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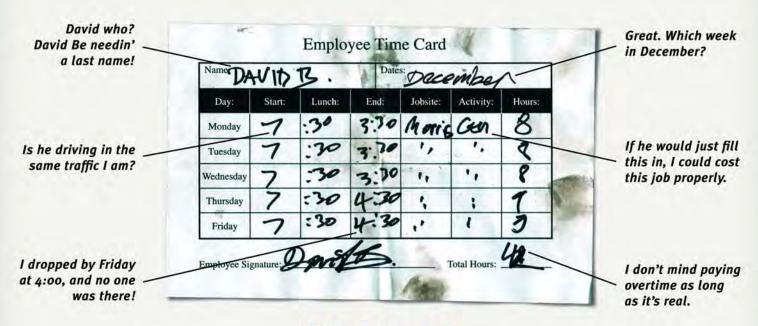
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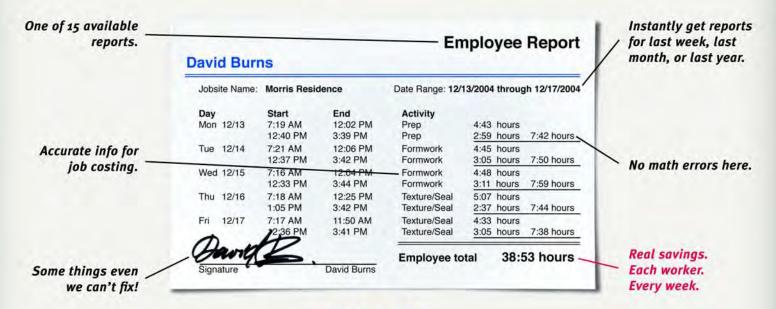
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Merry Christmas!

early twelve years ago I met a girl who quickly gave me the feeling I had met someone I would never again be without. And though my life could not have been better at the time, I was surprised to discover how that person would add to my sense of completeness. Now, with each passing Christmas I get an overwhelming sense of appreciation in having my wife and family close to my side.

It's amazing how often we take for granted the gift of happiness and joy others bring to our lives. If it were not for family and close friends, we might all go through life unaware of the riches never uncovered because we didn't dig deep enough or recognize that various challenges in our relationships were designed to draw us closer to one another, not necessarily apart.

All successful businesses have one important attribute in common. Relationships. Without them and without a conscious effort to continually improve those relationships, our businesses will never enjoy the full measure of their potential. All of us can find aspects of our relationships in need of improvement: things we can do differently to better build on the quality of those relationships in our business or personal lives.

Recently, our family spent a good portion of our time close to one another's side as my mother-in-law lost her battle with cancer. While our family now struggles with the loss of a compassionate and devoted mom, through her death we were comforted by the unfailing assurance and anticipation that she would today be walking beside the God of love and the one who demonstrates His unfailing desire to have a similar relationship with each of us, regardless of who we are or how miserably we fail in our relationships with family or friends.

So with this Christmas season, we are met with a new opportunity to again reflect on the significant relationships in our lives and respond with an expression of love and renewed devotion to the ones around us. In doing so, I'm confident that if we begin a process of examining God's methods for building successful relationships, we will undoubtedly cultivate similar ones — relationships that add significantly to our lives and the assurance that the loved ones we will one day leave behind are equipped to live lives built on our example. This was the example my mother-in-law gave to me as she prepared to take the hand of God, a friend she invested time in getting to know.

Have a great holiday. And if you are taking time out for the World of Concrete show in Las Vegas this January, please stop by and say hello. We're in booth #N771.

Sincerely,

Bent Mikkelsen, Publisher

ONTHE COVER: Mikhal Zambon of artScape: Las Vegas created this floor to match a fabric swatch from a couch in this Phoenix, Arizona home. The existing gray slab was saw cut, sandblasted, and chemically stained. Photograph by Lydia Cutter.





December/January 2005 • Vol. 4 No. 6 Issue No. 19 • \$6.95

Publisher: Bent O. Mikkelsen

Co-publisher: Ernst H. Mikkelsen

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Fax: 541-341-6443

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Concrete Decor The Journal of Decorative Concrete is published six times a year by Professional Trade Publications, Inc. Bulk rate postage paid at Lebanon Junction, KY and additional mailing offices.

ISSN 1542-1597

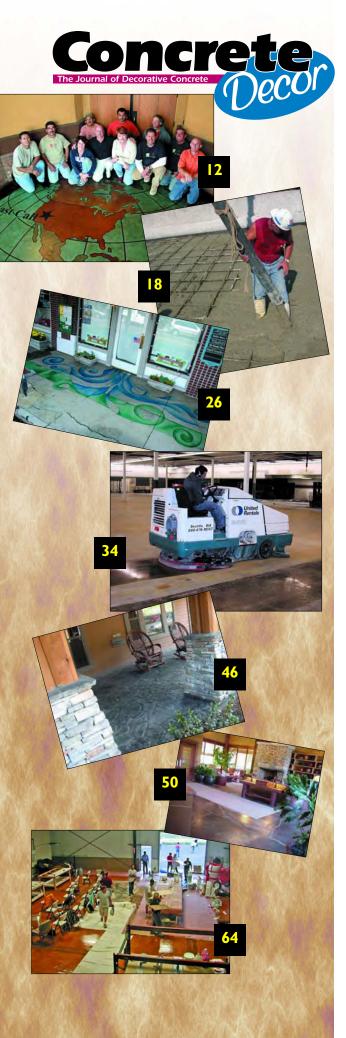
Subscriptions:

One year: USA \$21.95; Canada \$29.95; Other countries \$49.95. All funds in U.S. dollars.

For Subscriber Services: Call 866-341-3703 Toll Free For Advertiser Services: Call 877-935-8906 Toll Free

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Life Deck offers a full line of premium epoxy coating systems. Available in a wide variety of colors and textures, these systems are perfect for any garage or industrial floor where durability and chemical resistance are needed.



CIRCLE #83 ON READER SERVICE CARD

DECORATIVE CONCRETE TIPS

Decorative Concrete Tips is a forum for readers to exchange information about methods, tools, and tricks they've devised.

