 165-BT has a measuring range from 4 inches to 165 feet. Plus it has four measuring units including feet-inch-fractions, meters, decimal feet and inch-fraction. Measuring 4.6-by-1.78-by-1 inches, it comes with a free app that lets you interface with an Apple or Android mobile device. It has a two-year limited warranty.

www.calculated.com



Curing compound delivers dual action

W.R. Meadows just released Pencure OTC, a dual-action, nonyellowing, acrylic curing compound for fresh, exterior, broomed concrete. It’s ideal for driveways, patios and parking lots.

Clear, transparent and easy to apply, Pencure OTC has been formulated to simultaneously form a membrane to cure the concrete while also penetrating the surface to help reduce water and salts from entering the concrete. Its permeable film allows moisture in cured concrete to evaporate.

Applied in a single step, it minimizes crazing and shrinking cracks. Pencure OTC complies with ASTM C309, Type 1, Class A and B. It has a low-gloss, satin look when dry.

“The combination of film-forming and penetrating makes Pencure OTC an exciting addition to our line of concrete curing compounds,” says Jim Becker, product group manager for construction liquids.

www.wrmeadows.com

(847) 214-2100

Lasers measure accurately in any light

Using a standard laser measure outside is often a hit or miss affair, dependent upon cloud cover, trees and a building roof or overhang that may block the sun. But not with the technologically advanced Bosch Blaze, an outdoor laser measure available with a viewfinder or camera.

Both the GLM400C (viewfinder) and the GLM400CL (camera) rely on a 5.0-megapixel, 8X zoom camera to find the laser target at up to 400 feet in bright conditions, expansive indoor space or against busy backdrops. The easy-to-read color display illuminates large numbers and provides clear resolution in dark areas. The Blaze GLM400CL version can take photos and comes with memory for 50 measurements and storage for up to 200 images.

Default real-time measurement provides immediate, accurate measuring that automatically adjusts as the user moves closer or farther from the target. Measurement accuracy is +/- 1/16 inch. Each device is sized to fit into any pocket. A digital bubble level provides a visual reference when measuring horizontal distances.

Measurements can be transferred quickly to a smartphone or tablet through Bluetooth connectivity and Bosch's free MeasureOn app.

The laser measures provide default real-time measuring, as well as length, area, volume and indirect measuring functions. A built-in inclinometer determines the angle of pitch (tilt angle 360 degrees), maximum/minimum stake-out lengths and double indirect measurements.

The GLM400C is powered by three AA batteries and includes a hand strap and pouch. The GLM400CL includes an integrated, rechargeable lithium-ion battery that delivers enough runtime for all-day jobs, along with a micro USB cable, a battery charger, hand strap and pouch.

www.boschtools.com

(877) 267-2499

Heated gloves designed for job site

This fall Milwaukee Tool will launch the first heated gloves designed to survive the job site and outlast the elements. Powered by rechargeable Redlithium batteries, the new USB Rechargeable Heated Gloves provide up to six hours of run-time.



These gloves feature three heat settings (low, medium, high) and fully heat up in just 2.5 minutes, with heat extending to the fingers and back of the hands. They are made from a durable but lightweight polyester that resists tearing and abrasion and stands up to the harsh conditions of a job site.

For extra dexterity and flexibility, the palms and fingers are leather. An extended cuff also works to keep debris, water and snow out of the glove and easily pulls over jacket sleeves.

As touchscreen smartphones and tablets have become more prevalent on job sites, these new gloves also include Smartswipe on the index fingers which lets wearers use touchscreen devices without removing gloves.

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Company adds border imprinting tools

The BonWay division of Bon Tool Co. has expanded its decorative concrete product line with four new border kits and a four-piece border stamp set. These new border imprinting tools provide alternatives to Bon's urethane border mats.



The border kits each include either an 8- or 9-inch-wide stamping roller and a matching border mat. The rollers offer a simple way to incorporate linear features to decorative concrete jobs including curved areas.

With the rollers, borders can be rolled out by one person. Four border patterns are available: 8-inch Cut Slate, 8-inch Worn Brick, 9-inch Old World Soldier and 9-inch Old Stone Tile. The rollers are equipped with brackets that are attached to threaded bull float handles available from Bon.

The new border stamp set is available in the classic and popular Worn Brick Soldier Course pattern. The set of four mats is each sized 25-by-8 inches and stamps the exact same pattern.

Three of the mats in each set are standard rigid and one is "floppy" for easier use against obstacles.

The BonWay Decorative Concrete division of Bon Tool Co. was formed to manufacture and market tools and materials specifically for the decorative concrete trade.

www.bontool.com

(800) 444-7060

Safety device connects instantly in emergencies

The MobileDefender Model S (MD-S), the newest mobile emergency pendant from SecuraTrac, is a device that can promote employee well-being in remote locations.



Companies that dispatch employees into unknown environments and situations can rely on the MD-S to relay information about employee locations while providing them with an instant connection to help if an emergency occurs. For construction workers and engineers alone in the field, the MD-S has a variety of useful applications.

In addition to state-of-the-art location technologies, the MD-S also offers a built-in fall advisory capability. It can detect horizontal and vertical movement so if employees fall on the job or are knocked over, they don't have to initiate a call for help. The device will trigger on automatically and through cloud-based location technology connect to a central station that can respond to potential accidents.

The MD-S was designed with a new Wake-on SOS feature that allows the device to last over 30 days on a single charge because the device is off until the SOS button is activated. This preserves the battery while enabling the device to turn-on, locate, transmit its location and make the emergency phone call after the SOS is activated.

www.securatrac.com

Company refreshes heated outerwear line

This fall, Milwaukee Tool will kick off its ninth season of heated gear with a refreshed line of Heated Gear products. All gear will feature faster heating technology and garment improvements.



Milwaukee expands its line with the addition of M12 heated Axis jackets and vests available in men's and women's sizes. Their hybrid construction features a lightweight, compressible polyester design. The jacket, which can be used as an outer shell or a mid-layer, protects the wearer from wind and water.

Powered by M12 Redlithium batteries, Milwaukee Heated Gear distributes heat across core body areas. Durable carbon-fiber heating elements woven in between rugged exterior materials and thermal insulating liners generate and maintain heat to reduce the need for bulky layers. The apparel fully heats in 2.5 minutes.


Three heat settings (high, medium, low) allow the user to select the amount of warmth generated. All M12 heated jackets, hoodies and hand warmers are fully machine washable and dryable for extended use. Jackets come in black, red and camo, while hoodies are available in black, red and gray.

The Toughshell jackets come with a compact charger and portable power source for on-the-go charging via micro-USB in wall outlets, vehicles or computers.

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Expectations: Set the bar properly at the project's onset

by Greg Iannone

I WAS called out to a project recently where the homeowner was “underwhelmed,” to say the least. The customers had moved to a new state where they were building a house in a small community and were looking forward to spending many years in their new home “away from the rat race.” They had sought out a custom homebuilder to make it all happen.

