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Vol. 18 No. 5

July 2018

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July 2018

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Publisher's Letter



Dear Readers,

One of the benefits of being a decorative concrete contractor is the investment product manufacturers make toward ongoing product innovations. And so it is that those who know are the ones that grow! What's an even bigger benefit to this industry are manufacturers around the world who see opportunity for the use of existing products in decorative concrete while eagerly investing their know-how in technologies that can increase your benefit.

They invest in this industry because they see market opportunity plus ongoing problems that demand better products for the job site. What manufacturers also want are contractors who don't just know the "who, what, where, when and why" of different product technologies but also the "how" technologies are best applied.

That's a challenge that most appropriately resides with contractors and their crews. And it's here that an ongoing exchange of information and ideas is critical to your success. Rest assured, when this is not happening we exchange our competitive disposition in the marketplace for "status quo," a tool other trades will use to justify the decision for their traditional building systems.

While I've emphasized the importance of ongoing education before, the subject doesn't grow old. I see education as the so-called "Gorilla Glue" that holds this industry together. Some may even find me difficult to work with because anything that appears to threaten this core value is a threat to an industry I have served with *Concrete Decor* for the past 20 years. As a tradesman before I became a publisher, I know trade skills are a necessary bedrock for realizing the full measure of a benefit in product innovations.

Similar to ways our industry supports architectural design professionals with Continuing Education Units at box lunch events, each of us should also be obliged to invest in this educational process. Manufacturers develop certification programs to address the nuances of their respective technologies, and rightly so. Without it, manufacturers can't really do much to mitigate problems that come from improper product applications simply by putting a "For Professional Use Only" on the label.

You can, though! In fact, you can do more than that. You can go as far as commanding a higher square footage price because your team's skills are constantly in check with an industry that's constantly investing in you.


Enjoy this edition of *Concrete Decor* as we, too, continue investing in you and your success.


Sincerely,

Bent Mikkelsen
Publisher


On the cover: Artisan Jon Kopp of Quality Epoxy in Gilbert, Arizona, got into installing metallic coatings by accident but now he can't imagine life without them. This stunning floor features the color Merlot masterfully manipulated by Kopp.

Photo courtesy of Quality Epoxy

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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 10.



Steve Johnson has been with Solomon Colors/Brickform for 20 years after being self-employed for 10 years specializing in decorative concrete. He began his Solomon career in technical support and also trained contractors across the U.S. and South America to stamp concrete. Five years ago, he moved into sales and now manages sales in Illinois, Indiana, Missouri, Kansas and Iowa. He can be reached at sjohnson@solomoncolors.com. See Steve's sidebars in the article beginning on page 16.



Ryan McBride heads up business development national projects for Husqvarna Construction Products/HTC. He can be reached at Ryan.Mcbride@husqvarnagroup.com or (404) 747-8282. See Ryan's article on page 36.

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Major Change to ASTM F2170!

Measuring moisture in concrete floor slabs now takes just 24 hours for the final reading, not 72 hours. But only with relative humidity (RH) testing -- known for its unmatched speed, accuracy, and reliability.

RH testing with the Rapid RH® just got faster -- a lot faster! ASTM F2170 guidelines have been updated, shaving two full days off the required test time for final readings. You can make important project decisions quickly with confidence as always. Final readings come two days sooner, saving both time and money. No similar ASTM update is expected for other concrete test methods.

The choice is clear. If you're looking for a concrete moisture test that's FAST, accurate, and reliable, choose Rapid RH®.

For more information about the new RH test guidelines, call 800-207-2164 or visit www.RapidRH.com.





Cabinet designed for safety gear

Knaack, a leader in tool storage and security, recently debuted the Safety Kage, a ventilated cabinet that offers ample secure storage space for fall protection and personal protection equipment.

The vivid green cabinet provides maximum security against theft, while also ensuring safety products are conveniently accessible. It's designed into three sections, each providing a protected location for various on-site equipment.

The exterior of the unit's double doors includes spaces for a fire extinguisher, an eye wash station and a first aid kit. Inside the cabinet, the left side has three shelves to store hard hats, vests and gloves. The top shelf contains cubby holes for smaller safety items such as dust masks and ear plugs. The right side has hooks to hang harnesses, pulleys and ropes.

The cabinet doesn't come with a first aid kit, fire extinguisher, personal eye wash or castors.

www.knaack.com



New sealers offer all-in-one benefits

Nox-Crete Products group, an industry leader in concrete chemical solutions, introduces two new combination water-repellants and membrane forming sealers: Duo-Shield and Tri-Shield.

Both products combine a deep-penetrating silane and a low molecular weight acrylic resin to seal concrete from the damaging effects of deicing salts and freeze/thaw related scaling. They also provide stain protection from other contaminants such as food and automotive drippings.

The acrylic component in each product gives decorative surfaces like stamped concrete a wet look and will enhance the natural colors. Tri-Shield has the added advantage of being used as a curing compound on freshly placed concrete while Duo-Shield is used as a sealer on existing concrete only.

Both products are designed to resist oxidation and yellowing when exposed to exterior conditions, and both offer excellent water vapor permeability and resistance to blistering. Duo-Shield and Tri-Shield are VOC compliant and can be used anywhere in North America except California and Utah.

www.nox-crete.com

(402) 341-2080

Low VOC Coatings Made for High-Traffic Floors

Coatings for Industry has added two new highly durable, near-zero volatile organic compounds coatings to its Wearcoat line. The coatings — Wearcoat 2330 Gloss and Wearcoat 2345 Satin — were developed for commercial concrete floor applications where low odor, quick return to service, excellent durability and aesthetics are key in areas of commercial buildings with high-volume foot and wheeled traffic.

Typical applications for the coatings are high-traffic, high-visibility areas, including big-box retail, grocery stores, restaurants, schools, hospitals and airport terminals. They are also well suited to many types of plants and manufacturing facilities where heavy-duty wheeled vehicles are tough on the floor.

Because they contain nearly no VOCs and have virtually no odor, they can be applied in public buildings, even while occupied.

Wearcoat 2330 is a two-component product that offers a gloss finish. Wearcoat 2345 offers a satin finish and is applied in three parts, including an aggregate component. Both are 95 percent solids and are applied as one coat at 3 mils. They feature an average pot life of 30 minutes and coverage of 500 square feet per gallon. The products dry to touch in four hours and for foot traffic in 12.

www.cficoatings.com

(215) 723-0919

Power cutter delivers power, performance

The evolution of the Husqvarna power cutter range has been met with approval from professionals all around the world. Now the company introduces yet another landmark in power cutting – the K 770. It features a 74-cc engine, a massive torque, a 5-inch (125-mm) cutting depth and the efficiency of your choice of blade.

When it comes to productivity, Husqvarna K 770 plays in its own league thanks to the high power-to-weight ratio. The exclusive design increases the exactness and the force of the cut, while the low weight and the vibration-damped chassis ensure comfortable handling during long work shifts.

The spring-loaded, semi-automatic SmartTension technology makes it easy to ensure that the drive belt is always kept in the correct tension. And thanks to the new heavy-duty cutting arm with three-bolt joint, longevity and durability are guaranteed.

For even safer handling, the power cutter comes with a comprehensive user guide, a digital hub containing instructional videos and educational material that will help both experienced as well as first-time users.

www.husqvarnacp.com

(913) 928-1000



Updated dust boxes comply with OSHA

Milwaukee Tool has built upon its current M12 Universal Hammervac Dust Extractor and M18 Dedicated Hammervac designs with an updated dust box. Both units use a replaceable HEPA filter for efficient debris filtration. An updated dust box allows users to easily clean the filter with the press of a button, making these tools OSHA-compliant solutions through Table 1 requirements.



Per HEPA standards, the certified filter removes 99.97 percent of particles greater than 0.3 μm . However, the M12 and M18 feature unique replaceable filters so users can replace the filter independently of the dust box to cost-effectively maintain suction efficiency. By pressing a button twice on the side of the unit this filter cleans itself when users empty the dust box.

Compatible with all major power tool brands of SDS-plus rotary hammers and AC/DC hammer drills, the M12 comes with three sizes of side handle collars that the user can adjust to fit the tool securely. The M18 features an in-line design engineered to connect directly to, and be powered by, the M18 Fuel 1-inch and 1 1/8-inch SDS-plus rotary hammers.

www.milwaukeetool.com
(800) 729-3878

Penetrating sealers extend concrete's life

Vexcon recently introduced two new water-repellant sealers: Certi-Vex Penseal 244 FD and Starseal Guard DC.

Certi-Vex Penseal 244 FD, a high-performance, breathable fast-drying clear silane penetrating sealer, is ideal for cool weather applications and where dry time is critical for fast return to service.

It stops the intrusion of water, salts, deicer chemicals and acids, which often result in efflorescence, mildew growth, corrosion, scaling, spalling, surface erosion and other costly damage to hard surfaces. The new sealer also offers long-term protection against wind-driven rain, airborne contaminants, surface spalling and other extreme weather conditions.

Starseal Guard DC, a water-based one-step seal and cure, combines the benefits of a penetrating water-repellent sealer and a dissipating white curing compound for fresh concrete into one product.

The product, which meets ASTM C-309 curing requirements and the chloride ion penetration requirements of NCHRP 244, forms a temporary film that restricts moisture loss allowing concrete to reach maximum strength and durability. When the curing compound wears off, the concrete remains protected from the harmful effects of freeze-thaw cycles, salts and deicer chemicals that can result in costly damage to concrete.

This innovative one-step product eliminates the costly removal of curing compounds and time-consuming water curing of fresh concrete when a protective penetrating water-repellent sealer is desired. Once applied, the surface is properly cured and water repellent in one application.

www.vexcon.com



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Line expands with entirely new grinder

HTC has added an entirely new Duratq 5 to its award-winning line of grinders. The Duratq 5 has a grinding width of 20 inches (515 mm) and is available in two models — one with a motor rated at 3 hp (2.2 kW) and the other at 5 hp (4.0 kW). Both models have been entirely redesigned have features unique for their size. They replace the HTC 420 and HTC 500.

Some of the grinders' 75 new features are:

- Digital control panel.
- New grinding head, hermetically sealed and dustproof.
- Energy-efficient motors.
- Modular chassis and grinding head for easy transport.
- Mist cooler system.
- Easy-to-handle weights for three different grinding pressures.
- 20 different handle settings.



With its compact dimensions, the machine is suitable for both small and medium-sized surfaces. HTC's assortment includes more than 120 compatible tools, enabling it to handle everything from grinding concrete and other rough surfaces to polishing natural stone and sanding wooden floors.

Duratq 5 has been developed from the ground up by HTC's own R&D department based on the same technology as the larger Duratq 6 and 8. Because of every component's precise design, the service interval is an impressive 1,000 hours.

www.duratq.com

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Admixtures certified to comply with OSHA regs

The Helix and HBS brands of decorative concrete admixtures made by ChemSystems Inc., a leading specialty manufacturer of decorative concrete products based in Houston, Texas, have been certified by an independent laboratory to be below the OSHA permissible exposure limit (PEL) for respirable crystalline silica.



This certification means all Helix and HBS branded products can be used on projects with the most stringent respirable crystalline silica standards. The products will carry a red label stating their compliance.

Effective Sept. 23, 2017, OSHA's Respirable Crystalline Silica standards (29 CFR 1926.1153) for construction requires employers to limit worker exposure to respirable crystalline silica and to take other steps to protect workers. The new standard requires employers to determine the amount of silica that workers are exposed to if it is, or may reasonably be expected to be, at or above the action level of 25 µg/m³ (micrograms of silica per cubic meter of air), averaged over an eight-hour day.