Send details to CD Tips,

Concrete Decor, P.O. Box 25210,

Eugene, OR 97402.

We look forward to hearing from you!

Using PVC pipe to draw curves for saw-cutting

ere's a novel, fast and inexpensive way of saw-cutting curves on concrete overlays or toppings, using a ¼" diameter PVC pipe, 4" grinder and shop-vac.

Step 1: Transfer at least three points of a curve from the blueprint onto the floor.

Step 2: Use ¼" diameter PVC pipe to join the three points and draw the curve on the floor.

Step 3: With the help of 4" grinder, saw-cut the groove by following the marked line.

Thanks for this tip go to Gary Jones of Colormaker Floors. You can learn more about Colormaker and the company's Wild Workshops at www.colormakerfloors.com.



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Industry News

Consider This

"If you look at the price of a cubic yard of concrete, ask yourself where else you can go to get 3,500 pounds of anything for about \$90 to \$100?"

— Sean Fallon of the Euclid Chemical Company. See our story about water reducers, starting on page 18.



Forbush joins Sanders Saws

Todd Forbush has joined Sanders Saws' diamond-tool and concrete-cutting equipment sales staff. Forbush, the company's newest district manager, will be responsible for directly supporting customers in Kentucky, Ohio, and West Virginia.

Forbush began his career with DOT Diamond Core Drilling of Ohio in 1991 and later served as a cutting specialist with Stow Manufacturing from 1994-97. Since then, he has been active throughout the industry as a sales manager, product researcher, and representative to and instructor for numerous industry organizations, most notably the Concrete Sawing and Drilling Association.

Book teaches stamping from A to Z

Industry veteran Bob Harris teaches the skills necessary to produce quality stamped concrete in his latest book, Bob Harris' Guide to Stamped Concrete.

The book shows contractors where to find good stamped concrete designs; the five methods of imparting color to stamped concrete work; placing the concrete to facilitate stamping; and a complete, illustrated description of the entire stamping process.

The guide also covers topics of vital importance for anyone planning to stamp concrete, including

maximizing your profits by knowing what to charge for stamped concrete; concrete mix considerations for stamping concrete; site conditions affecting stamped concrete work; important issues to avoid when



stamping; fixing minor flaws in stamped concrete work; and effective techniques for the application of sealers.

With more than 25 years experience in the construction industry, Harris has conducted hands-on training seminars around the world, and has personally placed and/or supervised the placement of more than three million square feet of decorative concrete. As president of The Decorative Concrete Institute in Douglasville, Georgia, he offers hands-on training and workshops in the latest decorative products and techniques. For more information, visit www.bobharris guides.com or call (877) 324-8080.

Blastrac appoints distributors

Blastrac has chosen Runyon Equipment Rental, located in Carmel, Ind., as a specialized distributor serving most of the state of Indiana. On the East Coast, Bullseye Environmental is the new specialized distributor serving Long Island, City of New York, Delaware, New Jersey, Maryland and the eastern half of Pennsylvania.

Niagara Machine, located in Erie, Pa., is the new specialized distributor serving Virginia, Ohio, Michigan, and the western halves of both Pennsylvania and New York.

As specialized distributors, all three companies have undergone extensive training with Blastrac equipment. For more information, visit www.runyonrental.com, www.bullseyecorp.com or www.niagaramachine.com.





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What Contractors Are Saying!

"I have attended several other seminars on water feature construction. This is by far the most informative and has the most realistic product." Jody Mason, Artistic Gardens, Inc.

"I knew I still had things to learn, but your class demonstrated techniques I've never encountered before! Great class, well organized and very well presented!"

-Erik Kinkade, www.RockAndWater.com, Author of "Artificial Rock Waterfalls: Rock Making Techniques For The Professional And Hobbyist'

"Fantastic! This has been one of the best-spent days in the last 10 years! An excellent class; I feel lucky to have been part of (it)

-Dave Moore, Westlake Builders

Fax: ()
F

Surface-prep school opens in **Oklahoma City**

A new surface-preparation training program taught by factory experts skilled in Blastrac equipment, Sawtec hand tools and Schmidt abrasive airblast equipment is available in Oklahoma City. Called SPARC: Surface Preparation Academic Resource Center, this course offers comprehensive training on popular surface preparation methods and equipment. The 2½-day program includes discussion of common surface preparation methods such as shot blasting, abrasive airblasting, diamond grinding and scarification. Participants are taught to use different preparation techniques according to job site characteristics, specified coatings, desired results and costs. Classes are held at the Blastrac factory. For more information, call (800) 256-3440 or visit www.surfacepreparation.com.

Countertop institute expands in Raleigh

The Concrete Countertop Institute has opened a new, larger facility in Raleigh, N.C. The new facility is nearly double the size of the previous facility and offers an excellent location convenient to the Raleigh-Durham International Airport and downtown Raleigh.

The Institute shares the space with nationally recognized concrete countertop fabricator FormWorks, offering students the chance to experience a full-fledged, established fabrication facility in action.

The Concrete Countertop Institute offers comprehensive, engineeringbased, in-depth training and technical support. For more information, visit www.ConcreteCountertopInstitute.com or call (888) 386-7711.

Bayferrox line to continue under new company

Formed through a restructuring of the Bayer Group, the new company Lanxess is scheduled to leave the group at the beginning of 2005.

"Lanxess will continue to be a leading global producer of synthetic inorganic pigments, including Bayferrox iron oxide pigments," says Kim O'Connor, vice

president, inorganic pigments, North America.

The Bayferrox product line has been produced for over 65 years, and is used in the coloration of concrete products worldwide. These pigments meet or exceed ASTM C-979 specifications, and are available in standard powder or Bayferrox C granule form. For more information, visit www.Bayferrox.com.

Shadle joins Sika Corp.

Sika Corp. is pleased to announce the appointment of Rich Shadle to the



position of new construction regional manager for the north-central U.S. Shadle will focus on introducing Sika's advanced admixture technology and technical support to the ready

mixed concrete and precast/prestressed industries in the Midwest.