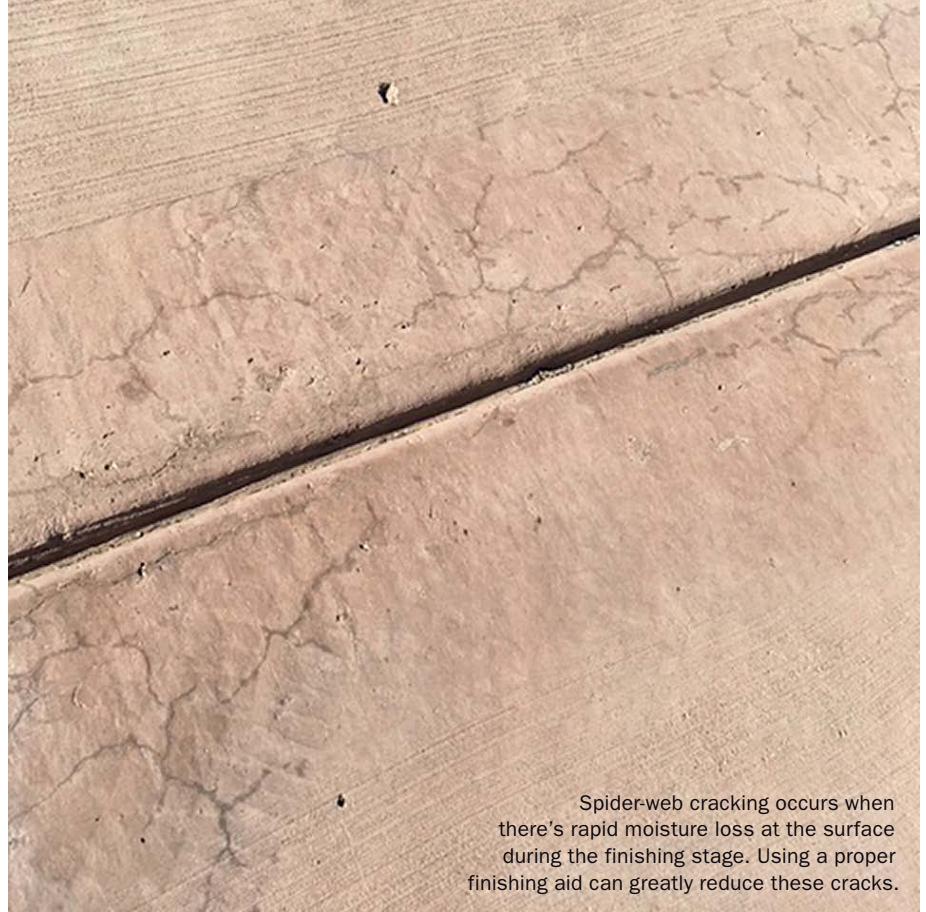
My first impression upon meeting the homeowners were that they thought their homebuilder “could do no wrong.” He had worked with them for many months and had built a solid relationship, from the conceptual and design phases all the way through to home construction and completion.

The homebuilder has a solid reputation in the custom home building market, a reputation he has built, crafted and refined over many years. Specializing in custom home building and natural landscapes, he has an artistic eye and knows what will look good in almost every circumstance. Their house was to be on display in the local parade of homes’ show.

What this homebuilder is not,



Care should be taken to ensure that the same size edger groover is used to avoid making costly mistakes in aesthetics.



Spider-web cracking occurs when there's rapid moisture loss at the surface during the finishing stage. Using a proper finishing aid can greatly reduce these cracks.

however, is a concrete contractor. So, while he knows what will look good, he must rely on others to execute his vision when it comes to hardscape features such as driveways, patios, steps and planter walls. This is where our story begins to head south.

Over-promised and underdelivered makes for unhappy customers

I was asked to visit the project to ascertain why the concrete didn't turn out the way they had anticipated and to explain why the concrete wasn't performing as they expected. “We were told this concrete would-be maintenance-free and we paid extra for that,” the homeowners told me. “We were told by adding color, this concrete would be maintenance-free.”

Within five minutes of meeting the very nice, yet disappointed, homeowners, I heard these clearly not-met statements of expectations. This custom home was set up on a hill with beautiful vistas of the surrounding topography. The home itself was well-constructed and beautifully appointed with landscaping that matched the natural surroundings to a “T.”

The new homeowners had moved from a warm, dry climate to a state that

experiences extreme swings in weather, from hot and dry in the summer to snow, ice and freeze-thaw conditions in the winter. The new homeowners had several “must-haves” — namely “shiners” (picture frames) and no sealer. They insisted that the concrete be finished with “shiners” around the joints (a feature popular in their home state but less practical in their new one because of slipperiness in freeze-thaw conditions) and a light broom finish everywhere else.

They didn't want any sealer because they weren't looking for color “pop” and felt it would also make the concrete more slippery when wet. The homebuilder suggested using a natural earth tone integral color to match the surrounding mountains and hills.

The best laid plan

The color selected looked great in the brochure. The execution of the plan left a lot to be desired. Let's start from the beginning.

It was late December. The color selected was a low percentage pigment loading, meaning there was very little margin for error as it relates to consistency in slump, added water at the job site and multiple pours. Three concrete trucks were used over two

days, the last truck providing a 1.5 yard “clean-up” load of colored concrete that now sticks out like a sore thumb.

Most manufacturers of colored concrete pigment recommend a two-yard minimum when using integrally colored concrete to maintain color consistency. They also warn of the pitfalls that can occur when pouring colored concrete over multiple days and at different times of the day. This portion of the project became problematic from the outset.

It was cold, dry and there was a prevailing wind in the area. The concrete was broom finished wet in some places and looks as though it was difficult to close in others. Where groovers were used for the shiners, there are deep tool lines on the edges, as well as places where the concrete was not troweled closed at all. Spider-web cracking is evident over a large section of the pour because of rapid moisture loss at the surface during the finishing stage and the lack of using a true finishing aid.

Avoid this predicament

Six months later, there are areas that have peeled-scaled. It's evident where each of the three separate concrete pours were and the overall look is not what was expected by the homeowner at all.

How could this situation have been avoided?

Start with a preconstruction meeting. In this case, the homebuilder, his concrete subcontractor and the ready-mix producer should have met

together and with the homeowner to discuss requirements, expectations and expected workmanship.

The concrete contractor should have done some research to better understand the importance of sealing concrete in tough environments. The homeowners didn't want to seal the concrete because they felt it would be too slippery. While this may be a valid concern, they also didn't want the color to “pop.” Had the concrete contractor done some research he would have found that there are multiple manufacturers who make penetrating sealers that help protect against the elements and freeze/thaw. A sealer could have been applied without impacting the color or the friction-level coefficient of slipperiness.

Under-promise and overdeliver. A lot more communicating by all parties concerned and a little less making assertions that concrete can become maintenance-free would have gone a long way. The owners may have been seeking low-maintenance concrete but were obviously left with the impression that their concrete would be maintenance-free.

One for all, all for one

When called after the fact to a job site meeting in a situation like this, make sure all parties are represented in the meeting so there can be no misunderstanding or mistake about what is discussed and what actionable items are decided upon.

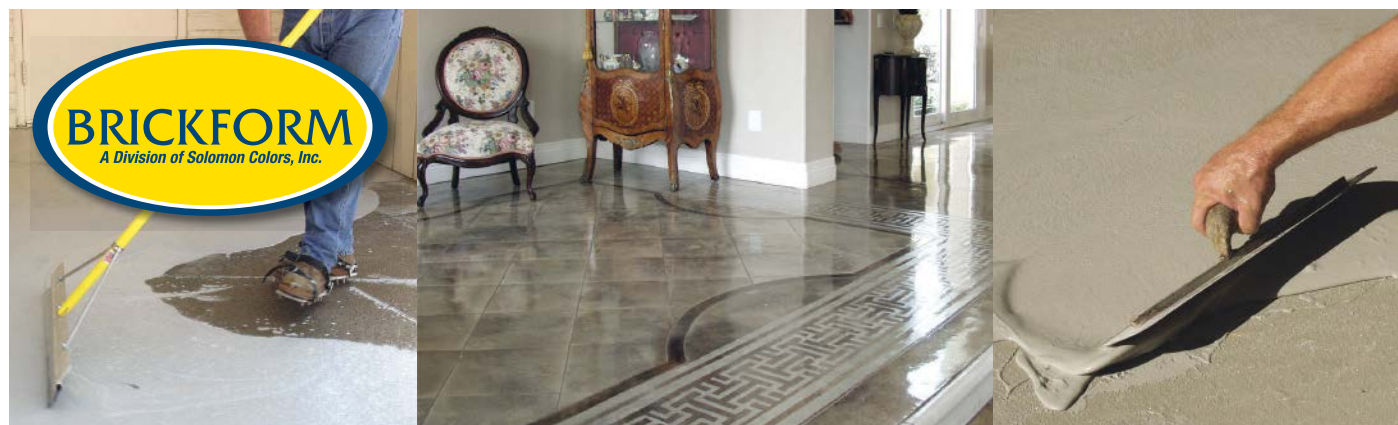


When a concrete slab is overwatered or has had water added during the finishing phase, it is more susceptible to freeze-thaw damage. Leaving concrete unsealed in these conditions can also be detrimental to the overall integrity of the concrete.

I was shocked when the ready-mix producer and I arrived for this meeting and the homebuilder and his concrete contractor weren't present. We all lose in this situation. The homeowner feels abandoned and the decorative concrete industry gets a black eye.