ChemSystems, through a certified independent laboratory, tested all raw materials containing silica and determined them to contain < 0.006 percent. Further testing showed that under normal conditions the expected use of this product won't result in exposure to respirable crystalline silica that exceeds the OSHA PEL.

However, actual exposure to respirable crystalline silica on a given job site can vary depending on product use and environmental conditions. Always use a dust mask and other appropriate personal protection equipment.

ChemSystems has added a Respirable Crystalline Silica Compliance Statement to the packaging labels of products containing silica, as well as a special silica compliance sticker to easily identify these products.

Crystalline silica is a common mineral found in construction materials such as sand, stone, concrete, brick and mortar. When workers cut, grind, drill or crush materials that contain crystalline silica, very small dust particles are created. These tiny particles (known as "respirable" particles) can travel deep into workers' lungs and cause silicosis, an incurable and sometimes deadly lung disease.

Respirable crystalline silica also causes lung cancer and other potentially debilitating respiratory diseases such as chronic obstructive pulmonary disease and kidney disease. In most cases, these diseases occur after years of exposure to respirable crystalline silica.

[\(800\) 545-9827](tel:8005459827)

www.chemsystemsinc.net

Industry experts headline Decorative Concrete Fair

THE raw concentration of decorative concrete talent was one of the biggest draws for the 2017 Decorative Concrete Fair hosted by Solomon Colors. That will continue Aug. 21-23 at the upcoming 2018 fair at Solomon Colors' training and technical facility in Springfield, Illinois, with an all-new roster of industry experts.

Confirmed trainers include Brandon Gore, Rocky Geans, Chris Sullivan, Rachel Knigge and



The Cement Sisters. Decorative Concrete Fair trainers will conduct educational demonstrations, teach classes, hold seminars and moderate round tables on a wide variety of decorative concrete related topics. Attendees will have the chance to learn practical skills as well as gain insight on planning and design, business management and how to



Rachel Knigge of Floormaps will return to the fair this year to demonstrate her stencils with Brickform stains and dyes.

market their business.

Completely new this year will be the Game of Stones. Crews of four to six, with a "rouge team" available for individuals, will compete in this contest. The challenge is to design and build the best decorative concrete installation in just over a day with a limited selection of tools and materials.

Contestants will be judged on the functionality and technical merit demonstrated, just as much as design, creativity and artistry.

A celebrity panel will judge the entries and a grand prize — a custom utility trailer filled with more than \$7,500 in Brickform texturing tools — will be awarded to the winning team.

Game of Stones registration closes Aug. 1.

The Decorative Concrete Fair is an educational event for the decorative concrete industry hosted and organized by Solomon Colors. All-inclusive preregistration is \$100 and day-of registration is \$200.

www.decorativeconcretefair.com



Mike Archambault with The Béton Academy and Moderne Methode in Paris, France, addresses integral color from the contractors' perspective during a demonstration at the 2017 Decorative Concrete Fair.

Photos courtesy of Solomon Colors/Brickform

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Data Loggers Available to Track Relative Humidity and Temperature

In an effort to help contractors resolve moisture-related problems in concrete, Wagner Meters and Tramex are introducing new monitoring devices to track and document relative humidity and temperatures at a job site. Wagner Meters' device, the Smart Logger, debuted in early April while Tramex's product, FeedBack, is slated to launch in the very near future.

Both data loggers use Bluetooth technology and an app that works with Apple or Android smart devices. You can download either app for free from the Apple App Store or Google Play. The actual devices must be purchased.

Smart Logger works while you're away

Wagner Meters, headquartered in Rogue River, Oregon, has designed a lightweight 2-inch-square monitoring device that connects to its Smart Logger app using the latest Bluetooth 4.0 technology. The app lets you record and transmit ambient relative humidity and temperature, and send data reports via email directly from the job site.

The monitoring device can be installed on a wall or in an out-of-the-way location at a job site. "It can collect information on ambient conditions on a job site before, during or post-installation," says Jason Spangler, flooring division sales manager for Wagner Meters. "You can leave it on a



Photos courtesy of Tramex



Tramex's FeedBack data loggers will be available in two models: an ambient data logger DL-RHTA (the blue one) and an ambient data logger DL-RHTX (the red one) with an optional, attachable in-situ relative humidity probe and surface temperature probe.

job to record the data so you don't have to think about it."

When you do return, simply use the app to download the data to your mobile device and send a report to the general contractor or client.

The Smart Logger is a handy device for residential and commercial installation professionals who work on projects that require exacting

conditions when it comes to temperature and relative humidity. "It enables them to determine whether or not job site conditions are right for a successful installation," Spangler says.

With the Smart Logger, users can collect and store up to 12,000 readings of ambient temperature and relative humidity conditions for up to 300 days.

The Smart Logger can be purchased online in single packs, five packs and 20 packs.

FeedBack lets you create and export spreadsheets, charts and reports

FeedBack, designed and developed by Kilmacanogue, Ireland-based Tramex, can log up to 100,000 data point entries for relative humidity, temperature, dew point and grains per pound. The information is transmitted wirelessly via Bluetooth BLE technology. The logging interval rate can be adjusted to record readings between five minutes and one hour.

"This device can monitor the conditions of the environment before contractors begin the work," says

The Smart Logger from Wagner Meters tracks and documents ambient temperature and relative humidity conditions discretely and constantly, even when the contractor is away from the job site.

Photo courtesy of Wagner Meters




Kelvin Rynhart, sales manager for Tramex, as well as during the job. “They can see what humidity conditions have been in the building to make sure they don’t go near the condensation point.”

The FeedBack data logger, along with the corresponding app and a compatible iOS or Android mobile device, gives contractors live ambient readings and air quality measurements. It also lets them create and export spreadsheets, charts and reports, including psychrometric charts that show relative humidity, specific volume, wet bulb transfer, dry bulb temperature, humidity ratio and dew point.

“It’s important to know how much moisture is in the air,” Rynhart says. “It can mean the difference between failure and a successful install.”

Measuring about 4-by-3½ inches, the device is powered by one AA battery and is capable of connectivity up to 50 feet for data downloads. It comes with a wall mount and tripod but can also be operated handheld.

According to Rynhart, FeedBack will be available in two models: the DL-RHTA, an ambient data logger, and the DL-RHTX, an ambient data logger with an optional, attachable in-situ relative humidity probe and surface temperature probe that can be used to test to the ASTM F2170 standard. 

 www.tramexmeters.com

 www.wagnermeters.com/smartlogger



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Grow Your Business by Working Smarter, Not Harder

by Greg Iannone

SUCCESS can't and shouldn't be measured by comparing your business against your peers'. Comparison is a dirty word and an even worse habit which can lead you down a rabbit hole of self-doubt, worry and personal as well as professional destruction. After all, we all have different motives and goals as why we do what we do.

If we remain true to our principles while doing a few things exceptionally well, all the while keeping our eyes focused squarely on the mark, success will surely follow. That sounds easy, right? Here is where the working smarter rather than harder part comes into play.

Decorative concrete done well is free advertising. It's like having a billboard on the side of the road. I've written that phrase or something very similar many times in the past and it's true — it is free advertising for the industry.

There's an old saying John F. Kennedy often said: "A rising tide lifts all boats." The meaning is clear and applies to our industry as well. A good economy benefits all contractors. Decorative concrete done well benefits the entire decorative industry and serves as a billboard for the entire industry.

The real question, though, is how can your decorative work serve as your own personal billboard and benefit you and your business directly? In other words, how can it raise your company's ship to sit higher in the water as measured by your own standards?

Realize the 'big picture'

Over the years, I've had the opportunity to meet, work with and get to know many concrete and decorative contractors. Some are amazing artists and tradesmen but have no business sense. Others are similarly talented as well as excellent at promoting and marketing their business. While others fall into a third category of being very talented and are thirsting for knowledge



on how to better their business, they just don't know how. Some haven't yet realized that they need to.

This third category of contractors is very busy during a good economy and is working hard, doing the job right. During the good times, they have a backlog of work and are moving from one job to the next, placing and stamping concrete, or staining, polishing or whatever their decorative specialty is by day, and oftentimes bidding more work at night. If you visit the job site, they will be in the middle of it all, kicking butt and taking names. What this type of contractor may lack is perspective.

They are so busy working in the moment that they don't have the proper perspective. I recommend taking a step back to get a better view. It's like flying over the country at 5,000 feet in altitude versus 30,000 feet. At the higher altitude, one's perspective changes dramatically and you begin to see the "big picture."

You may begin to realize that your crew, which you have trained, is quite capable of doing a lot of the physical work that you've always done, with only a little supervision. This can free you up to make your company better in other ways.

Ask yourself questions

Take a few minutes to answer the following questions:

- Do I keep a database of previously completed projects complete with pictures?
- Do I offer and promote a sealer maintenance program for all my projects?
- If yes, do I ask my clients for referrals when I am completing the reseat?
- If no, why aren't I taking advantage of this sales opportunity?
- Do I have company signs that I can leave in the customer's yard during construction and for a week or two after completion?
- Am I active on social media?
- Do I leverage my relationship with my material supplier to build a relationship with the manufacturers of the products I use most? If not, why not?

We live in a time where information is readily available, a time where a little bit of consistent promotion can go a long way in making your company reach the goals you've established.

Recently, I was speaking with a contractor who was active prior to the age of instant information. I asked him one simple question: How did he brand or market himself? He responded by saying that he built a hardscape exterior space at a home and garden center.

Any customer who entered the area was literally standing on his work. They took home his information and he built a very profitable business. He elaborated further by saying, after he completed a project he walked the block on both sides of the street, passing out business cards and encouraging people to take a closer look.

Interact for success

Now in the era we live in, keeping a record of every project in a database with pictures and details is quick, easy and efficient.

I have both spoken and written many times in the past about the opportunity to make residual income through offering a maintenance package on every project. The average cost of a reseal is between 50 and 75 cents per square foot.

If you're resealing your own work, the gross profit can be as high as 70 percent. Offering a maintenance package on your own work will become second nature. You'll develop long-lasting relationships with your clients who, when asked, will be more than happy to recommend your services to their friends and neighbors.

Marketing your company with yard signs and walking the block as mentioned above is a good way to break the ice with curious neighbors.

Check out the various social media platforms such as LinkedIn, Instagram, Pinterest, Facebook, Twitter and Snapchat. Pick one or two and begin interacting within the decorative concrete industry. "Liking" others' work and providing positive comments, as well as showcasing your own work, will demonstrate that you're interested in being a positive influencer within the social media community.

Stay positive and stay away from the negative or the need to criticize. By staying above the fray, others will take note and you'll be surprised by how

your opportunities to do the type of projects you really like will increase.

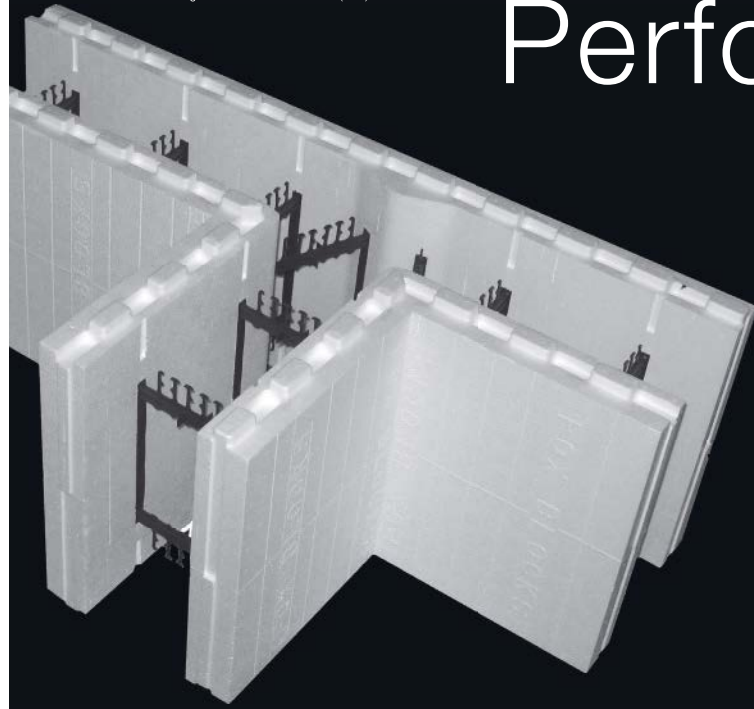
Lastly, use appropriate #hashtags. This is a way to collect and store the work you and others post online in the same place. Potential customers can search for ideas, as well as your company specifically, resulting in more opportunities to perform the work and projects you really like.