Shadle has more than 25 years experience in the admixture, fly ash and concrete industry. He comes to Sika

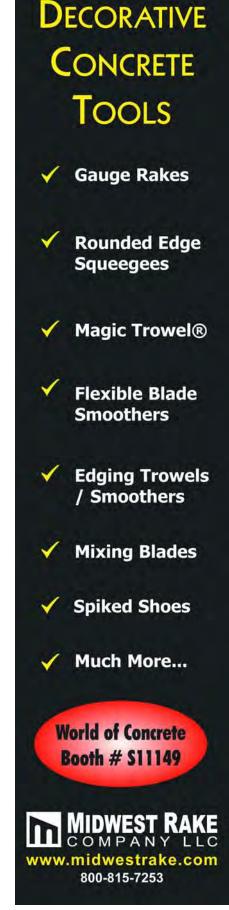
from Separation Technologies, where he served as vice president of sales and marketing. Previously, he spent 15 years with Grace Construction Products.

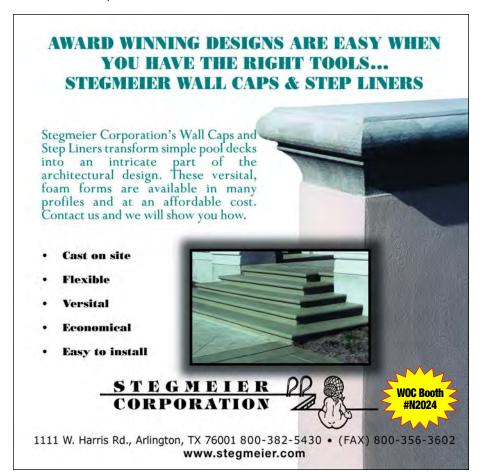
Throughout his years in the concrete industry, he has served as president of two ACI chapters, and he is an active member of ACI, PCI and NRMCA.

¿Ustedes hablan español?

Mapei, a world leader in the production of flooring installation and concrete restoration systems, is pleased to announce that it has launched a Spanish-language version of its Mapei Americas Web site. The site allows Spanish-speaking customers to review technical data sheets in the language they are most familiar with. They can also calculate the amount of grout they will need for a tile installation, look up a project reference, or see the latest news releases.

Visit the new Spanish-language web site, as well as English- and French-speaking versions, at www.mapei.com/mapeiamericas/sp/index.htm.







CIRCLE #77 ON READER SERVICE CARD

Industry Spotlight

Association News

AMERICAN CONCRETE INSTITUTE

Four new publications from ACI

ACI 212.4R-04, Guide for the Use of High-Range Water-Reducing Admixtures (Superplasticizers) in Concrete, contains information on high-range waterreducing admixtures, which can increase the strength of concrete and provide greatly increased workability without adding more water. This guide offers information on the effects of these admixtures on the properties of fresh and hardened concrete, the uses of concrete, and the quality control of the concrete. The guide is designed for concrete suppliers, contractors, designers, specifiers, and all others engaged in concrete construction.

ACI 440.3R-04, Guide to Test Methods for Fiber-Reinforced Polymers (FRPs) for Reinforcing or Strengthening Concrete Structures, provides model test methods for the short- and long-term mechanical, thermo-mechanical, and durability testing of Fiber-Reinforced Polymer (FRP) bars and laminates. These unique test methods acknowledge the differences in the physical and mechanical behavior of FRP materials compared to steel, and are based on the knowledge gained from research results and literature worldwide, including a fiber-reinforcing publication from the Japan Society of Civil Engineers, which has been adapted to test methods in the USA.

ACI 524R-04, Guide to Portland Cement-Based Plaster provides specific information on the plastering process, including prequalification of materials, requirements for tools and equipment, mixture proportions, application procedures, types of finishes, and troubleshooting and repair. This guide is intended for use by architects,

engineers, designers, specification writers, contractors, plasterers, laboratory personnel, and public authorities for familiarization with the plastering processes and as an aid in specification writing.

ACI 212.3R-04, Chemical Admixtures for Concrete, highlights a variety of widely used chemical admixtures together with information, purpose, and expected effects of using each. Also discussed are the increased efficiency and improved economy that are typically realized when using chemical admixtures. Specific admixtures studied in this publication include: air-entraining, accelerating, water-reducing, set-controlling, gasforming, grouting, bonding, corrosion-inhibiting, freeze-resistant, and admixtures for flowing concrete.

For more information, call (248) 848-3800 or visit www.concrete.org.

CONSTRUCTION SPECIFICATIONS INSTITUTE New MasterFormat reflects industry advances

The Construction Specifications Institute is accepting orders for *MasterFormat* 2004 Edition, the most significant upgrade in *MasterFormat*'s 40-year history.

The new edition has additional divisions and many more sections, which facilitates project delivery by enabling specifications to address the spectacular advances that have taken place in construction technology since MasterFormat was last revised in 1995. The new edition also provides means for specifications to better address building owners' evolving construction priorities such as security, life safety and environmentally responsible facilities. For more information, visit www.csinet.org/masterformat/.

NATIONAL READY MIXED CONCRETE ASSOCIATION Kresge joins NRMCA

The NRMCA has hired industry veteran Philip Kresge as its fifth national resource director. Kresge, formerly the promotion director for the Pennsylvania Concrete Promotion Council, will be responsible for the northeast section of the U.S. He joins Brad Burke, Dan Huffman, Vance Pool and Mike Zaldo as a field promoter responsible for national accounts and regional promotion activities.

CONCRETE SAWING & DRILLING ASSOCIATION Plan for CSDA's annual convention

Safety and training will be two hot topics on the agenda for the CSDA 2005 Annual Convention, scheduled for Feb. 14-19 at The Fairmont Hotel in San Francisco. Bruce Swanson, director of the OSHA Directorate of Construction, U.S. Department of Labor, will make the opening-day presentation, which will address how to create a safety program that meets OSHA guidelines.

Swanson will be followed by Karl Smith and Tom Pyle from the California Department of Transportation, who will make presentations on slab replacement, joint repair and slurry disposal. Christine Fargo from the International Safety Equipment Association will speak on the topic of personal protective equipment in the construction industry.