Remember, decorative concrete done well is free advertising, but done poorly, it becomes a black mark on our industry. 🖱️

Greg Iannone is area sales manager for Solomon Colors/Brickform. He has worked in the concrete construction industry for more than 30 years and has provided training seminars throughout the U.S. and Puerto Rico, as well as Mexico and Japan. He can be reached at (801) 376-6750, (909) 434-3274 or giannone@solomoncolors.com.



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Product Warranties Can Be a Boost for Business

A technician inspects after a client complained that the joint filler was protruding. A water main leak had caused the concrete to rehydrate so the problem wasn't due to the filler and, therefore, wasn't covered by the warranty.

Photo courtesy of Metzger/McGuire

by K. Schipper

PEACE of mind seems to be a rare commodity these days. So, if you could become involved in a program that helps offer that to you and your clients — and possibly helps grow your business, as well — wouldn't you leap at the opportunity?

While many suppliers offer one-year warranties on their products, it's not surprising that several are willing to go the extra mile and supply coverage that can last five, even 10 years or more.

The catch? The products must be installed by a contractor certified by the company, and that typically means more than simply taking a manufacturer's training course.

Good for everyone

That's not to say that every job needs a warranty or every client wants one. Paul Koury, president of San Diego-based Westcoat, says it depends a great

deal on the client and the job.

"If you're doing a garage floor, a warranty might be for one year," he says. "If you're waterproofing a roof deck for an apartment complex, unless you offer a 10-year warranty most clients won't want you to do the work."

He adds that some warranties not only cover material components, but also warrant the installation itself.

A product warranty can certainly be a selling point, says Scott Metzger, president of Metzger/McGuire in Concord, New Hampshire. He says it's no different than comparing the merits of two contractors who are bidding on painting the exterior of your house.

"At the end of the day, it's definitely an important way to express you have confidence in what you're selling," says Metzger.

And, it can benefit both large and small businesses because it helps set

their company apart from others, regardless of the market.

"The smaller contractor is having to compete more with more contractors because there are a whole lot more of them in the market," says Brad Burns, technical director for the HTC-America division of Olathe, Kansas-based Husqvarna Construction Products North America. "The larger contractor also has stiffer competition because he's doing larger projects that demand tighter budgets and tighter timeframes, so there's less room for mistakes."

Husqvarna is so concerned about the contractors using its machines that it offers classes simply to make sure they're getting the most out of their equipment, particularly the diamond tooling. Its only warranty is to the owner of that equipment.

However, for companies selling component systems, that concern spills

over into being focused on making sure their installers are the best they can be, and the emphasis is on an entire line of products.


Annika Oeing, marketing communications manager for Ardex Americas based in Aliquippa, Pennsylvania, says its program is all about peace of mind.

“We warrant a system, rather than individual products,” she stresses. “That way it serves as a complete installation solution in addition to giving an installer confidence on the job site.”

Training and experience


Company training is an important aspect of these warranties, but it’s seldom the end-all and be-all. Both Koury and Metzger agree that training is important, but their formal training programs are only part of the story.

“Westcoat’s program isn’t like a lot of others,” says Koury. “Some companies have a program where they take a two-hour course and walk out with a certificate. Sure, we want people to come to our training courses, but it’s more important to show their expertise and



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In this instance, an improper, shallow fill — when the job-specified installation to the full depth of the joint — voided the manufacturer’s warranty.

qualifications before they’re certified.”

That means a contractor can’t install a job and then at the last minute call to get an extended warranty. If the contractor doesn’t have the qualifications, the company might write a limited warranty on the components and materials, but it won’t write a job-specific warranty.

Metzger says in his company’s case, the classes it offers certainly help, but they’re only a first step in what can be a more comprehensive process.

“We go out and audit the work they did in the past, whether it was done with our materials or not,” Metzger says. “We look at the equipment they own, how they did the job, the overall professionalism of the business and the reputation they have. We also ask for references.”

For the contractor willing to go the extra mile and get that certification, the result is likely worth the effort.

“Things typically start with the specifier who wants to specify a material that has a certain warranty attached to it,” says Metzger. “It might be the building owner’s request, or it might be the contractor who reaches out and says he’s doing this particular job. It’s not necessarily the case that we have to have it installed by an approved applicator, but it’s our preference.”

Westcoat’s Koury echoes that.

“When we get our products specified on a project, the general contractor will bid the job and he’ll call us and ask for qualified applicators in the area,” he says. “We normally write the specifications and the specifications say, ‘Install Westcoat waterproof deck system by a Westcoat qualified

contractor-applicator.’”

While it’s obviously nice to get that referral, that relationship can do more for a contractor than just that. Both Metzger and Koury say their companies are happy to send out a technician to meet with the contractor-applicator if there’s any concern about the job.

Koury says that can be particularly important when doing a restoration job.

“There are sometimes pre-existing conditions on restoration that usually aren’t a problem on new construction,” he says. “But, we’re happy to give suggestions. They can then use their knowledge and take that to the architect or engineer who’s paid to be the authority on behalf of the owner.”

And, in some cases where cost might become a factor in correcting a pre-existing condition, Westcoat isn’t willing to write a full warranty as a result.

Even with new construction, Metzger says his company sometimes sees problems, particularly with cure times.

“There are certain recommendations-of-condition that need to be in place at the time of installation,” Metzger says. “I’d say 80 percent of the time those conditions aren’t in place.”

Security blanket

Still, the biggest advantage with these extended manufacturer’s warranties is that someone has your back if there’s a problem.

Metzger notes that his company likes to be involved in every step of a project, going so far as to make annual visits to check on the condition of its materials and offer recommendations for its maintenance. And, if something does

happen, he says it may take only a day and a little research to determine where the problem lies.

With a warranty, the manufacturer is naturally going to be involved in the process, and there is documentation. As Ardex’s Oeing notes, the installing contractor must work in that company’s system, use the products as stated in the warranty terms, and follow industry standards and installation methods.

“In the case of a failure, these requirements will be reviewed by analyzing a core of the installed materials to determine the cause of the failure,” Oeing says.

Westcoat’s Koury says his experience is that often, the building owner, the general contractor and the installing contractor can get their difficulties worked out without calling in the materials manufacturer.

“Probably nine times out of 10, the complaint has to do with the workmanship,” he says. “Most of the mistakes happen because of the substrate selected, the tie-ins between one trade and another, and the way the material was put down and assembled.”

However, if there is a defect in the material, Westcoat will send a technician. And, if it’s not, the company will still send someone to help get the issues sorted out.

The bottom line: most manufacturers will warranty their products for a year. However, if a client needs a longer warranty and the main requirement is that you send in the name of the project and get one, it may not be a good sign. It’s important to find companies that take the certification and warranty process seriously.

“A warranty is only as good as the company that backs it,” Metzger concludes. “We work with a lot of corporate clients who specify our materials exclusively and ask us to refer contractors to them. Their work reflects on both of us, but ultimately, it reflects on us. Our reputation is on the line.”

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A Clean Sweep

Cleaning concrete correctly is critical before applying coatings



Photo courtesy of Franmar

by Rob Spiegel

PREPARING concrete correctly before applying a coating helps to ensure the coating's success. Contractors must carefully evaluate the substrate and its condition to determine what cleaner or degreaser is needed and how it should be applied.

"The objective in preparation is to get the concrete back to its purest state so the substrate will be closer to the original," says Mark Hampston, CEO of Redi-Mix Colors in Taunton, Massachusetts. Proper prepping helps reduce contaminants before your next step.

"There are a number of factors to consider: the age of the concrete and what it's been subjected to. If it's foot traffic, it's easier to clean. If it's heavy traffic, you may need some grinding. Then a sealing product is needed before you do the top coat," he says.

Moisture is also an issue that needs to be solved before moving forward with the coating. "Sometimes you need a deep-penetrating sealer, which mitigates any potential future moisture from the bottom up," says Hampston.

"In many cases, cleaning and preparation with deep-penetrating cleaners doesn't get enough attention

and the epoxy or urethane isn't allowed the opportunity to bond as it should. You need to eliminate the moisture and prevent it from returning."

Matching the cleaners with the surface and the grime

In determining the right cleaner, it's important to know the makeup of the surface you're trying to clean and what you're trying to remove from it.

"For polished concrete you have to have a specific cleaner," says Greg Cabot, digital marketing manager of Ameripolish in Lowell, Arkansas. "If you use an aggressive cleaner, you could alter the overall appearance and aesthetic qualities of the concrete and even discolor dyes," he says.