Some contractors will take just about any concrete job that comes along — gray flatwork or otherwise — to stay busy. By working smarter rather than harder, you'll be able to work on the types of projects that bring you joy. Higher profits aren't a bad thing either. 🛠️

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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ARTISAN IN CONCRETE



Jon Kopp Quality Epoxy, Gilbert, Arizona

by Vanessa Salvia

JON Kopp of Quality Epoxy LLC in Gilbert, Arizona, got into metallic systems strictly by accident. And now, after 20 years in business, he wouldn't change anything. He has a huge social media following and satisfied clients who hire him based on what only he can deliver.

Thirty years ago, Kopp transferred to Arizona from Los Angeles as a ramp agent/supervisor for America West Airlines. Later, a friend of his had purchased a home and called to ask if he would help him paint the garage floor — literally using house paint.

"I did that and when I was done I told him it looked nice but I guarantee we did it wrong," recalls Kopp. "I said we should research how to really do this and start doing it right."

The friend seemed interested, so that evening Kopp made fliers advertising garage coating services. His friend, however, backed out. "He didn't want the risk of starting a business. That was the best answer he could have given me because I moved forward on my own —

and in my own way — and now here I am many years later," says Kopp, who has always had an entrepreneurial streak.

Kopp and that buddy are now casual acquaintances, and Kopp is grateful he let him move forward alone. "I don't know if I would have been able to stay in business if I had a partner who wasn't interested in running a business the same way I was," Kopp says. "The only way forward is to take risks."

Let the chips fall

Two decades ago, the coatings business was much less sophisticated than it is now. Kopp taught himself using the products available at the time. He's never had any training and never worked with anyone else doing what he does.

His first job involved an extremely basic solid-colored two-part epoxy from the hardware store. Kopp quickly realized he needed to start using higher-quality materials if he wanted to stay in the game. So he switched over to Arizona Polymer Flooring products, a brand he still uses today. (APF is now a



brand of ICP Construction, a division of Innovative Chemical Products.) Kopp buys his metallic powders from Cohills.

Early on, Kopp offered only solid-color flooring, but then began offering a five-layer system with 5/8-inch chips. He wanted to make himself stand out in an area where others offered three-layer systems with 1/4- or 1/8-inch chips. "Technology was changing and I not only wanted to keep up but I wanted to best the competition," he says.

But then, in 2010, Kopp got "burned out" on doing so many chip floors. "I felt done, just over it, ready to sell my business and quit," he says. "I was bored."

That's when he stumbled upon metallic coatings on the internet and got a new lease on life. "Nobody in my area was doing them," he says. "I knew then that metallics were what I wanted to do."

He went back to APF with his new plan. The company was on board, and Kopp was able to create metallic floors with APF products that weren't on the market yet. Within the first six



months, he started mixing colors and using different disbursement methods with solvents. “And I figured out which solvents would give me what effect,” he says.

He truly appreciated the unique look of a metallic system, as it was similar to what he already did but different enough to keep him interested. “The more I worked with it, the better I understood the medium and how to manipulate it to my advantage,” Kopp says.

“I knew it wasn’t a cut-and-dried, uniform system like the chips. This was something I could be creative with.

Every floor is unique and moves on its own will.” He’d found his niche, he says, and was sticking with it.

Now, Kopp continues to offer chip flooring but he charges a minimum of \$1 more per square foot because he dislikes doing it. He also wants to encourage his customers to choose the more unique look of the metallic system.

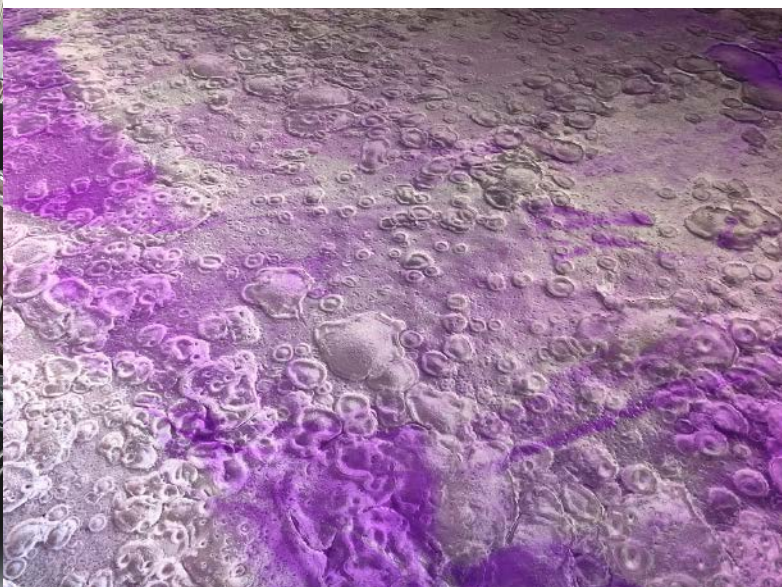
“People call me up wanting the chip floors because they want a multicolored floor and don’t know what a metallic system can offer,” he says. “When I explain to them that for much less they’re going to get a durable, high-

quality, beautiful floor with color disbursement throughout and a 3D appearance with a 100 percent urethane that is UV protected, most don’t want the chips anymore. But if they do, that’s what they’ll get.”

No two are alike

With his metallic flooring, color disbursement and its 3D appearance are what’s most appealing to his customers. Kopp has done water-colored floors that look like oceans, as well as earth tones in browns or contemporary grays.

Metallic systems are so eye-



catching and captivating that most of his customers quickly change their minds when they see examples of his metallic work. Kopp has developed his own technique, so other metallic flooring installers can't exactly achieve Kopp's look.

Living in Phoenix, every job is challenging because of the extreme changes in temperature year-round which range from 20 degrees to 120 degrees Fahrenheit. "In the extreme heat, you have to get your product out of the bucket as soon as you can because when it's confined it's going to

flash a lot faster than when it's on an open floor," he says.

Kopp most appreciates when his customers trust him enough to let go of their expectations. "I'm confident in what I'm doing and I don't want to let them down," he says. "I'm constantly preaching that a metallic system doesn't have a uniform look. Even if you pick the same colors as another job, they'll never look exactly alike."

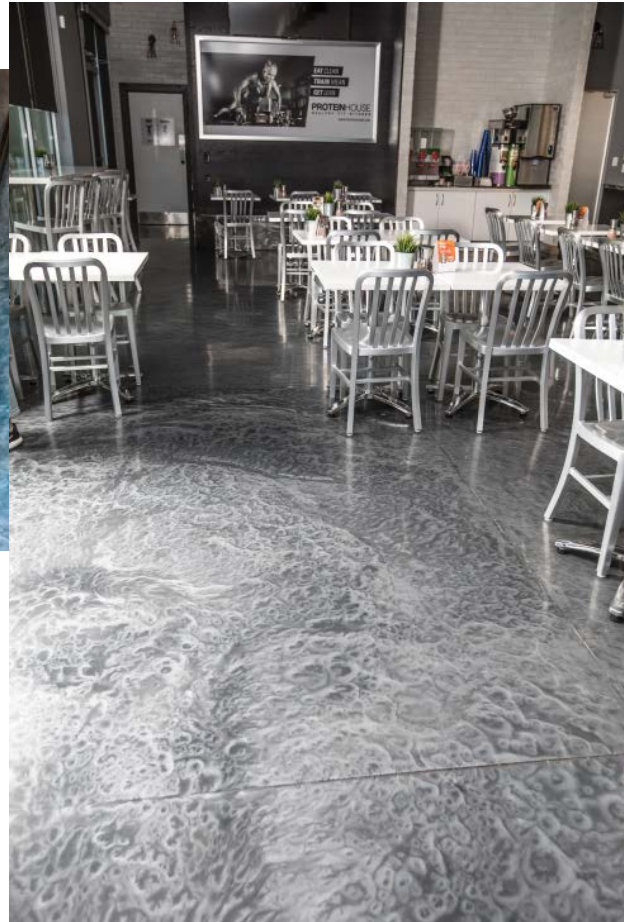
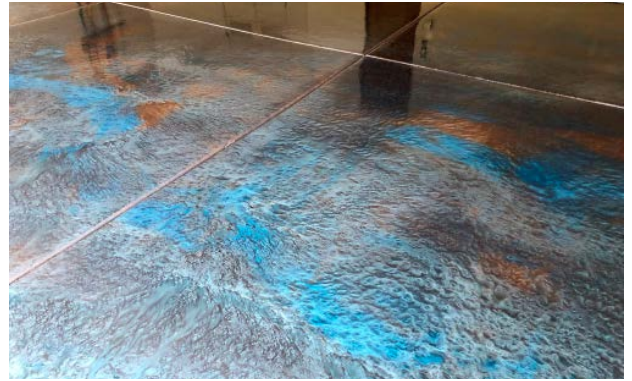
Family and friends

In the residential arena, Kopp installs metallic systems in garages and

on patios, walkways and driveways. On the commercial side, he does a significant amount of work for restaurants and hair salons.

His wife, Monica, a former dental assistant, has now become his right-hand woman, something he says should have happened years ago. Hindsight is always 20-20, he says, as it turned out they share the same unending work ethic and having her work alongside him is a dream.

"She's the best employee I've ever had," he says. "Her love and passion for what we do is almost equal to mine. We don't



even have to talk about who does what. We just know what needs to be done.”

The world has noticed, because Kopp has more than 70,000 likes on his Quality Epoxy Facebook page, and photos and videos of his work have been shared thousands of times. He has more than a quarter of a million people visiting his Facebook page each week.

“People share my posts like crazy because they’re visually appealing,” he says. “My metallic floors don’t look like other metallic floors. And, I’ve always stuck to my No. 1 rule from the very first day — I am an owner-operator

not a babysitter. People appreciate and respect the fact that my wife and I do the work ourselves.”

Some people steal Kopp’s photos and post them as their own. This really irks him “because a metallic floor is a representation of the artist who does the floor,” he says.

“Whenever you see a metallic floor you like, don’t call someone else to install the floor because it’s disrespectful and they wouldn’t know how I do what I do because I haven’t trained them. Whoever’s work you like, that’s the person you should call.”

Kopp gets calls from contractors and homeowners worldwide who want to talk to him about his work. Someday, he says, he’ll develop a training program and share his secrets. But in the meantime, he and his wife are busy and fulfilled. He enjoys knowing his work is inspiring a new generation of metallic artists.

“If my work can inspire new people in this industry that’s great,” he says. “That makes my day.”

www.qualityepoxy.com

www.facebook.com/qualityepoxy

www.youtube.com/qualityepoxy

The Inside Scoop on Integral Color



Integral color pigments are available in dry or liquid form. Photos courtesy of Alabama Pigments Co.