Many additional presentations, tailored to the needs of concrete cutting contractors, will be offered. Prior to the official start of the convention, CSDA will offer its two-day estimating training course on Feb.14 and 15. For more information, call (727) 577-5004 or visit www.csda.org.



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Contractor Mikhal Profile Zambon artScape: Las Vegas

by David Thompson



illions of Las Vegas visitors have walked upon the work of artScape's designer Mikhal Zambon and her associates.

Zambon's elegant and often intricate designs can be found in such highprofile Las Vegas venues as Caesars Palace, New York-New York and the MGM Grand, as well in a Tokyo shopping mall, a nightclub in Switzerland and PNC Park, home to the Pittsburgh Pirates.

Zambon (her name is pronounced Michael Zam-BONE) racked up these high-end credits during her 11 years as a designer for arCon, a Las Vegas company that is no longer in business.

It was unusual for a concrete company to hire a designer, let alone a designer who at the time knew nothing about concrete, but it turned out to be a fruitful move for everyone involved.

The artistry of arCon's floors rose to new heights as Zambon, unburdened by preconceptions of what you can and can't do with concrete, discovered that any pattern she could devise, no matter how complex, could be saw-cut or sandblasted into a floor. Zambon fell in love with the medium and found in it a profitable niche for her artistic talent.

In college, Zambon started out as an architecture student, but soon gravitated toward design, studying interior design,

Mikhal Zambon (third from left) with husband and co-owner Mike Anderson (fourth from left), business partner Cheryl Hart (fourth from the right), and the crew of artScape: Las Vegas.



graphic design and even apparel design. Uncertain of which field she wanted to pursue, she took a break from the books to gain some real-world experience — a decision that led her to a field of design she hadn't anticipated: concrete.

This twist of fate seems less surprising when you consider that her Italianimmigrant grandfather ran a terrazzo, tile and marble flooring shop in Houston. While Zambon wasn't exactly born with kneeboards on, she certainly has decorative flooring in her blood.

In 2001, Zambon and her husband, Mike Anderson (who served as vice president of construction and general manager at arCon for five years), struck out on their own. Their company, artScape: Las Vegas, continues in the tradition of arCon, but on a smaller scale, concentrating on upscale residential and commercial jobs.

Listen in as she shares her experience with Concrete Decor magazine.

Where do the designs for your floors come from?

Everywhere and nowhere. I collect things that I find interesting in a fourinch thick binder: everything from arearug patterns, color composition, border patterns, textile design and stained-glass designs. You never know what is going to inspire you or your client.

I saw an abstract geometric design on one of your floors that looks like it was inspired by the modernist painter Piet Mondrian, and I saw a bathroom that looked like it was inspired by the Flintstones, which raises the question: Who has influenced your work?

You obviously haven't seen any of my Jetson's-inspired work! Anyway, that's why I keep my scrapbook of patterns and designs — you just don't know what will inspire your next project. I like the simplistic lines of Mondrian, Mies van der Rohe and Corbusier, and got that exposure thanks to the architecture and graphics background. I



yours?

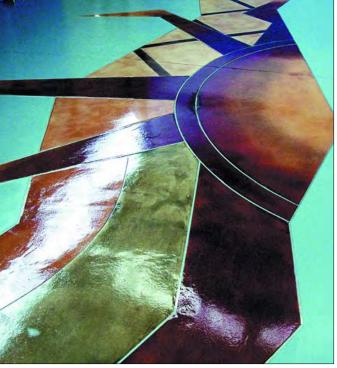
It may have become a signature, but it started out as just an idea I liked. I love creating trompe l'oeil "area rugs," and the first woven border I came across that inspired those was actually a recessed ceiling detail I found in a set of plans for Treasure Island.

Since then I've been obsessive about finding border details and patterns, which I horde in my book. I guess my signature, if you could call it that, is to create things in concrete or toppings that you can't get in any other medium.

We all know stained concrete is not a cheap alternative to carpet. Far from it. When your competition is wood, stone, tile or terrazzo, you need to be able to give clients something they might not be able to get anywhere else.

Do you consider yourself an

I have a very good friend that paints who I consider an artist. I don't put myself in that category, but I love what I do, and hopefully it shows. My background as well as Mike's makes us a good team. He owned his own construction company in Kansas City for years before coming to Las Vegas. While I get to focus on the end result, Mike has to figure out how to get there, price it, stage it, man it and coordinate it. Everyone has their own part, mine's just more fun! It's really the guys in the field who make us look good, though. We have been blessed with a group of employees who really care about what they do. They



understand that we are only as good as our worst job, and they make us proud everyday. I can put it on paper, but if it doesn't get done right on the job, none of that matters. It's the attention to the littlest details that makes a difference.

Who are artScape's clients?

End-users or designers who have looked at every other floor covering option that's out there before choosing concrete — because it gives them something aesthetically and/or because it solves a particular problem that no other medium could.

What are some of the most notable jobs artScape has done so far?

As far as noteworthy names, we've done work for the Bellagio, the Mirage, Sunset

Station, and Green Valley Ranch. We also just completed Bally's porte cochere and 13,000 square feet at the Aqua Theater inside Wynn Las Vegas, (formerly La Reve). It's the newest Cirque du Soleil show on the strip with

a 360-degree theater surrounding an enormous, circular tank that functions as the "stage."

Last fall Mapei asked us to come help design and install their new showroom in Milan, Italy, which was a lot of fun. We did over 120 samples before the final 22 were selected. The language barrier was somewhat of a challenge, and that English-Italian dictionary I brought was more tourist-related than construction terminology. I could order a mean plate of gnocchi, but I couldn't get a four-inch hand grinder with a quarter-inch blade to save my life!

Do your clients usually know what they want before you come in, or do you work with them to develop a concept?

I think they are becoming more educated on the product, but rarely do they understand all the possibilities. One of the best things you can ask a client is what they DON'T want.











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What are the most popular looks these days?

To me, they still remain more conservative and timeless, which I think they have to be. It's not like buying a trendy couch that when the trend is over, you replace it. These floors are a big investment and you want the design to stand the test of time.