Using the wrong cleaner can create new unwanted issues, he notes. "It can potentially leave behind residue or a contaminant, like oil, which needs a specific type of cleaner to be removed entirely. Most cleaners do not remove oil. It may appear to be gone, but it could cause issues for adhering a coating to the surface."

Different substrates require different types of cleaners. "The most important

thing is to know your substrate. Once you know that, you can go about selecting the proper cleaner for that substrate," says Jeff Bonkiewicz, channel manager at Laticrete International in Bethany, Connecticut. "In our Stonetech line of products, there are several different sealers, enhancers, and cleaners, each designed for specific substrates."

Once you know your substrate, the type of grime you need to remove becomes a factor in choosing the right cleaner. "Certain floor contaminants can be difficult. In polished concrete, if vinegar or wine has been on the surface for some time, there really is no cleaning agent that can take it out. It will likely leave a shadow behind even after thorough cleaning," says Bonkiewicz.

He notes that floors must be maintained to remain in good condition. "A good maintenance floor plan is vital to the health of the floor, especially for commercial and institutional floors," says Bonkiewicz.

"We have a maintenance plan for our FGS PermaShine polished concrete system, which includes using a concentrated cleaning agent designed specifically for polished concrete. For Spartacote resinous flooring, we require a mechanical profile before the resinous coating gets applied."

Mechanically preparing a surface with a grinder gets off any mastics or surface contaminants that would act as a bond breaker between the concrete and the resinous coating, Bonkiewicz adds.

Using an all-purpose cleaner

Some contractors work with an all-purpose cleaner that's adjusted in strength to accommodate different types of grime that needs to be removed. "Our cleaner is concentrated, so the end-user can use it in a number of dilutions depending on the application," says Scott Sarver,



Recently launched by Redi-Mix Colors and Ghostshield, Eco-Etch 1001 is a new cleaner on the market that is eco-friendly with no harmful acids. The product was applied with a low-pressure pump sprayer to the concrete loading dock on the left. After about five minutes (when the bubbling had stopped), the surface was rinsed with water. The picture on the right was taken after the concrete had dried.

Picture and demonstration courtesy of Ghostshield Concrete Sealers



Before a coating was applied, this floor was prepared with bush hammer bits.



Prior to applying Laticrete's Spartacote Urethane Cement, the surface needs to be mechanically profiled.

marketing coordinator at Franmar Chemical in Bloomington, Illinois.

"For general cleaning purposes after mastic removal or to prep concrete for resealing or painting, 4 ounces of a gallon of water is recommended. The concentrate can be mixed at a higher ratio for washers and floor machines or even (used) full strength."

While an all-purpose cleaner may be appropriate for indoor surfaces, outdoor substrates may require a different cleaner. "We also have an exterior surface cleaner to clean concrete, stonework, brick and other hard surfaces that have become dirty over time," says Sarver. "This exterior cleaner helps restore these surfaces to their original appearance."

Out in the field, contractors teach their workers to prepare the concrete correctly so the coatings will work. "Before we put down any of our coatings we have to prepare the concrete right. Either that or the coating will fail," says Aaron Statser, general manager at Business Flooring Specialists in Houston, Texas.

"As for using the right cleaner, we typically use Redi-Mix Colors. When we use that we don't have to worry about leaving any residue behind. When we get oil out of the concrete, we don't have to worry about leaving a stain behind. I know we'll get a clean surface," Statser says.

Applying the cleaner or degreaser

Once the substrate and grime are identified and the appropriate cleaner is chosen, application becomes the next issue in preparing the surface.

"How you apply the cleaner depends on the chemical you're using. Some are spray-on, some are scrub-in, some need to be flooded and then reapplied until a stain is gone. Others need to be diluted in a concentrate and used with an automatic scrubber," says Ameripolish's Cabot. "Stains and contaminants can be different in different scenarios because concrete slabs differ from one another."

At Redi-Mix Colors, "Our products are best sprayed on. An improper application can alter the topcoat by not

getting it clean enough, not protecting against moisture or not opening the concrete enough for penetration," says Hampston. "A lot of epoxies sit on the surface. We have a sealer and urethane combination so there is a deep penetration and protection that acts as a bonding for the topcoat."

The condition of the substrate also affects the way the cleaner should be applied. "Newly placed concrete should be etched at a minimum. The etch is going to help open up a newly placed surface that's finished by hand," says Hampston. "All finishing, by hand or machine, creates a closed-off surface. The etch will open up the pours to get good penetration of the product."

For new concrete, the application of the cleaner needs to wait until much of the excess moisture has evaporated. "For newly placed concrete, it is best to wait the full 28 days before applying any sealing agent. This is because the concrete still needs to breathe for proper setting strength and normal hydration," says Laticrete's Bonkiewicz.

"If you put a sealer over it while the concrete is still green, it will likely blush and discolor," he adds. "This is what excess moisture does when it's trapped at the surface as it bleeds out."

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Photos courtesy of Gore Design

Breaking the Mold

Concrete Decor salutes artisans nationwide for their ingenuity and creativity in designing tables and countertops. Here are 10 of our discoveries.



An Unsupported Span

The Leviathan Table, one of the few “crevasse” tables made by Brandon Gore of Gore Design and Concrete Design School in Eureka Springs, Arkansas, is an example of what can be accomplished with post-tensioned concrete.

The 14-foot-long, 42-inch-high table is made of two sections that weigh about 1,700 pounds apiece with no supports in the middle, only legs at each end. Each section envelops a hollow form with four metal cables that were tightened once the concrete had cured.

This post-tension creates a permanent compression that reinforces the concrete so the table won't sag in the middle or break if someone stands on it.

Gore says the sections with legs intact were poured upside down and his biggest feat was when he and a helper got them upright without a forklift.

The crevasse table is made with Gore's ultra-high performance GFRC mix. The coloring is from natural gray portland cement. The crack lines are all hand-carved.

www.goredesignco.com

www.concretedesignschool.com

Location, Location, Location

The owners of a beach house overlooking the marshes of the Albemarle Sound on the Outer Banks of North Carolina wanted the coordinates of the exact location embedded into the concrete on this radius bartop.

To oblige, David and Julie Bancroft of Opus Stone in Point Harbor used a CNC machine to fashion rubber molds of the coordinates and inlaid them into the form. They then backfilled the voids with a different color.



The bartop is made of a custom-blended portland cement-based GFRC mix colored with Universe and Ultra White pigment from Buddy Rhodes. The backfill was made with high

dispersion (HD) fibers in a portland concrete mix colored with Rhodes' Universe, Ultra White and Smoke.

www.opusstoneobx.com

Photos courtesy of Opus Stone





Raw Beauty

Enjoying a fire among family and friends is one of life's pastimes that never grows old. That's why Josh Thiel of Thiel Studios in Palm Beach, Florida, conjured up this fire bowl as the perfect finishing touch for a Delray Beach home's entertainment area.

Overall, the sculpture emits a clean contemporary feel despite the concrete's rough edges and texture. The steel components that comprise its base and fire bowl were oxidized with heat to create a rustic look. This complements the finish on a circa 1900 dining table base from Paris for which Thiel created a 15-foot concrete top. It was his vision to incorporate that "almost industrial feel" throughout the outdoor space.

He used a Buddy Rhodes GFRC mix to create the natural-looking raw concrete base. To make it look more like stone than concrete, he developed his own artistic technique with a combination of warm gray and black pigments from Buddy Rhodes.

www.thielstudios.com



Photos courtesy of Thiel Studios



Reclaimed and Repurposed

Mike Tremonti, owner of Tremonti Cast Concrete and Design in Monroe, Michigan, kept passing a pile of old barn beams while traveling to and from work. He decided to stop and ask the homeowners if he could buy them. Bonus! They said he could have them for free.

Initially, he planned to make a concrete and barnwood bench with some of these mortice-and-tenon treasures, but that idea morphed into a kitchen table. The challenge was that nothing about the barn beams, including the peg holes, was straight, square, perpendicular or parallel.

The finished 60-by-36-inch table which stands 35-inches tall celebrates the joinery of concrete with barn beams secured with original wooden pegs. The other end is supported by a concrete monolithic waterfall leg.