This method delivers concrete that is colored every which way from top to bottom.

by Erin Ansley

GREG Hurst still recalls the first time he used integral color for a concrete installation project. It was 2010 and the founder/owner of Alabama Decorative Concrete in Birmingham had been hired to install a 12,000-square-foot

driveway that would be stamped throughout. At the time, it was his biggest job, and Hurst was concerned about getting it done properly.

“It’s one thing to use color hardener over a 500-square-foot patio, but it’s

another to do it over a football field,” he says.

Hurst consulted with Alabama Pigments Co.’s (APC) national sales manager Frankie Smeraglia, and after learning about the installation process, he decided on integral color. The results were so impressive that he’s been a dedicated user of integral color ever since.

“It was a no-brainer,” he says. “If I can have my color in there and all I have to do is come back and spray liquid release and start stamping, that’s it. The amount of labor I would have had to work in the hardener, have the stamps rolling and everything else just to be able to make progress, it was overwhelming.”

Hurst isn’t alone. In fact, more concrete professionals and their clients are discovering the many benefits of integral color than ever before. Thanks to the growing popularity of visually inspired social media platforms



This stamped porch was integrally colored with APC’s Precision-Pac Greystone and accented with pewter release and Hydra-Tint.

such as Pinterest and Houzz, coupled with the ever-increasing access to home improvement shows and DIY videos, integrally colored concrete is gaining a new following of consumers who are interested in the product for their homes.

“Right now, there’s a tremendous push from customers who want to add integral color to projects for the first time in a long time because of the exposure the industry is getting from these shows. People are adding integral color in residential projects as well as in more architectural buildings,” says Brian Raleigh, business and brand manager at Davis Colors. “The world has recognized that you can manipulate gray concrete and make it functional and beautiful if done correctly.”

Despite this growth, the use is predominantly concentrated in states such as Florida, Texas and California. Although Middle America hasn’t quite caught on to the trend, Raleigh says the industry is working to change that via outreach, training and working directly with ready-mix dealers.

Meanwhile, several other factors



Photo courtesy of Davis Color

More and more homeowners are requesting integrally colored concrete for their home improvement projects thanks to exposure from social media platforms such as Pinterest and Houzz.

continue to drive the increased exposure integral color is receiving. Here, a few industry insiders weigh in on what’s driving integral color’s surge in popularity and what you need to know about the technique.

A multitude of benefits

Integral color is a blended oxide pigment available in dry and liquid form that’s combined with concrete in a

ready-mix truck and placed on-site for a rich, fade-resistant finished product. Unlike color hardener, which is broadcast across the surface of a freshly placed slab and troweled in, integral color is blended throughout the mix.

Integral colors can be used for just about any application from plazas, parking decks and sidewalks to tilt-up panels, pool decks and concrete planters. An ideal choice for residential

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Keeping Integral Color Consistent

by Steve Johnson

Placing and finishing concrete to maximize the visual appeal of integral coloring starts at the bottom — with a well-draining, compacted aggregate and consistent subgrade. It's well worth the time and effort to get it right and give decorative concrete a great start to standing up to the elements.

Concrete won't cure evenly if it's poured over an inconsistent subgrade or a mix of materials that might include dirt, plastic, wood, asphalt and existing concrete.

In cold weather, cover the prepared site with plastic or concrete blankets unless placing concrete that day. Remove covers just before placing to keep the subgrade dry and retain the ground heat. This will increase finishing time and add to the consistency of the finish and color.

In hot conditions, dampen the subgrade before pouring. This will keep the moisture from being drawn from the concrete too fast. Wet the aggregate up to the time of placing the concrete without allowing the water to pool.

If the plans call for multiple pours in one day, and the weather conditions are expected to be hot and dry, wetting the subgrade is important. This detail needs to be addressed before the first pour of the day.

If the plans call for wetting the subgrade at the 1 p.m. pour, you'll need to wet the subgrade on the first pour of the day. This may add slightly to the set time in the morning hours but could help produce a more consistent final product.

Broom finish

Of all the decorative concrete finishes, a broom finish is one of the most common and the most difficult to master. A consistent 4-inch slump is recommended for concrete flatwork with integral color.

Schedule placement of integrally colored concrete when weather is favorable. Place as many pours as manageable in the shortest amount of time so that each individual pour dries



Photo courtesy of Solomon Colors/Brickform

A broom finish is one of the most common and more difficult decorative concrete finishes to master. Seen here are the results of uneven brooming.

in the same weather condition as the concrete placed around it.

When the concrete surface is ready to broom finish, dampen the broom one time only and shake out excess water. This will avoid adding water to the surface which causes white streaking. After each pass, run your hand or a wooden stake across the hairs to remove any buildup. Don't wash the broom or dip it in water between passes during the brooming process.

A good concrete broom is money well spent. There are several on the market that have nylon resin bristles, retain their shape and have little build-up problems.

Admixtures and mix designs

Integrally colored concrete is receptive to a wide range of admixtures except for calcium chloride, which will leave the concrete surface with uneven coloring. Nonchloride accelerators work well with colored concrete and are readily available across the country. Hot water is a great alternative to a chemical accelerator.

Other admixtures that are gaining popularity are fly ash and ground blast furnace slag. Both can be used as a cement replacement or added to a mix design to increase workability and strength. It's important that you treat these admixtures as cementitious material when calculating your color dosage. Additional color may be needed.

Air entrainment, the intentional creation of tiny air bubbles in concrete, will not affect color and is still required where freeze-thaw conditions exist and where deicing agents are used. When pouring indoors or over a vapor barrier, a small addition of air entrainment can reduce bleed water. Ask your local ready-mix supplier about these products.

It's important that mix designs stay consistent throughout the job. For best results, keep concrete as close to a 4-inch

slump as possible. If a more flowable concrete mix design is needed, water reducers or plasticizers are recommended to keep the water-to-cement ratio correct.

I encourage you to have preliminary meetings with ready-mix technicians to help design a concrete mix that will best fulfill your needs. This is important with all facets of decorative concrete.

A stamp mix design may be needed for a job using a smaller aggregate or less aggregate/more sand or a delay set. Your next project may be a low loading of color with an ornamental aggregate for exposing. Ask your ready-mix technician about the characteristics of the aggregate. Harder aggregates don't absorb much, if any, water. They tend to generate a lot of bleed water where softer rock tends to absorb water and may need to be dampened before loading into a truck.

Steve Johnson has been with Solomon Colors/Brickform for 20 years after being self-employed for 10 years specializing in decorative concrete. He began his Solomon career in technical support and also trained contractors across the U.S. and South America to stamp concrete. Five years ago, he moved into sales and now manages sales in Illinois, Indiana, Missouri, Kansas and Iowa. He can be reached at sjohnson@solomoncolors.com.

and commercial clients alike, integral color is a very durable option, particularly for heavy-traffic areas, says Davis's Raleigh.

"Ultimately the difference becomes a difference of aging. If you think in terms of sidewalks or steps or other high-traffic areas, the hardener over time is going to bear the brunt because it's a topical," he says. "Integral color is part of the 'batter.' If there's a chip or crack, there'll still be color there."

Concrete professionals also tout integral color's less labor-intensive application process noting that it requires little effort to mix the color in and takes two-to-three fewer workers on-site per job. In addition, Hurst says using integral color over hardener can shave up to a few days off a project, depending on its size.

"I have done a few jobs with color hardener," says Hurst, "and it's a whole other ballgame. It's definitely way harder to use." Rather than just adding a bag of color into the truck for every yard of concrete, you must broadcast the powder and trowel it in. "(This) means it's going to dry faster, which means you have less stamp time."

APC Precision-Pacs are packaged in premeasured per cubic yard repulpable bags that may be tossed into a mixer without opening or pouring. The mixing disintegrates the bag and the pigment disperses throughout the mix. Quality is assured by a batch label system that tracks the product through production to the warehouse and to your job site.

It's critical to use the same ready-mix company throughout a job as sand, cement and aggregate can affect color consistency. Weather and water ratio also factor in.

Adding to integral color's appeal is the ability for manufacturers such as APC to match custom colors for specific projects. The company's color chart features 35 of its most popular colors.

Requests can vary and more often are inspired by other textures and colors found in the project or its surroundings, such as stone, brick or trim. Although Hurst will typically steer his clients toward earth tones, there are times when a client gets inspiration from something a bit more unusual.

"I've taken a homeowner's boxer to



Photo courtesy of Alabama Decorative Concrete

Integral color is an ideal choice for residential projects such as pool decks.

the lab," Hurst says. "and said she wants this color. We did it, and she loved it."

Know before you go

It may be easy to use, but there are still certain cautions to note when working with integral color. Manufacturers such as Scofield, a business unit of Sika Corp., have educational materials with easy-to-

follow, step-by-step instructions for using integral color.

Some of the best practices Scofield highlights in its literature for how to successfully place color-conditioned concrete include tips such as:

- If a job involves more than one placement, place color-conditioned concrete in as short a time span as possible. Finish as soon as placed.

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- Color-conditioned concrete must be placed at a consistent slump throughout the pour, with a maximum slump of 5 inches.
- Vibrate, tamp or screed the concrete, then float it to the specified finished grade, flatness and levelness.
- To finish color-conditioned concrete, use wood floats instead of magnesium floats to avoid sealing the surface and entrapping moisture.
- Always wait for bleed water “sheen” to disappear before starting floating and troweling.
- Don’t use a long-handled fresno trowel. Minimize hard-steel troweling to avoid trowel burns. Finish all the edges first and do all final hand-finishing in the same direction.

When it comes to mixing, Hurst says the job site is the best place for it. Once mixed, the color begins to extract moisture from the concrete. If the color is mixed in at the plant, drive time and traffic snags may throw off the concrete’s consistency and color.

Perhaps, the most important thing to remember when installing integral color is the amount of water used. Be sure to use the same mix design and a consistent water-to-cement ratio throughout the job with a slump between 4 and 6 inches. “Color variation may occur if batch proportion and slump are not maintained from load to load,” Smeraglia says.

Water can greatly affect the final color, he continues. “Adding too much water will lighten the color of the project, giving it a pale or washed-out

look.” Avoid using extra water at the job site. Don’t wet finishing tools or add water to the surface of the colored concrete. When better flowability is required, use a plasticizer or water-reducing admixture.

Once the concrete is placed, contractors are at the mercy of the weather, says Cam Villar, director of marketing for Scofield. To ensure inclement weather doesn’t affect a job, Villar suggests avoiding a pour within three days of rain to avoid discoloration. 

 www.alabamapigments.com

 www.birminghamconcretefloors.com

 www.daviscolors.com

 www.scofield.com

How Much Color Should I Use?

Integral colors are calculated by loadings based on total cementitious materials used per yard of concrete. Common loadings are 1 percent, 2 percent, 3 percent and 4 percent.

1 percent loading produces soft colors. It performs best when stamping with one or more colored releases that are darker. Accent this loading with dry shake colors or stains to produce natural, multiple colors. This is a great loading for exposed aggregate when a soft background color is needed to complement the color of the sand or stone.

2 percent loading produces warmer colors that work well when stamping with one or more colored releases. Use liquid as an alternative when stains or dry shake colors are used to achieve interesting marbling. Interior troweled surfaces reflect a rich color. Broom finish while keeping consistency in mind and using good concrete practices. If a broom finish is desired, maintain a 4-inch slump and use a damp — but not wet — broom.

3 percent loading produces strong colors that can stand on their own when a single color is used for broom finish or other finishes. This works well stamped with your choice of

colored release or liquid release. Accents can be done with dry shake colors or stains. Interior troweled surfaces have a rich color and make an inviting finish for large projects.