Many of your floors incorporate inlaid glass, wood, stone and other objects. What precautions do you take so your inlays don't pop out?

I love mixing media. I think that stained concrete has a wonderfully earthy feel which natural stones or wood complement, and which glass mosaics or metallic inlays nicely contrast. Inlays just make the floor that much more interesting, and then those inlay materials can be used on backsplashes or countertops to pull the entire space together. We've never done anything specific to make sure inlays don't pop out other than using the proper setting material specific to the product and caulking them after the fact in case the inlay expands or contracts at a different rate than the concrete with ambient moisture or temperature.

What are your favorite tricks of the trade?

Anyone who's done stains will tell you that you are not the master of your trade — stains react however they want to on any given day. The best you can hope for when things don't react the way they did on the sample that you got approved is to have a level of experience in knowing how to fix them.

What do you not like to see done with decorative concrete?

PAINT!

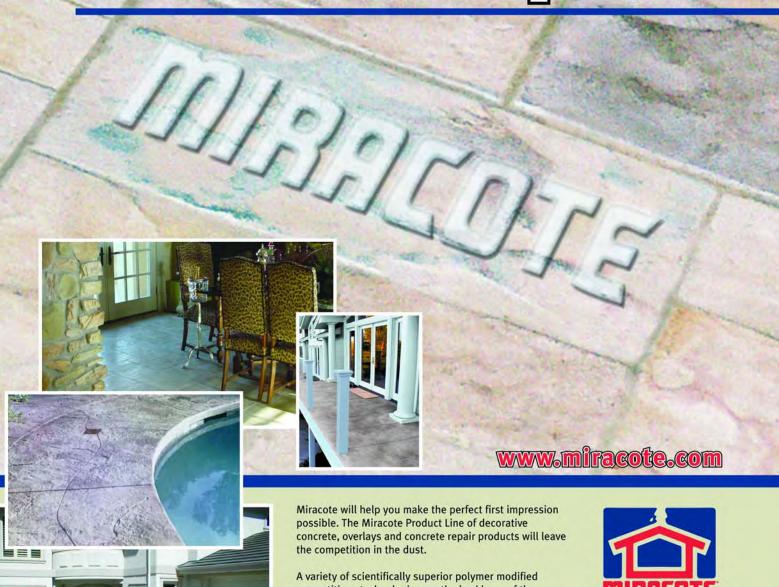
What plans do you have for the future?

Just recently we have formed a new company with Ken Aeschliman and Clint Walcott, called Architectural Stains Inc. It will be strictly union, to handle any casino work on the strip, as well as become the Bomanite licensee for Las Vegas. artScape will return to non-union residential and small commercial work.

If you had an opportunity to say something to 50,000 concrete contractors, what would you say?

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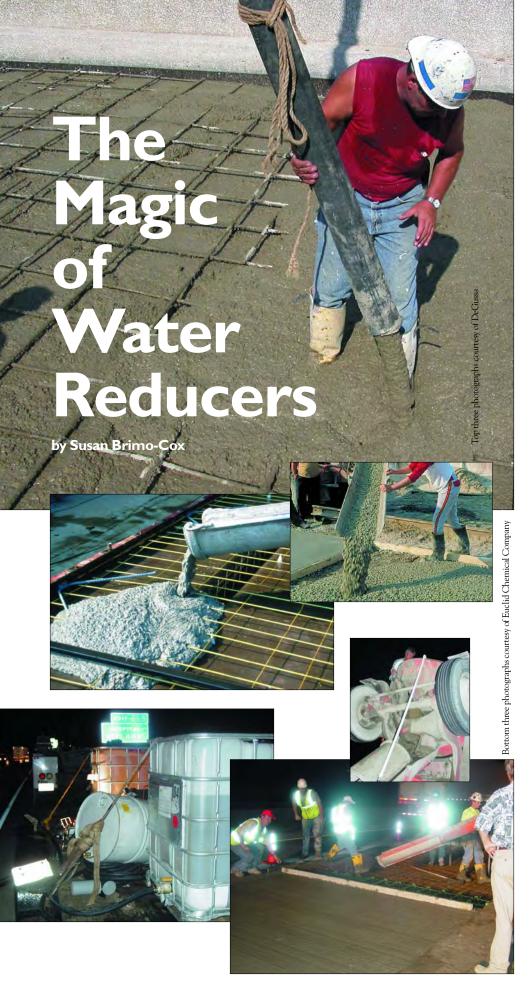
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ou may be enjoying the benefits of water reducers whether you know it or not. Tony Schlagbaum, group product line manager at DeGussa Admixtures Inc. in Cleveland, estimates that 70 percent to 80 percent — maybe as high as 90 percent — of concrete mixes contain some form of water reducer. And water reducers are used for good reason — they offer many benefits.

"Water reducers do exactly what the name says: They allow concrete to be mixed with less water," observes Bart Sacco, president of Concrete Texturing Tools & Supply in Throop, Pa. In addition, water reducers can be used to provide additional workability at the same water-to-cement ratio.

The main reason to add water to concrete — above and beyond what is needed for the proper hydration of the cement particles — is to improve workability, of course. "The rule of thumb is: 0.22 to 0.25 water-to-cement ratio is required for complete hydration," says Schlagbaum. Most mixes have water-to-cement ratios of 0.40 to 0.60 primarily for workability purposes, he adds. But keeping the water-to-cement ratio down through the use of water reducers improves the concrete's hardened properties.

"A higher ratio of water to cement will reduce strength, durability and abrasion resistance while increasing shrinkage and cracking potential," points out Scott Thome, director of training and product services at L.M. Scofield Co. in Douglasville, Ga. "There are numerous studies showing that properly proportioned concrete is more consistent (lower risk of variation) when water-reducing set-controlling admixtures are included."

Sean Fallon, admixture product manager at The Euclid Chemical Co. in Cleveland, reports that "water reducers have been proven to increase compressive and flexural strengths in concrete," though some water reducers "will not show increases until 28 days because of some initial retardation."

Less water in the mix also means less excess bleed water. That's another good benefit, especially for the finishers.