Tremonti used a mix that included a VCAS pozzolan from Buddy Rhodes, along with KongKrete polymer and 10 percent black oxide pigment from Fishstone.

www.tremonticastconcrete.com



Photo courtesy of Cranium Construction

Cornered

To solve a problem that was rotting cabinets and wetting the kitchen floor, Nathan Hake of Cranium Construction in Manchester, California, designed this corner sink for a project that also involved custom terrazzo-blended counters.

The glitch? The Sea Ranch homeowners wanted to keep their existing cabinets and the backsplash made from Heath tiles they had gotten from Sausalito. This made the install that much trickier.

The sink was wet cast using Buddy Rhodes ECC (engineered cementitious composite) mix with added PVA (polyvinyl alcohol) fibers and colored with Saybrook Sage, one of the Benjamin Moore colors that can be custom ordered from Buddy Rhodes. The sink was then ground and acid washed to reveal sand/aggregates, not only for aesthetics but also to provide scratch protection.

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A River Runs Through It

Named after a mountain-bike trail Tiimo Mang of Aethyrworks LLC in Lakewood, Colorado, rode on his honeymoon, A River Runs Through It refers to the sprocket replicas and actual chains that run through this mountain-bike table's concrete and walnut surfaces.

Mang, who also creates public art, often mixes concrete, wood and metal because he relishes the balance they create. Getting a bike chain outlay to



Photos courtesy of Aethyrworks LLC

flow perfectly through the concrete and wood was most challenging, he says. He feels the chain outlay balances the embedded tire tracks on the skirt board.

To give the mountain-bike table some depth, walnut was removed beneath a sprocket so you could see below. A "spider" in the opening keeps salt shakers from falling through.

Mang used CSA cement from Rapid Set and Smooth-On's Forton VF-774 polymer in his mix, along with Buddy Rhodes Pure Pigment in black oxide. He sealed the concrete with Omega Concrete Countertop Sealer from The Concrete Countertop Institute.

www.tiimomang.com



Photo courtesy of Hapax

Up in the Air

From the very beginning, the table proposed for the Nicholson Cos. was up in the air. When Zack Pease, owner of Hapax in Norfolk, Virginia, first came up with the idea of a “floating table” that was supported by plexiglass, he had no idea if it was going to work. “But we were happy to have a client willing to embrace that risk and explore new possibilities with us,” he says.

Pease got a thumbs-up from a structural engineer so he proceeded to make a 3-inch concrete base complete with grooves for 2-inch-thick plexiglass legs to support the 6-by-9-foot distressed concrete tabletop.

No fasteners were used. Instead, a steel subframe bridges the acrylic and supports the concrete top, and epoxy secures the legs to the base. Color-changing LED strips sit in the base’s grooves.

The floating table was made with a Buddy Rhodes GFRC mix and integrally colored with Charcoal from SureCrete.

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Photos courtesy of Tom Ralston Concrete

Stranded in California

The DeWhitts in Almaden, California, wanted lights in their outdoor kitchen's countertop so that's what Tom Ralston of Tom Ralston Concrete in Santa Cruz delivered — 300 of them to be exact.

To aid in installation, Ralston made a harness where fiber-optic strands were strung above the soon-to-be-placed 15-foot-long countertop. Below, the strands were fed through holes drilled into the form's bottom and connected to a central light generator complete with a timer.

Besides the flickering blue lights, the dyed vein that meanders across the countertop and dips into and out of the sink includes “trick stuff” like glass, aquarium rocks, sand and shells, all seeded after the pour. Ralston used a turkey baster filled with retardant to slow the setup.

He used a six-sack, 4,000 psi mix with 3/4-inch aggregate from Granite Rock Concrete and Eclipse super-plasticizer from W.R. Grace. He colored the concrete with a blue dye from Blue Concrete and a green acid stain from Kemiko.

 www.tomralstonconcrete.com



Off the Grid

Made by Sonoma Cast Stone in Petaluma, California, the Chicago Bridge Table is designed to look like the grid of a bridge's pedestrian walkway.

According to company owner Steve Rosenblatt, they began with a solid sheet of stainless steel laser-cut into a grid with wide borders folded and welded to create the table's edges. Before placing the concrete, the piece was secured upside down in a mold that had a gradual center slope.

The next day the piece was stripped and cured for about a week. The tabletop had a slight "hill" that was



Photo courtesy of Sonoma Cast Stone



ground flat with a series of increasingly fine diamond pads. The center portion was ground and polished slightly more than the rest, revealing more aggregate in the center than the surrounding borders.

A traditional concrete mix was used with pea gravel, gray and white cement, and a plasticizer. The table was colored with gray-based pigments from LaHabra and Davis Colors.

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Photos courtesy of Price Concrete Studio

Up His Sleeve

For each client, Caleb Lawson, president of Price Concrete Studio in Orlando, Florida, strives to create functional, statement-making pieces that reflect the soul of the home. One of these statements is “something a little funky” that he calls a “whiskey sleeve.”

Designed as part of a countertop’s waterfall leg, the shelving unit horizontally displays a whiskey collection that would otherwise just be sitting vertically on a counter.

The sink, countertop and whiskey sleeve were cast in the shop as a single 94-inch-long piece. Lawson says it went from template to install in four days.

He used Rapid Set Cement-All with a custom blend gray designed in house using Buddy Rhodes pigments. 🍷

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* To obtain this look, a stain was also applied.



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What is the Best System for Polished Concrete Maintenance?

by Greg Cabot

On a regular basis, many of us are asked: “What is the best way to maintain polished concrete?” Is there one method proven to be superior?

In this article, we’ll explore some field testing reviews and compare traditional DIPs (diamond-impregnated pads) to a newer floor maintenance system involving composite resin abrasives (CRAs).

Defining DIPs and CRAs

According to Stone Sole Associates LLC, DIPs “are produced by spraying, dipping or otherwise applying a diamond-filled resin slurry onto the surface of a lofty, nonwoven pad substrate.”

After being sprayed or dipped, they undergo a thermal curing phase. Product claims for DIPs centralize around the idea that this method is capable of chemical-free cleaning. It is also a common claim that DIPs continuously enhance concrete’s aesthetic surface properties.

CRAs, the newer technology of the two systems, are best described as a “hybrid design integrating a nonwoven, diamond-free cleaning pad with separate, rigid composite diamond elements,” notes Stone Sole Associates. Put in simpler terms, this means the pad’s abrasive portion is made separately from a nonwoven pad, so the composite diamond elements are independent of the pad and not thermally cured to it like DIPs.

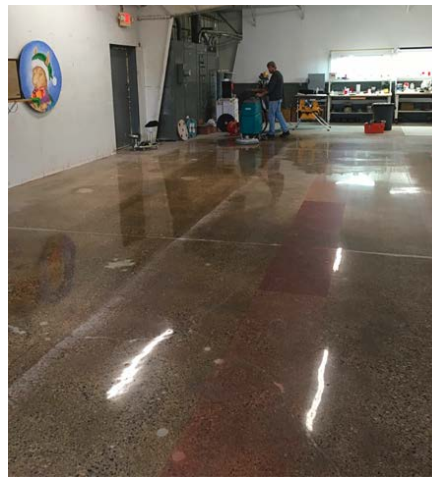
Because the composite diamond elements are independent of the pad, it allows the diamonds to act primarily on the exposed high points and pass over the valleys, or low points. Over time, it polishes down the high points and makes a flat planar surface best suited for a clearer, higher-quality, light reflection.

Testing procedure

To determine which pad system offers the superior maintenance solution, Stone Sole Associates compared DIPs and CRAs head-

to-head. During this testing, daily maintenance protocols simulated the long-term effects of both pad systems.

Two 126-square-foot sections of highly polished concrete were sectioned off and cleaned with an auto-scrubber using each of the respective maintenance systems. Testing conditions were identical for each cleaning pad: approximately 40 pounds of machine downforce at 80-feet-per-minute forward speed.



Stone Sole Associates conducts tests on the sample area.

It took several days to complete more than 1,000 passes over the floor with each maintenance system. During regular intervals, surface quality measurements were made to check on the effects each system had on the floor with prescribed daily use. The quality measurements used were physical surface roughness (Rk) and aesthetic reflective image quality (distinctness of image or DOI).

Results of sample evaluations

Throughout the process, wastewater used in the automatic scrubber was collected and evaluated.