4 percent loading produces bold colors that make a statement, highly recommended when broom finishing or with other exterior textures. Stamp concrete with either liquid release or colored release of a darker shade to make the most impact. This is great for power-troweled interior finishes where a single color must stand alone. Burnished power-troweled finish makes for interesting marbling without adding a secondary color.

For an example on how to do the math, we’ll use a six-sack mix loaded with 4 percent color. It breaks down like this:



Examples of 1%, 2% and 4% loading. Top row: Slate, Smoke and Onyx. Middle row: Desert Tan, Salmon and Peach Bottom row: Canvas, Toffee and Cinnamon.

- A bag of cement weighs 94 pounds, so six bags weigh 564 pounds.
- $564 \times .04 \text{ percent} = 22.56 \text{ pounds of color per yard.}$
(94 pounds of cement measure a cubic foot)

— Steve Johnson

Project was ‘A Journey of the Heart’ for Everyone Involved

9/11 Memorial in Watchung, New Jersey

by Stacey Enesey Klemenc

WHEN sculptor Seth R. Alexander teamed up with concrete artisan Richard Winget and his son, Jacob Winget, to create the Watchung 9/11 Memorial in New Jersey last summer, the task truly involved the whole borough of Watchung.

“When they say ‘it takes a village’ to do something like this, it really did,” says Richard Winget, owner of Authentic Environments USA Inc. in Huntington Beach, California. He estimates the project could have been done in two to three weeks, but that time stretched out to a month and half. “It was a small community and we had to talk to everyone who came by asking questions” and offering advice on the details, which slowed work considerably.

One of the 9/11 Committee member’s brothers and one other town resident perished in the tragedy. Another person in town lost 130 friends when one of the towers collapsed and wiped out an entire office.



Photos courtesy of Seth R. Alexander and Richard Winget

The Watchung Mountains are the last ridge before New York City, and Alexander, like some others in town, watched the towers collapse from a home along the mountains’ edge.

How it began

The project began a few years ago when the borough acquired an oddly shaped 7-by-7-inch piece of steel from one of the World Trade Center towers. After reviewing multiple presentations, the Watchung Borough Council commissioned Alexander for the job of incorporating it into a memorial on its Village Green, a gathering place for town events, to pay tribute to the 9/11 tragedy that shook the world.

After contemplating what he could do with such a small piece of the fallen trade center, it hit him. If you turned it just so, it looked like a heart. And if you positioned it waist high, people could place their hands on the heart and connect with it. “Thus began the design which would become known as ‘A Journey of the Heart,’” says Alexander.

The Watchung Borough Council decided it wanted something more involved than just mounting the steel piece on a slanted stone pedestal. Alexander got to work and created clay



models that he integrated into 3-D software programs to show a crescent-shaped, stacked-stone wall made from concrete. The front featured a mural telling the story of Sept. 11, 2001, and attached seating areas for people and vases of flowers.

In front of the wall, where the pedestal was to be erected, a concrete slab would incorporate a medallion made from a piece of granite from the base of the Statue of Liberty.

The mural’s design on the simulated

Project at a Glance

Project: 9/11 Memorial in Watchung, New Jersey

Client: Borough of Watchung

Designer/Sculptor: Seth R. Alexander, www.sethralexander.com

Decorative Concrete Contractor: Authentic Environments USA Inc., Huntington Beach, California, www.authenticenvironments.com

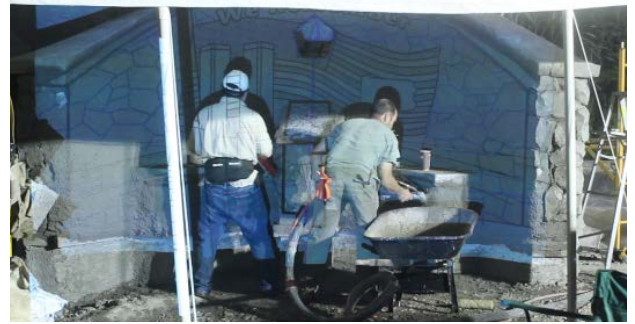
Cast-in-Place Wall and Flatwork: Paul Amorim, P&R Concrete, Warren, New Jersey

Scope of Project: To create a 9/11 carved concrete memorial that incorporated a piece of steel from the World Trade Center and granite from the Statue of Liberty.

Most Challenging Aspect: Projecting the image on a curved wall and maintaining an undistorted image. Maintaining a narrow color palette, gradations of the same warm colors.

Products Used: Carve-Right vertical mix (www.carve-right.com), flat exterior varnish and acrylic paint from Modern Masters.

PROJECT PROFILE



fieldstone incorporates the World Trade Center towers, the state of Pennsylvania with a heart-shaped marker where United Flight 93 went down and an opening in the shape of The Pentagon, all positioned within an American flag backdrop.

The Borough Council unanimously approved Alexander's design.

Alexander, a sculptor that captures the human form in various mediums including concrete, had studied vertical concrete stone facing with Nathan Giffin. To achieve this sizable undertaking, he knew he needed someone with extensive experience.

Online, he discovered Winget's company, Authentic Environments

USA Inc., and not only liked Winget's artistry but was impressed he had developed a special vertical carving mix, Carve-Right.

Alexander recommended the 9/11 Memorial Committee to contact Winget to help build the memorial. Winget says he and his son were honored to add their talents to this most worthy project and share with Alexander some of their unique tricks of the vertical trade.

Carving the stone

Paul Amorim of P&R Concrete of Warren, New Jersey, led the team that made the cast-in-place crescent wall and did the flatwork. The wall stands 7-feet

tall at its center and projects a unified shape, says Alexander. "We had our blank canvas and were ready to start."

The Wingets first carved and shaped the caps for the wall and benches, "a major undertaking," Alexander says, "in terms of construction."

Next the trio carved the memorial's back wall, which resembles stacked stone. "We fine-tuned the stones' sculptural context to each other," Alexander says. "Richard showed me his method of texturing so the monument would have consistency."

Although the city skyline with the American flag backdrop was Alexander's design, it was the elder Winget's job to figure out the fastest and best way to carve it. The plan was to project the image onto the front wall and carve at night so they could see the lines.

"It was challenging to reproduce a square image on a curved wall," Winget says. To overcome this, Alexander used Photoshop to create the elements of his design on seven different layers, so he could adjust each layer in real time on-site. To complicate matters even more, they had to contend with delays due to rain and part of the time worked under a canopy.

The mural part of the project involved shooting 3 inches of Carve-Right mix onto the wall and then





Seth R. Alexander



Richard Winget



Jacob Winget

scribing out and carving the façade in a single session. “Richard, Jacob and I started at 5:30 p.m. Sunday night and went home Monday morning at 11,” Alexander remembers.

“I had worked with conversion bag mixes in the past that were fine, but the Carve-Right product is in a class of its own,” he adds. Consistent from bag to bag, “You can articulate the form you’re trying to achieve without fighting with the material. I know now why they call it ‘gray gold.’”

As for challenges, Winget says the biggest hurdle they had to clear was the coloring. They used seven different colors of acrylic paint and stains that were applied wet on wet to create the natural color scheme of stacked stone. To maintain warm and controlled colors, they painted in one tone and used additional washes if they wanted a color to be darker.

“Painting in the values was challenging,” Winget says. “We colored and recolored the back stones until we got it just right.”

“If you look at my clay models and the final coloring, Richard matched it flawlessly,” Alexander says.

A heartfelt accomplishment

“Unlike other memorials in nearby boroughs, ours is a ‘journey of the heart’ which explains the tragic event,” Winget says of the Watchung 9/11 Memorial. “Everything is represented — the flights, The Pentagon, the towers and the state of Pennsylvania. It speaks volumes about the people who went through this ordeal.”

The borough went through an extensive creative process, with many people and many meetings before a design was confirmed. Alexander’s late wife, Jaime, was a very active supporter and her efforts helped bring

the memorial to life. Sadly, she passed away two months before the memorial was completed.

“Seth’s design excelled in explaining the event,” Winget says. “That’s what intrigued me about this project and the fact he poured so much of his life into it.”

Winget says this is the biggest undertaking he’s ever been a part of as far as memorials go. He worked on the Navy Corpsmen Memorial at Camp Pendleton in Oceanside a few years ago. “But these details paled in comparison to that one,” he says.

“If someone who didn’t know anything about the attack would look at the memorial, they could ascertain themselves that the towers, The Pentagon and the state of Pennsylvania had something to do with the tragedy,” Winget says. “It tells a story about what happened to America. Even from a distance, it draws people in.”

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A urethane coating on this brew pub floor ensures durability, despite the likelihood of heavy carts and hot water being used on it. Its good looks and the ability to include the company's logo are bonuses.

Photo courtesy of Increte

CONCRETE COATINGS: BETTER LIVING THROUGH CHEMISTRY

by K. Schipper

WHEN it comes to concrete, it isn't necessarily easy to define what a coating is. In its broadest sense it can be a general term for any chemical that's applied to a surface to seal or protect it.

In the decorative market, that includes a host of sealers that are typically acrylic-based and leave a clear thin film on the concrete's surface when the solvent- or water-based carrier evaporates. Whether it's flat or stamped, colored, stained or polished, the goal is to show the concrete to its best advantage.

However, there are many concrete uses where a coating is used for its durability — think garage floors, shopping malls, food-processing plants — and while builders and facilities operators don't mind showing a pretty face, their biggest concern is adding to that durability.

Enter epoxies, polyurethanes and polyaspartics.

Caution: Road blocks ahead

For Rich Cofoid, senior product manager for Increte Systems in Odessa, Florida, coatings are for commercial, retail and industrial applications.

"They're used anywhere you have a lot of traffic," he says. "They have high solids, and they're extremely chemical-resistant. Gasoline doesn't bother them, brake fluid isn't going to bubble them up, and they're FDA- (federal Food and Drug Administration) compliant. There are no microscopic pores for something like E. coli to grow."

However, choosing the right coating for a job often comes down to the same issue many other contractors and craftspeople find it hard to argue against, and that's money.

"Whenever we talk with a contractor who has a client who's looking for an application for their floor, wall, roof or whatever, it always comes down to three things," says Jeremy St. Clair, technical director of Orange, California-based Kretus Group. "One is performance,



Photo courtesy of Increte

It may look like a terrazzo floor, but it's really a high-performance epoxy option that utilizes embedded vinyl flakes for that high-end look.

two is cost and three is aesthetics. Often, they're worried about the cost."

Scott Kummer, a contractor who owns Laguna Niguel, California-based Visions Below and also independently sells and consults on products, puts it a little more strongly.

"Everything we do seems to be predicated by price," Kummer says. "It depends on the contractor, and how they've been trained and their knowledge base. If they abide by the manufacturer's directions, they might not realize a job needs moisture mitigation or to save money they won't use a moisture-vapor primer."

For too many coatings contractors, the desire to get a job means they're willing to cut corners, and there are many ways to do it. Kummer says that includes using a less-expensive product, not applying it to specifications, as well as inadequate preparation.

"A lot of guys new to the industry who are using good quality products don't understand what the problems could be," he adds. "You always have

to anticipate problems and stick to the biggest firing power you have at all times. Develop a regime, stick to it, and if anybody's asking you to vary that due to price, it's not worth doing the job."

Multiple answers

Simply choosing the best coating for a job isn't going to be easy. Most manufacturers offer a plethora of formulations, although Kretus' St. Clair says there's a good reason for that.

"It's easy for a manufacturer to go, 'This is good for a garage coating,'" he says. "However, a person's garage in southern California is different than a person's garage in northern Wisconsin. The concrete is different, the abuse of the floor is different, what's being picked up on the road is different and how hot the tires get is different. All those things go into the development of a coating."