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But how do water reducers work? How can you decrease the water and still have a workable mix?

Schlagbaum explains, "Basically, these materials work through electrostatic repulsion. All cement grains in a concrete mix have different [electrical] charges and want to come together. Water reducers give everything a negative charge and they repel each

other." This keeps the particles from agglomerating, or clumping together.

Another way to look at it, according to Fallon, is: "It is like having two similarly charged magnets that repel each other. Depending on the chemistry and concentration, this chemical attraction can wrap around the cement and create a barrier for hydration. When this happens, workability is extended and placing is improved."



The three types of water reducers

Water reducers are divided into three general types: conventional, mid-range and high-range admixtures. While the properties of water reducers within the "conventional" category are typically very similar, the chemistries used by different manufacturers vary. Within the mid- and high-range products, not only does the chemistry vary, but the performance does, too. As Schlagbaum points out, you're likely to see performance differences even within one supplier's product line.

ASTM Specification C 494 Type A covers conventional water reducers. These water reducers reduce the water requirement a minimum of 5 percent. At the same time, without the addition of water, the slump is reduced 1½ to 2 inches. Conventional water reducers are commonly used in everyday concrete for driveways, sidewalks, footers and basement walls.

Jumping to high-range water reducers — also called superplasticizers — this category falls under ASTCM
Specification C494 Types A and F.
Superplasticizers reduce the water requirement from 12 percent up to 40 percent.

"High-range or superplasticizers can be used to create a very low water-tocement ratio for higher strength concrete, concrete with high slump, or in some cases both," Thome says.

And, according to several experts, the technology is continuing to improve in this category.

Fallon observes, "In the old days (not so really long ago), general contractors needed to see the high-range water reducer going into the truck to make sure the slump was not achieved by water. Currently, high-range water reducers are added at the batch plant and arrive on the job site with the appropriate slump (based on specifications written for the job). If the slump is not high enough, a high-range water reducer can be added at the job site to get the right consistency for the job."

Some of the newest formulas are based on polycarboxylate. As Sacco



Superplasticizers are so important to the industry these days, Fallon adds, "A concrete manufacturer that does not use a high-range water reducer these days is like a secretary not using a computer."

Mid-range water reducers do not have an official ASTM designation, but the "unofficial" standard is for 5 percent to 15 percent water reduction.

According to Thome, "Mid-range water reducers generally will be used when there is a desire to reduce the mix design water and increase the slump moderately."

Fallon reports an added benefit: "Contractors appreciate the added workability and the 'creamy' feel which helps in finishing. Truly, the mid-range water reducers had the contractor in mind."

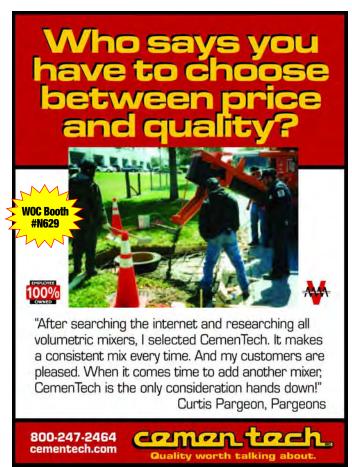
At this point, it should be clear that even contractors experienced with conventional water reducers can often benefit from the other two types if a specialized project comes up.

Rick Seymour, technical services manager at Lafarge N.A. in Glenwood

Springs, Colo., points out, "Mid range and high range should be used where congested rebar is an issue, superior strength (low or high slump), flowability, extra durability or workability with other chemicals is required."

Is there a downside to water reducers?

Most experts agree with Seymour, who says, "When properly used there is no disadvantage" to using water reducers.





Water reducers are often used in combination with other admixtures, such as retarders or accelerators. When problems arise, it is frequently because some aspects of the job requirements were not factored into the choice of admixtures.

Thome explains, "One example of misusing a water-reducing set-controlling admixture is the overuse of a retarding admixture. Retarding water-

reducing admixtures can be employed in hot weather to slow the set and allow the contractor adequate time to place and finish the concrete. However, if the set of the concrete is extended so that the concrete remains plastic for a prolonged period of time after placement, particularly in windy conditions, the concrete is now susceptible to surface drying and a condition know as 'plastic shrinkage cracking."

The solution? "Simple communication between the contractor and the concrete producer will usually resolve these issues," Thome says.

Other problems can occur as well. Schlagbaum observes that "when you run the dosage rate too high you can delay the finishing process." So, for instance, you may not be able to strip your forms as usual.

Another potential problem with water reducers is segregation. Use too much water reducer and your aggregate may fall out of suspension.

Benefits override added costs

When you're talking about conventional water reducers in a truckload of ready-mix, Sacco says the average contractor won't see the added cost. "It's built into the price per cubic yard. The batch sizes also may be small and not add much cost to it."

Mid- and high-range water reducers have a higher price tag, but increased strength and workability are very sellable.

From Fallon's perspective, "Using a consistent water reducer is saving the producer money in cement and saving the contractor money. This does not always save the consumer money but it certainly helps concrete producers and contractors make a fair wage for difficult work. If you look at the price of a cubic yard of concrete, ask yourself where else you can go to get 3,500 pounds of anything for about \$90 to \$100?"

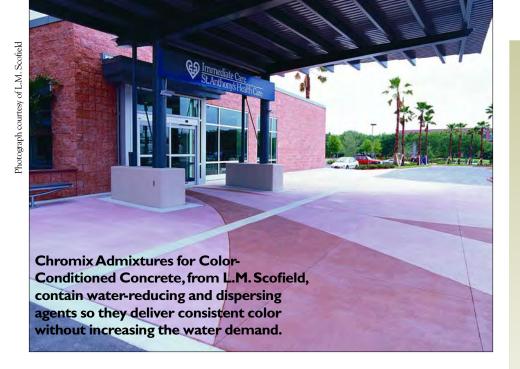
As Seymour sees it, "With the full range of water reducers, especially a mid-range water reducer or high-range water reducer, a contractor will most probably have a greater slump, and thus possibly could eliminate one worker to do other tasks due to the ability to move the concrete easier. With these same chemicals your strength should be accelerated, so use of the project (occupancy) can happen earlier, getting the cash flow going."