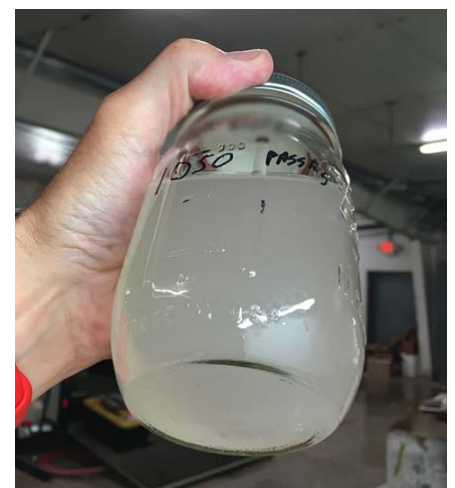
During the 300th pass, a large amount of debris was found in the DIPs’ water. This indicates that the DIPs intended to maintain the floor were not only degrading its physical qualities but also the aesthetic qualities of the polished concrete surface.



Noticeable amounts of dye and debris are found in the DIPs’ sample.

The color of the DIPs’ wastewater sample was brown due to the dye used on the polished concrete several months before introducing the maintenance system. This suggests the maintenance system abraded the concrete surface enough to remove dye.

The CRA system produced virtually no debris in the wastewater sample collected after the 300th pass and again after 1,050 passes. The CRA sample’s water color wasn’t brown like that of the DIPs’ sample, indicating that the long-term use of CRAs is much safer for polished concrete than DIPs. Furthermore, the CRA section’s aesthetic qualities were significantly better than the DIPs’ section.



The wastewater sample from the CRAs shows no signs of debris or dye removal.

Photos courtesy of Stone Sole Associates

Rk values

Now let's dig into the numbers to reflect a better understanding of what each product is doing to the surface. Regarding Rk values, a lower number indicates a smoother surface, while a higher number indicates a rougher surface. The higher the Rk value, the more scratches and abrasions on the surface.

At the start, the DIPs' section of the polished concrete surface was measured at 34.98 Rk. The CRAs' section was measured at 36.81 Rk. This indicates that even at the start of the testing, the CRAs' surface was approximately two points higher (rougher) than the DIPs' section. The following chart shows measurements throughout the test.

Number of Passes	CRAs	DIPs
100	26.39	49.87
200	19.05	64.80
400	19.06	64.51
600	17.86	71.18
800	16.85	81.02
1,000	16.62	85.42

As you can see, the DIPs increased the Rk values on each successive pass, while the CRAs decreased the Rk values. After 1,000 passes the CRAs' section was far lower/smoother (16.62 Rk) than the DIP section (85.42 Rk). This better explains why there was color and aggregate in the DIPs' wastewater samples. Each DIPs' pass further scratched and abraded the polished concrete surface.

DOI values

Regarding DOI values, the higher the number the better (DOI measures reflected image quality/clarity). The scale runs 0-100 and the closer to 100 the more mirror-like the surface becomes. The DIPs' section of the test area started at a 72.9 DOI reading. The CRAs' section started at a 67.07. The following chart shows the progress of each system's DOI readings over 1,000 passes.

As the study shows, even after only 100 passes, the aesthetic quality of the polished concrete surface maintained with DIPs depreciated by 34.4 percent. In comparison, the CRAs increased

their DOI readings by 27.3 percent over the course of 100 passes, indicating that it's improving the surface's aesthetic quality over time.

Number of Passes	CRAs	DIPs
100	85.42	47.77
200	87.81	41.50
300	87.50	41.09
400	88.27	43.35
500	87.93	38.00
600	88.12	39.08
800	86.20	37.10
1,000	84.20	33.06

The test speaks for itself when it comes to aesthetic qualities of a polished concrete surface: the CRAs method is far superior to DIPs.

In conclusion

This study reveals that since new technologies such as CRAs have emerged, there's a maintenance method that provides polished concrete surfaces with far better results than DIPs.

It should be noted that DIPs are doing more harm than good when speaking in terms of polished concrete's physical and aesthetic qualities, which essentially defeats the purpose of using

it as a daily or weekly cleaning pad.

With the integrity of someone's job/work at stake, we all want to provide them with a maintenance solution that will keep them proud to return to the job site years later. Choosing CRAs should be a concrete contractor's first choice when recommending a long-term maintenance solution.

As many of us know, cost can be a driving factor when it comes to maintenance systems. While some systems seemingly have a good price tag, it's more important to pay attention to what your price per square foot is going to be.

Oftentimes when the price tag seems affordable, the price per square foot will reveal how expensive the product truly is. It is equally important to know what your maintenance system is doing to a floor. If a polished concrete floor is being ruined by a cheap maintenance system, it will ultimately cost you more in the long run! 🚗

Greg Cabot, digital marketing manager for Ameripolish, has been with the company since February 2017. He provides technical support, as well as conducts product testing and research. He can be reached at gcabot@ameripolish.com.

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Resource Network

It's important for contractors to have one in place

by Chris Sullivan

THE air temperature is 97 degrees F, the concrete arrives late and it turns out it's a hot load. A set retarder is added, which only makes matters worse. The concrete now sits for eight hours before you can do anything with it.

The second load arrives on time, and you are forced to stamp that in 30 minutes. You get the job finished, but because of the curve ball you were handed, through no fault of your own, the final color is wrong and the client is not happy. Now what?

Stop!

In close to 20 years of troubleshooting, I've never seen a poorly thought-out repair end well. Slow down, take a deep breath, and tap into your resources.

Know who you're going to call

Slowing down can range from five minutes to five months, depending on the situation. The point being, take the time to think before you act. I realize the pressure of the homeowner pushing for answers or the GC yelling about charge backs for lost time, but a knee-jerk response can often turn a small issue into a catastrophe. This is where your resource network comes into play.

Step five in the "Seven Steps to Success Before You Start Any Project" is "Build a Resource Network." It can range from your own personal experience to asking others for help. That stack of business cards from established and trusted industry specialists that you've been collecting for years is a good place to start.

Product representatives, distributor sales staff, other installers and artisans in related trades are often the most common people found in decorative concrete applicator resource networks. You can go looking when a problem occurs, but once again, planning ahead can save time and money when things turn ugly on a project.

I need to stress how your local decorative distributor's sales and counter staff are invaluable in this

No repair is as good as the original color, but if installed well and maintained properly, it can last a long time. In this case the repair was satisfactory to the client, and by the next day the entire project was recolored and sealed.



Photos by Chris Sullivan

situation. They quite often can get you in touch with people in the know when problems occur.

Other places to look include social media pages, web sites, trade shows — such as the Concrete Decor Show and World of Concrete — industry meetings and publications like this one you're reading right now. Too many times I've seen a small problem turn into a huge problem because an applicator didn't know where to look or who to talk to.

Social media has its place

As a side note, the internet has provided a quick and easy means for soliciting advice for problems in the field. There are dozens of social media sites and pages that are full of eager contributors all willing to share advice on how to repair your issue.

Social media has its place, and I support sharing ideas online, but I also caution anyone soliciting advice from unknown sources. Ask 10 people on a social-media help page the same question and you're probably going to get 10 different responses. There's a good chance you can come away more confused than when you started, and sometimes the advice is just plain wrong.

If you do plan on following advice provided online, check out the source, get a second opinion, and always do a sample or mock-up to confirm the results are satisfactory. There are some really smart people who contribute regularly to social media pages and offer sound advice. I suggest you find them and add them to your resource network.

Back to the problem

Back to our stamped concrete color issue. The installer knew he had a problem, but he didn't panic. He finished the concrete as best as possible focusing on the texture and detail — the things that are really hard to repair once the concrete has set.

He communicated all the facts with his client, managed expectations and committed to finding a solution. He then turned to his resource network, which he had developed over years of attending trainings and continued education, and started the process of figuring out a plan to restore the color. After some texts, phone calls and emails, products and solutions were discussed and a plan was put into place.

Within 48 hours, he was back on the job testing a solution on a small area. In this case a combination of water-based stains and color wash was the best option. As is the case in many repair situations, the manufacturers' mixing and application guidelines went out the

window and the artistic license took over.

The products were both diluted to achieve a very light and natural translucent color that allowed the concrete's base color to show through, while creating accents and highlights that covered the original color inconsistency. The concept of diluting tints, stains and color wash products also allows for multiple light coats to be applied. This allows the applicator to gradually see the changes and avoid the "fake painted" appearance.