There are also differences in performance. Increte's Cofoid notes that epoxies — while a popular coating — are pretty much confined to indoor spaces.

Resolving a Traffic Jam

by K. Schipper

There's often a right way and a wrong way to go about choosing and installing a coating for a job. Jeremy St. Clair, technical director of Orange, California-based Kretus Group, made certain to go the extra mile for a project his company recently supplied in San Diego.

Ironically, Kretus had initially been turned down for the job because its bid was too high. The job involved the parking apron in front of the Manchester Grand Hyatt Hotel, only a five-minute walk from the Pacific. The surface itself was 10-inch-thick concrete slabs in a diamond pattern that were poured without rebar.

"The idea was they were all independent floating slabs," St. Clair says. "Initially they had stained the concrete, but over time it had worn down. They had thought about going with a staining-type sealer, but it would only penetrate about 3 mm max."

By studying the job site, St. Clair recognized the coating would need to handle as many as 400 taxis, trucks and high-end cars every day and a one-component coating wouldn't be enough to do the job.

"We did some samples on-site, but we weren't chosen," he says. "They told us our bid was too high and our



Photo courtesy of the Kretus Group

coatings cost too much."

Instead, the contract went to a contractor using an acrylic coating — which wasn't the right product for the job.

"It's a good coating — there's nothing wrong with it — but no one went out and looked at the heavy traffic," St. Clair says. "It might have worked fine if only 10 cars a day drove over it."

"The contractor got about 75 percent of the work done toward the contract and it was already failing," he adds. "They called us back and we did four more samples for them."

Ultimately, what got Kretus and its

contractor, Applied Restoration Inc., the job was a peel-out test involving a Lamborghini. Although the job is black and gray, St. Clair had made the mistake of bringing a white coating to the test.


"The competitor brought a dark gray," St. Clair says. "When they did the peel-out test on our coatings, mine had no tire marks — even though it was a white coating — but the other one did."

While paying attention to the volume of traffic helped Kretus get the job, the supplier also noted the proximity to the ocean and how the sun shining off two neighboring towers would impact the job site.

"We set specific times when the contractor couldn't install because we were worried about the dew point," St. Clair says. "Ultimately, we timed the installation in five different steps."

To deal with those issues, plus some cracking in the slabs, Kretus recommended its Urethane Polymer Concrete RC as the primer, followed by two coats of pigmented Polyurethane HP Satin UV. The RC allows some movement in the cracked areas.

Topping it off: a moisture-cure aliphatic with high-wear resistance.

"Not every manufacturer can go out and look at every job," he concludes. "With our company, we're able to be a little more hands-on. By seeing what the use of the concrete was going to be, we could determine what was needed for that specific place." 

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“While there are some exceptions to this rule, most epoxies on the market today are not UV (ultraviolet) safe,” he says. “Given enough UV exposure, they’re going to go amber. By comparison, a polyaspartic or a water-based urethane is typically crystal clear.”

Each has other issues, as well. Urethanes are often waterproof, which can be a positive or negative attribute, depending on the situation. Visions Below’s Kummer says whenever the surface is retaining moisture, using a urethane can be like putting cellophane over your face.

“Ultimately, it’s going to bubble,” he says. “Due to osmotic pressure, it’s going to fail on you.”

Cofoid says one answer is to do either a moisture test or a relative-humidity test on the concrete. Fortunately, he says methods for testing both are less expensive than they have been in the past, and each product manufacturer should have guidelines for when the moisture is too high. Still another option is core sampling.


And, if the moisture is too high, then it’s time to switch to another product — or find a manufacturer who has a moisture mitigation system.

“There are products that go down that help lock the pores of the concrete to lock the moisture in, so it doesn’t travel up through the floor coating and create delamination problems,” he says.

Although they’re used primarily on interior applications, epoxies remain a favorite for residential use, although less so for commercial applications.

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An epoxy proved to be a good choice for this gym floor given its indoor location and foot traffic. A good product choice and a good application also make a world of difference between the before-and-after images.



Photos courtesy of Increte

“If you need something that’s chemical resistant or carts will be dragged over it, or it has to survive thermal shock, you’ll need something like a urethane polymer concrete,” says Kretus’ St. Clair. “Even how they’ll clean the floor plays a role.”

It’s those epoxy/urethane hybrids — typically two- or even three-part systems — that are taking coatings into the future.

“There are a lot of situations where you can’t expect longevity out of a single coating,” he says. “We need to step up the chemical chains or bonds that are created. With a triple-component product, we’re combining

three different types of chemicals to get longer bonds to strengthen it.”

However, again that goes back to both the contractor and client understanding what’s truly needed for a job.

“I’ll get somebody who says they want an epoxy coating because they’ve heard of it, or they’ve seen pictures,” St. Clair says. “And, they want a single coat application that will last 15 years.”

Words to the wise

With coatings, it truly can be a matter of better living through chemistry, but specifiers and contractors must be aware of getting just the right product.

One that’s catching the eyes of many

is polyaspartic. Increte introduced a new polyaspartic at World of Concrete this year, and Cofoid says it’s like an epoxy in that it’s a two-part system. However, it’s also crystal clear and UV safe.

Still, its biggest advantage is its extremely fast curing time.

“Say that you’re doing a facility that can only be shut down one evening,” he says. “You can go in at 10 p.m. and it has to be open at 8 the next morning. An epoxy will take eight to 10 hours before you can even walk on it. Nobody would suggest dragging furniture across it, but with a polyaspartic, you can put it down at 6 a.m. and if need be the business can open back at 8.”

Its drawback: a very limited pot life.

There’s also a segment of the market that’s becoming more concerned about the environmental impacts of these products. Some of that is driven by state regulations, such as in California, and some by architects anxious to qualify for points under systems such as LEED (Leadership in Energy and Environmental Design).

One approach Glenn “Buster” Osteen, technical director for Tampa, Florida-based McKinnon Materials, cautions against is manufacturers who “concentrate” their products by removing the solvents to appear green.

Ryan Stowell, a contractor who owns Advanced Epoxy in Wichita, Kansas, says he probably runs into two or three clients a year concerned about the environmental impacts of their coatings. Whether or not they are, he advises anyone in the industry to stay updated on what’s available.



Photo courtesy of McKinnon Materials

It’s possible to add a little extra shine to a project with metallic pigments. By choosing to mix the pigments with a little — or a lot of — clear epoxy, an installer can control the look and opacity.

Photo courtesy of Advanced Epoxy



Who says a floor has to have only one look? There's plenty out there, including chips, metallics and overlays for the installer willing to get creative for an appreciative customer.

"I do my homework nightly, and I'm always looking for new options," he says. "I go to my mentors among the manufacturers, and they keep me up-to-date on what's new and what's going to be coming out. And, I do a lot of reading online."

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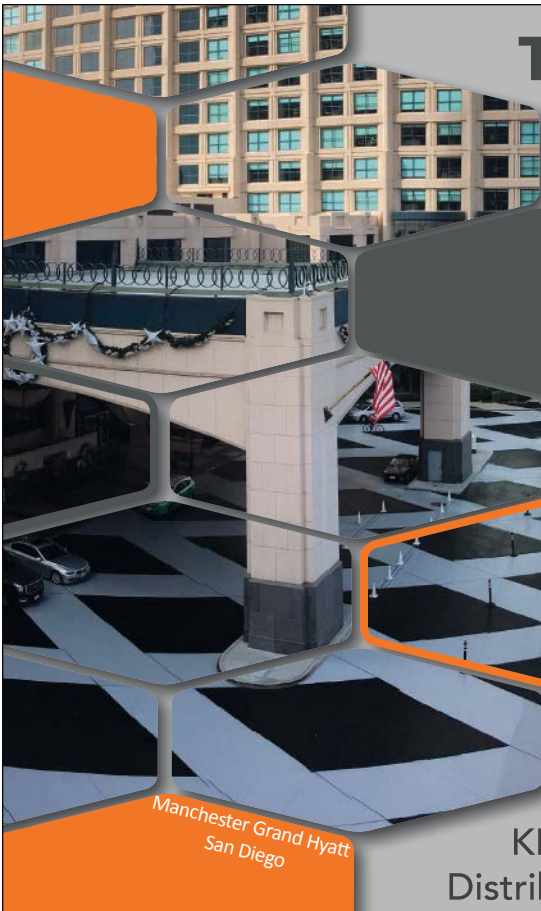
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Photo courtesy of Green Scene Landscaping & Pools

Like Icing on the Cake

Glass aggregates dress up a slab

When using glass aggregate in a countertop, Scott Cohen with Green Scene Landscaping & Pools cautions installers not to tamp the glass too deep below the cream or it won't show up when you polish.

by Stacey Enesey Klemenc

ONE way to add color to an existing or new slab is to add a touch of glass — or more if you want to make a bolder statement.

Glass aggregates vary in size from 00 (double zero), which measure 1/32 inch to 1/16 inch and smaller, and increase in small increments around 1/8 inch give or take (0, 1, 2 and 3) until the size reaches 1/2 inch to 3/4 inch (4-7). Larger pieces can be custom ordered.

Individual pieces tend to be “angular but chunky,” says Ken Thornley, president of Heritage Glass, a major glass aggregate supplier in Smithfield, Utah, that’s been in business for 40 years. “But they don’t have a sharp edge.

You can run your hand through a bag of them without fear of being cut.” Their irregular shape and surface texture help them hold in the concrete, he adds.

His company, as well as competitor American Specialty Glass and others, also sell “jelly beans,” which have rounded edges. Most contractors don’t like this variety as much, he says, because if you grind them more than halfway, pieces tend to pop out.

Because the viewing is closer for countertops, they’re usually seeded with a range of smaller sizes, usually zeros and ones, while flooring and patios typically take the smaller sizes as well as twos and threes.



Photo from Concrete Decor archives

During a recent World of Concrete, a Heritage glass representative displays his company’s silver-coated aggregate.

True blue, true grit

Blue is the most requested color, Heritage's Thornley continues, as there's not a natural blue stone that can be used as an aggregate that's not overly expensive (think precious, semi-precious stones). Clear glass and crushed mirror are also popular choices, while green for some reason is Heritage's least requested color. As for combinations, red, white and blue win out. All total, the company manufactures about 30 standard colors of glass in powder form up to landscape-rock size.

Thornley says Heritage Glass recycles bottle glass and window glass, melting it down and coloring it with metal oxides so it stays consistent over time. "We've been doing it the same way for the past 40 years," he says.

Glass aggregate is typically broadcast on a wet slab or mixed into a mixture and applied about a 1/2 inch thick. For full coverage, Thornley says you would broadcast 1 pound per square foot or add in 2 pounds per square in a mix. Either way, you'd then grind the surface with anywhere between an 80- and 120-grit diamond.

"Higher than that and it would get too slick for outdoor applications," Heritage's Thornley says. For outdoor sidewalks, he recommends using an 80-grit diamond dry and an 80-grit wet. "This will give you slip resistance and the texture you're looking for."

He cautions contractors not to grind aggressively when glass is in the mix. "Don't use a 24-30 grit like you would for stone because the glass will get hot and fracture."

For interior floors, grinding up to a 200-grit will take out the visual scratches



Seen here is an example of polished concrete with clear glass and mother of pearl aggregate.



Photo courtesy of Green Scene Landscaping & Pools

Seen here is a Green Scene Landscaping & Pools polished countertop with beer bottle glass aggregate. Company owner Scott Cohen says he prefers IPAs but any glass will do.

and look great. For countertops, a 1,500-grit is good but, on a floor, Thornley doesn't recommend going up that high because of the slip factor.

Adding glass to concrete is a wonderful way to add color and depth to a project. "You can look into the glass chips whereas you don't see into rock," says Heritage's Thornley.