So, with water reducers it's really a "cost + benefits = value" equation.

Thome explains, "The true cost of concrete is not the price per cubic yard,



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but rather the cost of the concrete in place. The proper use of water-reducing set-controlling admixtures can greatly benefit that true 'in-place cost."

Schlagbaum agrees, "Admixtures can add to the concrete cost, but a

contractor must look at the total inplace cost because at the end of the day that's what's important; not just the concrete, but everything that goes into the job."





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Tips for Using Water Reducers in Decorative Work

can often benefit from the use of water reducers. Here's a look at two types of decorative concrete work and how water reducers can make the job easier and improve the finished product.

Stamped concrete

Bart Sacco, president of Concrete Texturing
Tools & Supply, reports he's had the best results
— as well as the best finishes and durability —

when he uses water reducers to achieve a workable slump with minimal bleed water for stamped concrete jobs.

Others agree that for stamped concrete, water reducers improve workability, finishability and strength. But the mix design needs to fit the job.

As Scott Thome, director of training and product services at L.M. Scofield Co. explains, "Maximum benefit will only be realized when the concrete mix design is optimized for the conditions of a particular job. While the use of standard water-reducing set-controlling admixtures can enhance concrete for stamping, the use of a high-range water reducer would probably not provide adequate water to allow the incorporation of a dry-shake color hardener."

The key to using dry shake color hardeners with mixes containing water reducers, says Tony Schlagbaum, group product line manager at DeGussa Admixtures Inc., is to have enough bleed in the mix to ensure the hardener comes in contact with moisture for a good bond. "Tell the ready-mix producer what you need and the ready-mix producer can come up with the mix design for those specs."

Sean Fallon, admixture product manager at The Euclid Chemical Co., advises, "The use of a lignosulfonate or sugar-based water reducer will promote bleed and improve bond. It is not a good idea to go below 0.50 water-to-cement ratio for dry shake floors. I have never seen a case in my professional career where using the proper water reducer and adhering to water-cement ratio guidelines, a dry shake hardener failed."

As far as liquid or powder releases are concerned, there don't appear to be any problems using them with a mix containing water reducers.

What about integrally-colored concrete? Thome observes that, with proper use, water-reducers will improve integrally colored concrete, much in the same way they improve regular concrete. "The direct benefit is that the color will be stronger with less water; weaker with more water. And the more consistent the concrete appearance is by way of improved placeability and finishing, the more consistent the appearance of the color.

"Also, for a given concrete mix design, increasing the surface area of the materials (fine particles) used will also





increase the water demand to maintain a given workability. The use of water-reducer can help offset that unwanted increase in water."

Experts have mixed comments about using accelerators in conjunction with water reducers for stamped concrete.

Rick Seymour, technical services manager at Lafarge N.A., says, "With stamping exterior concrete there could be definite advantages, particularly with regards to drying conditions and plastic shrinkage cracking."

Misuse, however, can create problems, reports Fallon. Having seen what can go wrong when others have used inappropriate mixes, Sacco prefers that his stamped concrete cure naturally. "When it's too cold, I just don't install stamped concrete. It's not worth the risk."

Concrete countertops

Many contractors and artists creating pre-cast concrete countertops are experimenting with or using water reducers in their concrete mixes.

Several experts point out that high-range polycarboxylates used in mixes that are self-consolidating produce a smoother, better looking surface with fewer surface blemishes.

Jeffrey Girard, president of The Concrete Countertop Institute, explains, "Instead of simply reducing the mix water while maintaining a moderate slump, polycarboxylates can actually turn a dry, crumbly mix into a pourable fluid, and viscosity modifiers help prevent segregation of the aggregate."

This results in labor savings, Fallon adds, because it eliminates the need for vibration and for 'rubbing out' the bugholes.

Sacco, who has tried polycarboxylate-type water reducers in concrete countertops, says they are good "if you're going to grind and polish the surface [and] if you want to build strength real quick."

The amount of water reduction afforded by the use of high-range water reducers is a significant benefit, reports Girard, "because a normal 3,000 psi (compressive strength) concrete has a water-to-cement ratio of about 0.7; eliminating 40 percent of the water lowers that ratio to 0.42, which is usually associated with a 5,500+ psi mix. That's almost a doubling of the 28-day compressive strength."

Fallon adds, "Naturally, using any chemical that increases strength and reduces permeability produces the best countertops."

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"When you're dealing with stains, it's more for the aesthetic look, it's not a maintenance coat," says Chuck Brunner of Smith Paint Products. "Your sealer or wax or acrylic fortifier is the maintenance coat. The stain is for the aesthetic look."

Yet with acid stains there's an element of chance at work. After all, the stain is based on a chemical reaction and you can't predict with certainty what that reaction will be.

"We know where it's going when we're using acrylics and we don't always know when we're using acids," says Gerald Taylor of Images in Concrete of El Dorado, Ark.

"The polymers are more predictable," Sargent says.

As any applicator knows, it's difficult to tell what's gone on previously at a given job site. Sometimes mistakes and flaws don't show up until after the stain has been laid down.

"You can walk into a brand new home where they've kept the slab absolutely pristine," Sargent says. "But unbeknownst to you, during the cure-out time, they left some paint buckets on the floor for the first 15 days of the pour. You don't see them until you stain, then bings, they popun."

Acrylic stains really leap to the fore when those unforeseen problems occur and they also work quite well for touchups on existing stained surfaces.

"We've had people put down epoxy floors, and even in some cases acidstained floors, and seal them," Brunner says. "The customer comes back in and says, 'this isn't the color you told me about,' or 'I just don't like this look.' They can use our (acrylic stain) over the top and just reseal it."

"A lot or applicators who've used acid stains for years and years are finding that the new polymers work as a 'fix-it," Sargent says.

"It can be used for acid-stain deficiencies, as in when the concrete is eroded or when the surface lime is gone and the acid doesn't have anything to react to," Taylor says. "That's when you can use the acrylic stain almost as a cosmetic. You use it to hide blemishes and make them blend in."