Marrying art and science

It's important to note that most tints, stains and washes require a sealer to lock in the color, and it is only as good as the maintenance program that must follow. If the sealer "walks off" so does the color. No repair is as good as the original color, but if installed well and maintained properly, it can last a long time. In this case the repair was satisfactory to the client, and by the next day the entire project was

recolored and sealed.

Decorative concrete is as much science as it is art. This industry is not for everyone. I've seen many installers lured into a job because they see dollar signs and the lure of easy money, only to realize they are in way over their head, and the real work on a decorative project starts after the concrete is placed.

I have the highest respect for those artisans, large and small, who have that eye for detail, produce great work and understand issues will arise — it's the nature of the business. How they deal with these issues is a big part of what sets them apart from the rest. 🛠️

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



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In Math Mode: How to design a basic tile pattern on concrete

by Rick Lobdell

NOW that summer is here I'm in full design mode on multiple projects that mostly involve basic tile patterns. Since I'm back in major math mode, I thought I'd share a challenging design project I did a couple of years ago for a client in Chattanooga, Tennessee. I came up with the idea for a unique pattern on his dining room floor before I determined if I could pull it off. I was confident in my math but designs like this don't come along very often.

When you look at this floor, you see



a very large design with the dining table sitting in the middle of it. In previous articles, I've pointed out that you need to be aware of how big or small an image should be to fit the space correctly. It's important to visualize what the final scene will look like and decide how the scale of your design fits into it. You never want to make a medallion so small that you can see it under a table.

Practice makes perfect

My initial drawing had a pattern that was way too small. Once I got into the layout phase I realized I needed to adjust the scale right away. That's why it's very helpful to sketch ideas out before the install.

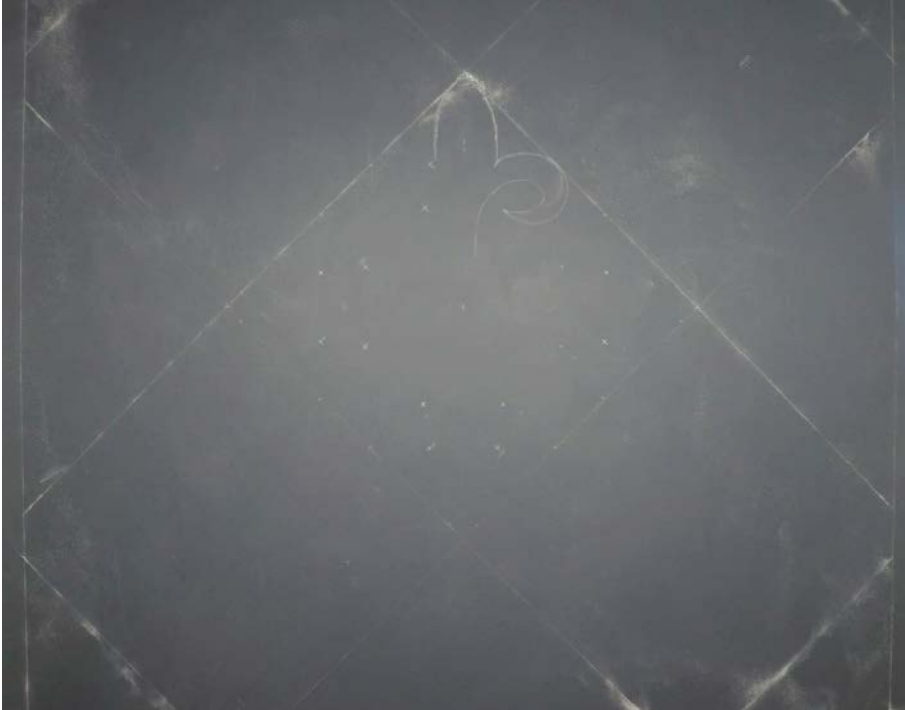
Since this design has a pattern I decided to lay out a large tile pattern on the floor to use as a guide. I measured 6 feet on the diagonal of the tile. That means I measured the distance from corner to corner across the middle of the tile and came up with 6 feet as a good starting point.

Then I hand drew my first image. It took me a little longer that day to lay out each image in the pattern. Nowadays I can do this in half the time. Like I constantly say: Practice makes perfect! Although I've only done this design once, it's still all basic math. Practicing math is just as important as practicing the actual designs.

Mock-up mechanics

Let's look at the mock-up project and break down how I did this layout. First, I found the center of the room and started a tile pattern on a diagonal. For this demonstration I drew a 4-foot tile pattern (because that size worked best in the mock-up room). Then I drew one-eighth of my image.

Previously, I explained how I use the Cartesian coordinates as a method for most of my layouts. In this instance I took that theory and tweaked it to my advantage. Instead of measuring from the center of the room I used all four sides of the square for my measurements. As long as your tile is



a perfect square you can use it to your advantage. I plotted all my points out from the first corner and duplicated the pattern on the other three corners.

Once I got those initial plot points down, I drew the outside edges of the image. At this point, I stopped and took a step back to make sure everything matched. Then I drew the inside lines and had to fine-tune some of my curves to ensure accuracy. Once I was satisfied with the look, I moved on to the next tile.

From here on out, you can use the same measurements from all the corners of the tiles you want the image on. I plot out each tile and then draw the pattern. After each one I step back to make sure the curves match. Then I repeat the steps on the next tile.

The corner tiles don't have corners to measure from. So I use the center of the tile line and measure the reverse from there. At first it was confusing but once I got the initial one down the other three were easy.

The grand finale

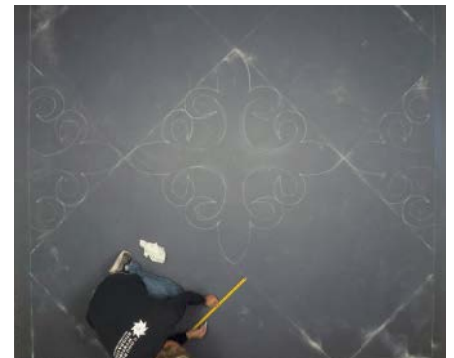
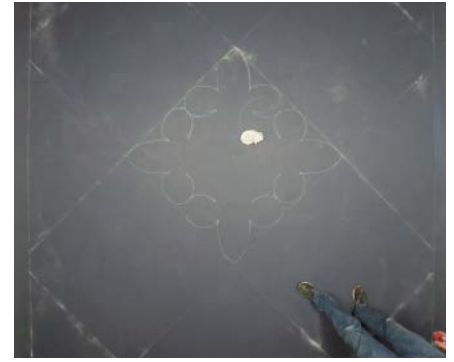
Finally I remove all my tile pattern lines. The finished product is a unique fleur-de-lis tile pattern. The design looks incredibly hard to do but it just takes a little patience to see the bigger picture. It is a lot easier to produce than it looks.

Using a tile pattern to your advantage keeps everything square and accurate. I would never be able to draw a design like this without starting with a basic tile pattern. It's amazing what

the basics of all decorative concrete design can help you make. 🖌️

Rick Lobdell, a classically trained artist with a master's in fine arts in painting from the Savannah College of Art and Design, has also studied math and drafting. In this series, the owner of Concrete Mystique Engraving in Tennessee will explain how he conceives his well-known designs. He can be reached at rick@concretemystique.com.

Editor's note: To view a video on the process described in this article, go to <https://bit.ly/2A5BCYY>



Chemical Surfactants Can Cut Steps in Concrete Polishing

by David Searls

CHEMICAL surfactants such as Prosoco's Consolideck First Cut and KickStart Clarity Enhancer from Curecrete Distribution's Retroplate System can boost productivity and improve results in the early grind stages of concrete polishing projects.

David Stratton, president of Pacific Decorative Concrete in Sacramento, says there are two main reasons contractors use such products in the early stages of polishing and grinding. "Because the concrete surface is very dense and hard and they're having trouble getting a first cut on it, they'll use something they think is going to soften the slab and make it easier to cut," he says.

Either that, he continues, or "Because they're going to grind wet anyway. So they're planning on having a sheet of water on the floor and they want to add a chemical to it to enhance the cutting process and make cleanup easier."

When dealing with hard concrete surfaces that have been burned or over-powered troweled, Stratton will use a product like KickStart as a cutting agent.

"If you want to break up or soften the



Using a product such as First Cut reduces labor and tooling costs for polished floors.