Beauty both big and small

Dustin Thornley (no relation to Ken), sales manager for American Specialty Glass in North Salt Lake, Utah — another major glass supplier in the U.S. — adds that clear glass affects the overall look much more than you

would think. "Instead of looking at a flat floor, clear glass changes the look. It doesn't just make the floor shiny. It adds dimension."

ASG's Thornley points out that the glass ratio in mixes vary but a typical overlay project will contain 60 percent to 80 percent glass. "A 50-pound bag of overlay usually has 30-40 pounds of glass in the mix. It's pretty substantial."

And, he says, be prepared for that much glass to add quite a bit of color as well as dimension.

ASG, he says, both crushes and melts and re-forms its product offerings. He estimates his company — together with his parent company, Strategic

Creativity in a bottle

by Stacey Enesey Klemenc

Scott Cohen, owner of Green Scene Landscaping & Pools in the Los Angeles area, has been designing and building concrete countertops for more than 20 years. He is one of the early innovators in the cast concrete counter arena and has experimented with hundreds of different embeds, with glass being one of his favorites.

“At Green Scene we like to incorporate recycled materials in the hardscape projects we build and using glass is an easy way to do that,” says the award-winning outdoor room designer and author of several landscape design and construction books. “It’s also a great way to create something special for the client.”

Glass is a fabulous way to introduce various colors, textures and even fiber-optic lighting, he says. Sometimes he even uses glass to incorporate a client’s hobby or interest.

Hitting the bottle

“I’ve done quite a few projects with melted bottles,” Cohen says, joking that it lets him write off his wine and scotch consumption as a legitimate business expense.

Cohen has a ceramic studio at his home where he can slump bottles and fuse glass in an electric kiln for specialty projects. “Slumping bottles correctly is the key. They get soft at about 1,400 degrees. At 1,500 degrees, they’ll melt flat,” he says. Bottles only need to “soak” in the 1,400-1,500 degree range for about five to 10 minutes or they’ll turn into “soup,” he cautions.

“If you try this at home, the cooling, or annealing, process is really important,” Cohen continues. “If glass cools too quickly, it gets brittle. It needs to be annealed properly, which means cooled slowly to relieve the stress.”

Over the years, Cohen has also tried many different types of recycled glass aggregates, including crushed beer bottles. “The amber glass really pops,” he says.

He often uses special order crushed pieces of recycled glass that have been flash-dipped in silver to get a reflective quality like an all-sided mirror. This way, he kids, he avoids the bad luck of breaking an actual mirror. The all-sided silver-coated pieces are about 10 times the cost of regular glass, so he just uses a smattering of it to bring a shimmer to outdoor projects when the sunlight hits it just so.

“I love an opportunity to be creative.”

Glass selections

Cohen typically uses glass aggregates sizes 1, 2 and 3 that he buys mostly from Heritage Glass and American Specialty Glass and often mixes in larger chunks of glass for emphasis. He slumps his own bottles.

He also uses the rounded jelly bean glass beads size 1 or smaller for tables, polished concrete, pool furniture and plastered swimming pool liners. “Everything we set we cast in place and hand seed. We build the forms on-site and vibrate the mold to consolidate the mix and then seed with the glass chunks,” Cohen says, adding he hasn’t had any issues with the smaller-sized jelly beans.



Photos courtesy of Green Scene Landscaping & Pools

He or his crew then tamps in the glass with a wood float and goes over them with a steel trowel. After that step, Cohen lets the concrete cure for a week or so before grinding, honing and polishing the top with three-head polished and diamond-tipped heads.



Experience gets it right

But Cohen has had some issues with alkali-silica reaction when he’s used larger chunks of clear glass. “In my experience, clear glass is the most susceptible (to ASR),” Cohen says. “Large chunks have popped out a few times and have left an unsightly goo behind.” He gets around this problem by just avoiding them in his designs.

For contractors just getting into using glass in their projects, Cohen advises practicing on smaller stepping stone-size pieces about a foot square before taking on large projects. “It’s easy to push glass too deeply in some areas and when you go to polish there’s nothing there because it’s buried below the surface. The glass disappears on you,” he says.

“Be careful with your edging tools,” Cohen continues. “Work them gently and don’t worry so much about (protruding) glass because you’re going to hit it with a polisher later. Don’t overwork the concrete. Grinding will take care of the imperfections.”

As for color combinations, some clients want an approach that is clean and contemporary. Others want a more whimsical tactic. It’s pretty much a personal choice. “That’s why there are 31 flavors at the ice cream store,” Cohen says. “People like different things.”

Editor’s note: Scott Cohen has written several books to help contractors with their project designs. These include “The Big Book on BBQ Plans” that illustrates 65 designs and an outdoor kitchen design workbook that shows contractors how to cast countertops with glass embeds and fiber optics.

www.greenscenelandscape.com

Materials — keeps 3 million tons of glass out of landfills each year as it gets the bulk of its product from window and bottle manufacturers.

ASG customers use 00 and smaller as fillers to add recycled content to a mix. “If architects want to add LEED points to a project, they often will specify recycled glass.”

Besides the very small particles, ASG’s Thornley notes, it’s becoming popular to use larger size glass aggregate of 1/2 to 1 inch in size to add variety to projects.

Smashed gets Rocked

One of the industry’s innovators of exposed aggregate decorative concrete, Aggretext Systems has joined forces with Heritage Glass to highlight some incredible combinations possible with their respective products. The Aggretext Smashed line of 19 standard colors can be blended on-site with hundreds of

different options from Heritage Glass to create Aggretext Rocked.

Sporting names such as Old Blue Eyes, Judy Garland and Amber Waves of Grain, Rocked “has helped so many designers to make their statement,” says Curt Thompson, Aggretext president and CEO. Both the mix and the glass can be ordered through Aggretext.

“Placed at 3/8-inch thick on freshly poured concrete, Aggretext products are like decorative frosting on a cake,” Thompson says. Smashed and Rocked are placed using Aggretext’s patented wet-on-wet installation methodology. Smashed’s integral color and fine aggregates are blended at the plant to



Aggretext System’s Rocked product combines its Smashed finish with glass aggregate from Heritage Glass that is blended in on-site.

assure consistency from batch to batch.

“You’ll get the same color in the bag every time. No more dealing with color inconsistencies from truck to truck.” Thompson says. “Aggretext is all about delivering consistency, control and predictability in decorative concrete.

Things to know about ASR

One of the glitches of combining glass aggregate with portland cement is that the combination may trigger alkali-silica reaction (ASR). Under certain conditions the silica in glass and other reactive aggregates such as silica sand, granite and olivine react with the calcium hydroxide in portland cement and form a siliceous gel. This gel absorbs water and swells, which in turn can cause microcracking. Eventually, this can cause the concrete to deteriorate.

“There are three things needed for ASR to happen,” says Ken Thornley, president of Heritage Glass. “Silica in a reactive aggregate, excess alkali in the cement and excess moisture in the system. Removing any one of these will stop the ASR reaction.”

How much damage ASR can inflict on concrete depends on how much reactive aggregate you use and the size of the pieces. But there are many ways to combat this reaction.

For one, you can use a mix that has an aluminum-based cement



rather than portland cement, says Dustin Thornley, sales manager of American Specialty Glass. “There’s no alkalinity in aluminum,” he says, “so you won’t get a reaction.”

Also, he says, the less water you use with a concrete mix the lesser the degree of ASR.

Pozzolans such as fly ash, silica fume, metakaolin (a dehydroxylated form of the clay mineral kaolinite) and VCAS (vitrified calcium aluminosilicate) can be used to stop or control ASR. There are also several lithium-based products on the market that successfully mitigate the reaction.

If you’re going to use a portland-cement based mix, Heritage’s Thornley suggests replacing about 20 percent of the cement with a pozzolan such as those mentioned earlier. “This is the easiest way to fix the excess alkali found in cement,” he says.

Fly ash is the most common pozzolan used but it tends to be on the dark side and can change the color of the concrete. Silica fume is a dark gray, too. The metakaolin and VCAS are white powders.

“They all work basically the same,” says Heritage’s Thornley, and react with the excess alkali in the mixture, making the mix stronger overall and achieving a higher polish. In fact, he adds, finely ground glass in a mix can also serve as a pozzolan as it too uses up the excess alkali and strengthens the concrete overall.

Companies such as CTS Rapid Set, Aggretext and SureCrete sell mixes that have been corrected so that you can add glass without worrying about ASR.

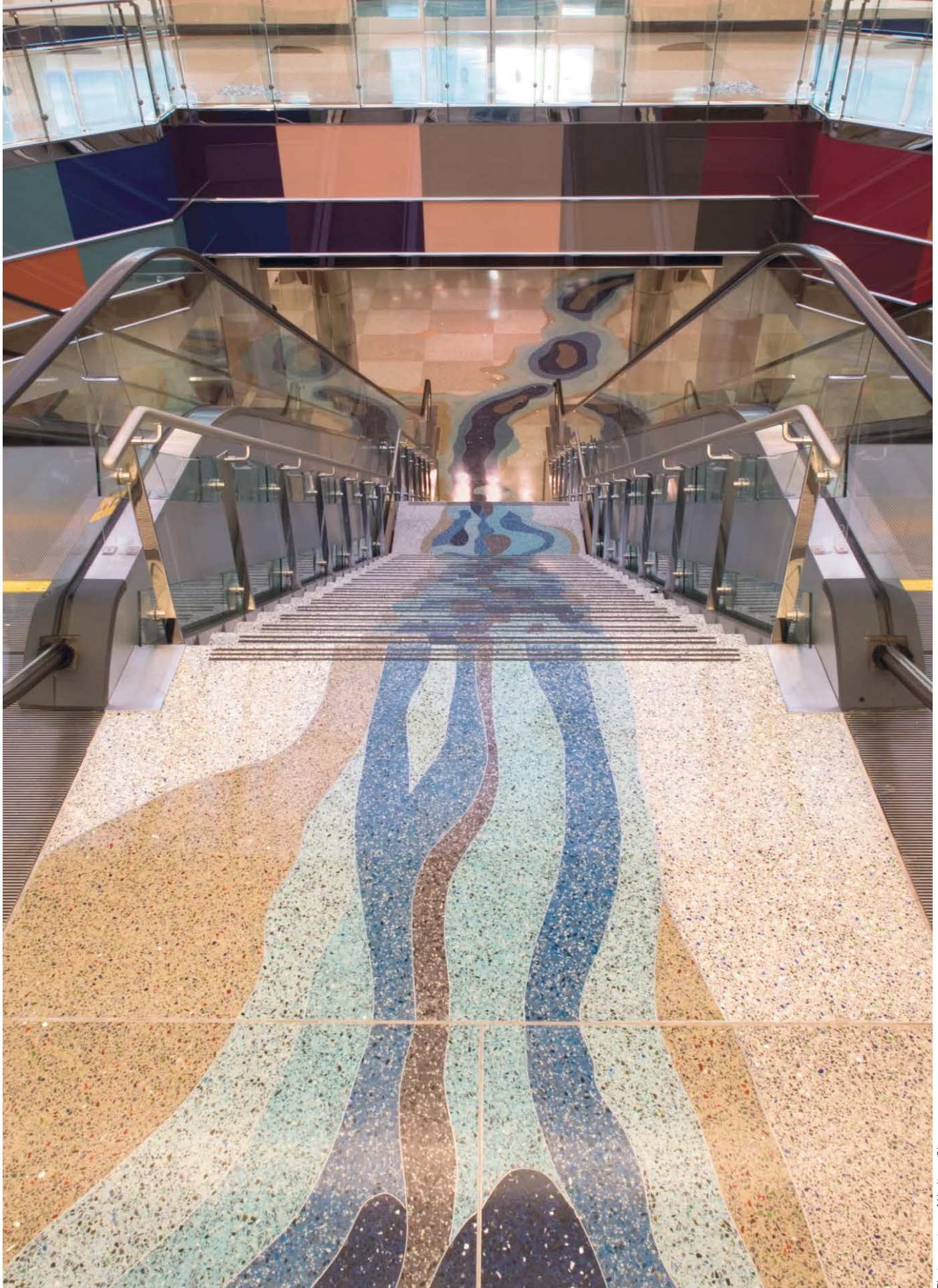


Photo courtesy of Heritage Glass

The terrazzo floor in the Kansas City International Airport highlighted with glass aggregate from Heritage Glass looks like it's flowing into the precast stairs leading below.