Photo courtesy of Prosoco



Photo by Peter Wagner

A squeegee pulls the KickStart slurry away from the floor so the installer can evaluate how well the large aggregate has been exposed.

surface a little bit you're going to want to put down a solution that probably has a little bit of acid in it and will etch the surface of the concrete," he says.

When working on dense, hard slabs, Brent Schmiegelow, president of American Concrete Concepts Inc. in Conway, Arkansas, says, "When you put KickStart on the floor it really adds to your ability to cut hard concrete. It's probably two or three times as effective as just straight water on the floor."

Productivity boost

First Cut, a similar product from Prosoco, is touted to reduce labor and tooling costs.

"Wet grinding creates a large mess of slurry. The diamond tooling spends time fighting through the slurry instead of maintaining constant contact with the concrete," says Nick Savage, business unit leader of Prosoco's Concrete Flooring Group. "First Cut will lift and keep that slurry away and keep the tooling on the surface. It will increase efficiency and reduce cleanup time between steps."

Stratton explains the slurry advantage of products like First Cut this way: "It's simply keeping particles in suspension. They're floating to the surface of the solution so they're not landing on the (solid) surface you want to grind," he says.

“It gives your diamonds a good path to the concrete. It makes the process more efficient because you’re providing a little lubricant for your diamonds and the surfactant is keeping all of the slurry suspended so it makes cleanup easier.”

Less scratches to deal with

KickStart offers accelerated and enhanced clarity to hard steel-troweled concrete in fewer grinding and polishing steps, maintains Peter Wagner, director of supporting products development for Curecrete. He says it’s an integral part of what most manufacturers refer to as a three-step system, and scratch resistance is one of the features leading to step reduction.

“Normally, when you have a metal matrix, you’d have to have a step with a 200 hybrid to get a scratch pattern out,” Wagner says. “But KickStart creates a finer scratch pattern, so there are fewer steps.”

ACCI’s Schmiegelow puts it this way regarding use of either chemical. Anytime you use a metal diamond on a concrete floor you scratch the surface.



Photo courtesy of Prosooco

Products such as First Cut work to suspend particles in the solution so they’re above the hard surface you want to grind.

So, “Any scratch you don’t put in is a scratch you don’t have to get out.”

Wagner goes on to explain that a typical grind and polish might take seven or eight steps, but KickStart can cut the process roughly in half on some jobs.

“For a salt-and-pepper look, ours has been shown to produce the appearance

in three steps over 90 percent of the time. We’re talking about the first step being a 200 metal-diamond grind. And the next step jumps to a 400-hybrid matrix (aluminum or copper combined with a resin), and then generally a resin grind. KickStart is utilized for both of those first two steps.”

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With the aid of KickStart, large aggregate in this grocery store's floor was exposed in only four steps. The product's lubrication factor eliminated the heat and torque that pulls fines and aggregate from the floor which creates pinholes that then require a grout coat. Below, a meter registers a DOI of 84.1, reflecting the clarity of a KickStart finished floor.

Photos by Peter Wagner



Wet and dry benefits

Beyond enhanced productivity, Pacific Decorative Concrete's Stratton says, there's yet another reason to use these chemicals. OSHA tracks and regulates silica dust on construction sites, and "These products are one way of managing the dust in the slurry."

Wet grinding with products like First Cut and KickStart is especially appealing for large-footprint concrete polishing projects of 100,000-plus square feet "because it can allow a faster grind and increase productivity, reducing costs," says Stratton.

"Anything you can use to get you a higher-grit diamond to work is incredibly effective in terms of speed and productivity," says ACI's Schmiegelow.

He prefers dry grinding, but works wet and uses these initial-cut aides when the surface is particularly hard and he's got room to deal with the sludge. "When you put this stuff down, it's a mess. You'll have a quarter-inch of slurry on the floor, so it's a commitment to use it."

Products like KickStart offer dry grinding advantages, too, Curecrete's

Wagner says.

"If you're grinding dry you have heat buildup. So the use of KickStart allows the contractor to eliminate or minimize the grouting process because it lubricates and cools the tooling," he says. "This helps avoid pulling out close-to-the-surface aggregate, which you'd have to regrout after."

Ease of application

Both products could hardly be easier to use, Schmiegelow and Stratton contend. Simply follow label instructions and apply on a clean slab.

Schmiegelow usually uses a 50-50 mix with water. "There's no special equipment required. Put it down and you can generally start at one step higher diamond grit than you normally would," he says.


"(Either) product foams a little and will mix with your concrete and form a slurry. Just keep shoving it forward as you're grinding and reuse the material. It serves as a lubricant and seems to keep the diamonds open, more than anything else," Schmiegelow says.

Prosoco's Savage says of First Cut,

"Wet the concrete first with water and then spray or pour First Cut and spread it with a soft push broom or squeegee. Spread it evenly across the floor and grind along the top of it."

Of KickStart, Wagner says it comes ready to use and has a coverage rate of about 400 square feet per gallon. "Just put it down on the floor and broom it around. Add a little water during the initial cutting to build up a slurry. If you're working a soft slab and picking up a lot of sand and sediment, remove the heavy slurry between diamonds."

Stratton likes to use a Hudson-type sprayer to apply the cutting agent chemical and recommends letting it sit for up to 30 minutes if you can spare the time.

Easy application, faster, hassle-free grinding, less scratching and better polishing results are all good reasons to consider a surfactant like First Cut and KickStart. That's why, says Schmiegelow, "It's on every truck." 

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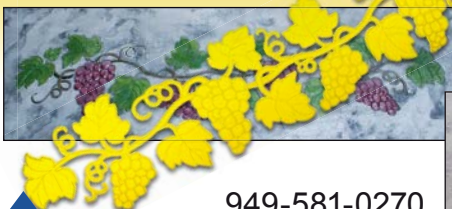

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Down to Earth

by Stacey Enesey Klemenc

THE request from JMC: Museum Arts LLC to Sundek of Washington was an odd one. “Can you make floors that look like dirt?” JMC asked. Not dirty floors, mind you, dirt floors.

The company, headed up by Jonathan Martin, a man renowned for his imagination and attention to detail when it comes to building custom-themed environments, was searching for a subcontractor that could help his team bring his vision of The Museum of the Bible in downtown Washington, D.C., to fruition.

The technologically advanced museum lets visitors journey back to a time when Jesus of Nazareth walked the earth. A place where villages with stone walls, dirt floors, olive trees and oil lamps, along with a mural of the Sea of Galilee and the sounds of wood carts in the distance, combine for a memorable and unparalleled experience in an environment inspired by the events described in the Bible.

Sundek of Washington was up for the challenge. Over a few months’ time, it engaged in a series of meetings and



site visits to grasp the concept of how a decorative concrete dirt floor could contribute to ensuring visitors an immersive, realistic experience.

Several Sundek products were considered, and samples made to try to capture the right color tones, shadowing and flow. After all, JMC wasn’t looking for a perfect decorative overlay for the floor but insisted on one that would be installed perfectly. Company officials finally decided on the Sundek SunStone system.

But it wasn’t that cut and dry.

Before an approval could be decreed, a live sample had to be performed on a floor in the museum. Sundek of Washington’s Bob Miller and Guadalupe Velazquez assembled their team. The existing cast-in-place floor had a hard-troweled finish that had to be ground with 25-grit diamonds to achieve the profile needed for bonding.

Special equipment with pre-cyclone collectors were used to assure a dust-free operation. Mixing was done in a specially constructed chamber to minimize impact. The mix was carefully placed just thick enough to produce the wanted granular look. Once cured, the Sundek team returned and applied the topcoat stain and sealer — all under JMC’s watchful eye.

Three weeks went by as a host of benefactors scrutinized the work before Sundek was given the final blessing to do the installation with one steadfast caveat: there were to be no joints or bulk heads in the 5,100-square-foot overlay.

A team comprising 18 installation technicians and three mixing technicians worked on the project — including five of Sundek of Washington’s best hand trowel men led by Guadalupe who placed each hand-carried 5-gallon pail of mixed SunStone during a 10-hour period.

The sculpted earth floor was covered for weeks as the museum’s final props were placed and lights installed. Finally, the tools and materials were moved out and the earthen floor was revealed. And all agreed: it was good. 🛠️

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Photos courtesy of Sundek of Washington

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