Contractors can show their clients lots of options depending on color, amount of glass or aggregate, and finish choices from heavy exposure to high polish.”

Floor shine

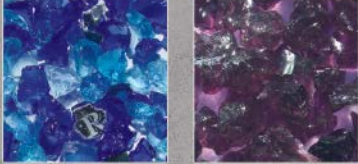
Another mix that works well with glass aggregate is CTS Cement’s Rapid Set Tru PC, says Scott Kummer owner of Visions Below in Laguna Niguel, California. “Glass is becoming very popular,” he says, and he likes to use it to the tune of 2 pounds of aggregate per foot of Tru PC to create a terrazzo look. “It becomes the artist’s liberation. It’s up to that artist to decide the percentage of glass needed to achieve a finish.”

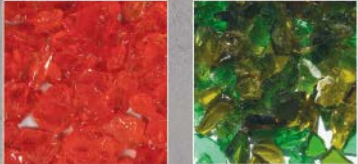
By its nature, glass comes in a large variety of colors that can be combined to create more finesse to the overall finish. Using a lot of glass in a mix makes for favorable reflectivity, Kummer says. “That’s why it’s used so much in Vegas.

“It definitely defines the attitude for a space such as the Cosmopolitan, for example. It gives you flash. It gives you richness. It gives you that feeling when you walk through the door: This place is in the money.”

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Photos courtesy of Husqvarna Construction Products/HTC

Not all shiny floors are refined polished concrete floors such as this one created with the Husqvarna HiperFloor system. To help the industry deliver more consistent, high-quality floors, task forces are developing guidelines to establish industry-wide specifications for polished floors.

Testing and Evaluating Polished Concrete

Part 1: Setting Expectations and Visual Appearance – ‘The Look’

by Ryan McBride

POLISHED concrete is a young industry. Surveying the processes and technological advancements over the last 15-20 years, it’s apparent the industry has continued to grow and discover new, faster — and not always better — ways of achieving unique, shiny floors. But not all these shiny floors are refined polished concrete floors, and therein lies the problem.

A look at evaluation and testing history

In the early days of our industry, for every new process introduced, accountability seemed to lag a few years behind. For example, when polished concrete floors became popular within the architectural community, architects specified the “look” or process according to grit or finish level. Specifying based on these parameters was extremely hard, not only for the contractor to bid, but also for the owner, general contractor or architect

to hold the contractor accountable if the finished floor wasn’t what was originally envisioned.

This problem developed because there was no standard way to determine what that “look” was and if it was achieved. Due to this, our industry tried to create guidelines and a measurable way to ensure everyone had the same expectation.

One of the first attempts at regulation was the gloss meter. We adapted a meter used for detecting the gloss level of a painted finish to the polish level on our floors. Architects were then able to take that information and specify the finished gloss value (noted as Gu for gloss unit) transcribed to the “look” of a particular floor finish.

Many contractors found the “look” far easier to bid and far easier to fake by applying a coat or two of acrylic or other sealer. This made the concrete floor “shiny” and registered the correct

Gu, but the floor wasn’t necessarily polished or really what the owner or architect wanted.

Now our industry is ready to grow, and many companies are jointly compiling years of testing and evaluation to help polished concrete evolve. As an individual who has strived to create great polished concrete floors for years, nothing has been more frustrating than to see floor owners’ expectations not met by a system that may have met the specified “look” but lacked the full process we commonly refer to as “refinement.” Without refinement, the true glory of a polished concrete floor is typically not achieved.

With that said, what can we do? One solution begins by looking at our eyes. Sounds weird, right? But our eyes are a remarkable meter. We can look at two reflections and tell which “look” we like better. Putting that “look” into vocabulary or creating a label for it has

been the challenge.

A mentor of mine often says, “Ryan, words are important. You have to say the right words or have the right labels to be able to intentionally interact with the process.” If we, as an industry, can define and use the most accurate and consistent labels, we can help others understand what they see and like, and then we will be able to repeat the process again.

Many advanced polishing contractors have adopted this concept and have begun to use more sophisticated methods for creating great-looking floors by perfecting their measuring/testing of end results. It has taken years to learn and thousands of test samples measured to label what data is important and what data is inconsequential.

Testing for refinement

This brings us to the heart of the challenge. As an industry, we have two mountains we must label correctly so we can resolve and move forward intentionally: testing devices and testing procedures.



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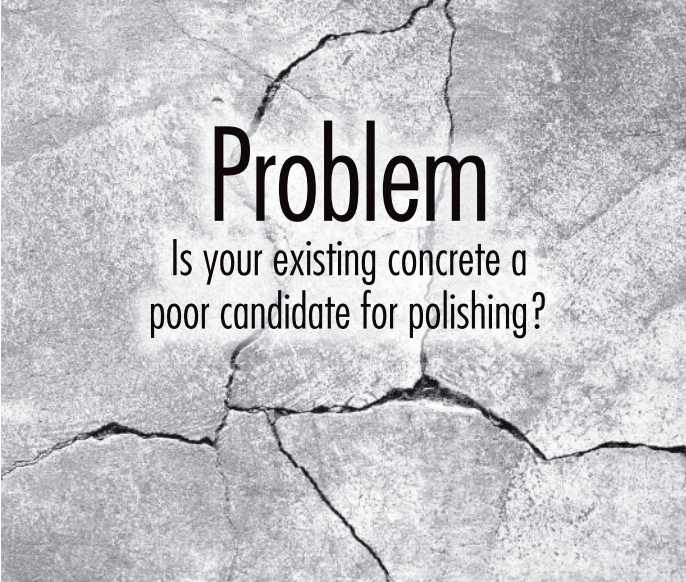
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Testing devices — The first thing we need to determine is what testing devices are working well or could work well (what can we adapt from other industries, other resources) to help us monitor, detect, specify, measure and ultimately use to improve our industry and satisfy floor owners.

Testing procedures — The second item we need to figure out as an industry is how to create testing procedures or best practices for uniformity and linear data collection that are acceptable to our constituents. After all, that which can be measured can be improved!

Let's start with testing and evaluating the "look" with quality control equipment. A little story, if you will:

"I want a shiny floor, but not too shiny. Too shiny looks slippery," said the floor owner to his contractor.

The contractor thought to himself: "I know how to do that. I do it all the time. My client is going to be so happy when I finish!"

Unfortunately, this story is probably closer to real life than we want to admit. Neither the floor owner nor the contractor knows exactly what the expectation should be. There's no measure in place. The floor owner's definition of a "not-too-shiny" floor is probably way different than the contractor's definition.

This is why more advanced tests besides gloss value need to be developed to evaluate the finished appearance of a refined floor. In addition to gloss, there are other values to test to ensure a floor is polished concrete and not just "shiny."

The top three visual values we have evolved to evaluate polished concrete are:



The floor seen here was created with the HTC Superfloor system which produced a highly refined surface with a high-gloss value and above-average DOI. Specification guidelines to fully embrace DOI are in the development stage.

- **Gloss:** Amount of light reflected by the surface.
- **Distinction of image (DOI):** The sharpness of light reflections or reflected images.
- **Haze** or the **halo factor:** Reflections appear to have rings around images. This is caused by the dispersion of light at the surface, which is normally due to resin left behind from tooling used in the polishing process or a guard/sealer that may be present on the surface.

Testing these three values can be accomplished by multiple devices or by one simple handheld device. I have found the Concrete Clarity Meter will accomplish most of my day-to-day evaluation with ease.

As an industry, guiding groups like the Concrete Polishing Council, a specialty council of the American Society of Concrete Contractors, have moved toward DOI as their primary value for describing the look of a polished floor. ACI Committee 310-OJ has created a taskforce and is evaluating data collection to help develop specification guidelines to fully embrace DOI and its value to our industry. (Stay tuned for an update on testing processes with DOI values.) Another member group, the Concrete Sawing & Drilling Association (Committee ST-118), is currently evaluating testing procedures and equipment for best practices pertaining to surface refinement.

All this testing and measuring will lead us to more consistent, high-quality floors and to clear, concise specifications. This leads to more consistent bidding, higher accountability to the contractor and owner. This sets the expectations from floor owner, to architect, to contractor and means a better understanding of the whole process for all involved. 📱

Ryan McBride heads up business development national projects for Husqvarna Construction Products/HTC. He can be reached at Ryan.Mcbride@husqvarnagroup.com or (404) 747-8282.

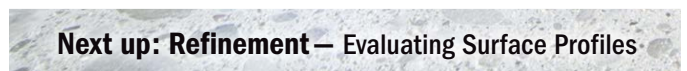
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Out on a Limb

by Stacey Enesey Klemenc

AMERICAN Patriot Getaways in Pigeon Forge, Tennessee, is one of the companies that rents cabins to vacationers who want to stay in “tree houses” in the Smoky Mountains. These cabins, many of which are built on platforms elevated above the rocky terrain, are surrounded by trees but none — up until recently — were nestled in the branches of a tree.

But thanks to the creativity of Eugenia Almeida, owner of A New Hue in Knoxville, and her helpers, Tabitha Queen and Juan Almeida, there are now four “tree houses” that look like they are supported by trees — and big ones at that. The trees have trunk diameters between 10 and 13 feet and long sprawling branches that embrace the 650-square-foot cabins from front to back.

Eugenia Almeida says she was approached by Matt Naas, owner of Big Sky Construction, after Gregg Rothberg with Farrell-Calhoun Paint recommended her for the tree work. When she heard what Naas had in mind — building giant trees out of concrete — “I was so much on board,” she says. “The project sounded fantastic.” She asked him to give her 24 hours to solidify a plan.

Almeida brainstormed with her crew



and a couple of local welders. They assured her a welder could make metal frames for the tree trunks and branches that could be wrapped with mesh. She knew she could apply a faux bois (that’s French for false wood) finish to make it look like wood. The project was a go, with Troy Dixon, a local welder with Dixon Fabrications, on board.

Almeida and her helpers got started on the first tree in January, a time when “the weather didn’t cooperate” as it was snowy and very cold. At press time, in a much milder clime, they were carving their fourth.

“Each tree weighs about 3,000 pounds,” Almeida says. “And each part of the tree is carved and stained.” They used stains and a faux bois mix from EZChem, as well as paint from Farrell-Calhoun. “I like to mix my techniques

and always push the envelope with my work.”

She says Big Sky’s Nass gave her the go-ahead to do whatever she felt necessary to get the project done right. “When they give you freedom, you can create without being worried,” she says. She credits this free rein, for example, to be able to incorporate small cans in the trees’ frames to form holes where birds can build their nests.

Almeida, originally a plasterer by trade, says she fell in love with concrete 13 years ago when she met Cindee Lundin at an IDAL convention and decided she wanted to do what Lundin did. “She is not only my teacher,” Almeida says, “she’s my inspiration.”

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Photos courtesy of A New Hue



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