Mike Ruggiero of Duron Wall Coverings notes that acrylic stains can be used on a previously painted surface, but that abrading the surface is necessary to create a bond.

Where to start?

It's imperative that an applicator knows the ins and outs of the surface that will be stained. Understanding the porosity of the concrete is a good place to begin. The more porous the surface, the deeper the stain will penetrate.

The surface must be clean, and if it was hard-troweled, opened up with muriatic acid. Taylor has developed — in cooperation with Working Chemical Solutions — a water-based, nontoxic cleaner that removes oil and grease as well as paint, glues, adhesives, etc. "I use Taylor's Super Concrete Cleaner, about 1 part TSCC to 12 parts water," he says. "And then scrub it and rinse it off. If it's a hard-troweled surface, it really needs to be edged to get the pores opened. You would use a 1 to 5 muriatic acid for that."

Ruggiero says that sufficient porosity can be achieved with an abrading pad or a power sander.

Application of the stain varies depending upon the desired effect, but most contractors prefer the relative ease of a pump sprayer. "It can be applied using a brush, sponge, watercolor techniques or an airless sprayer — an





airbrush works really nicely," Taylor says. He advises using distilled water or reverse osmosis water, not tap water, during the staining.

A whole spectrum of colors

While acid stains provide excellent earth tones, acrylic stains come in a hefty assortment of rich, vibrant colors.

With consumers continually reaching for all things bold and bright, these stains are more than up to the challenge.

"All of the acid stains give you Mother Nature's earth colors," Sargent says. "We're finding a huge niche where you have someone that says, 'I have a day spa and I would like for it to be cobalt blue or lavender. Beauty salons, exercise centers, places where they want vibrant colors — or day-care centers where they want Disneyland red or Disneyland yellow. Now we can do that." Sargent touts her company's Rembrandt line of stains for such projects.

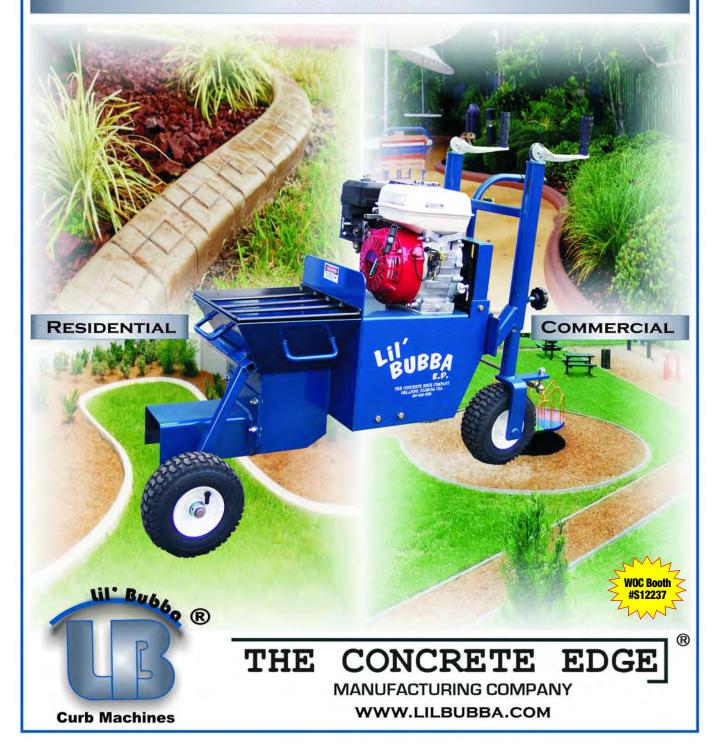
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of colors available in Smith Color Floor stains. "We have a base range of 20 colors and we're coming out with iridescents and pearlescents so you have metallics and different effects in pigments," he says. "We're also coming out with a 'bright lights' series, meaning your oranges, your reds, your purples and your yellows. For a specific job we can color-match anything."

Seal the deal

As mentioned earlier, a sealer provides a hard maintenance coat that will ensure the durability of the stain. This is critical whether working outdoors or in.

"I like using a solvent acrylic sealer," Taylor says. "If you use urethanes or epoxies you're pretty well locked in. Let's say you're staining outside and the UV rays will affect it somewhat over time. With the solvent acrylic you can go in and touch it up. I recommend using a wax as your sacrificial coating rather than using the solvent as the wear surface."

"In a high-traffic area, like a mall, you'll want to put on a fortifier every couple of days, and in the home every month or two," Brunner says. "With a rayon mop you can get a high-gloss seal and it will rejuvenate the floor. It acts as the maintenance coat so the traffic isn't wearing down the sealer."

But do all acrylic stains require a sealer? Is there room for innovation? It would seem so. Peggy Steckelberg, marketing manager of Nox-Crete Products Group in Omaha, Neb., has a solution in the form of her company's water-repellant Acryl Pen stain.

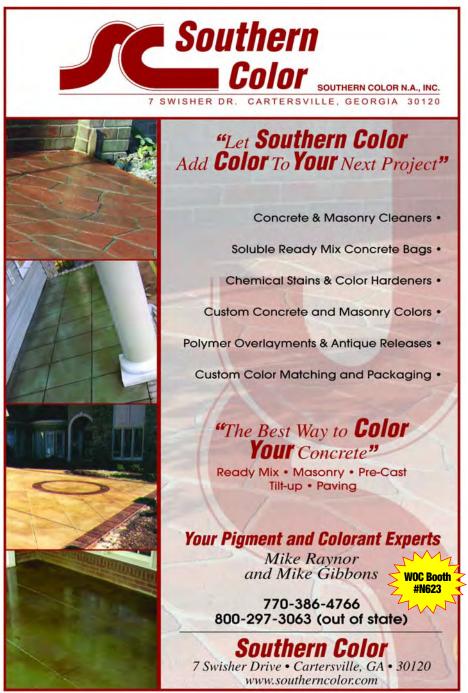
"It's both a sealer and a stain," she says. "So that makes it a little bit unique. A lot of times stains require a secondary application of a sealer. This does not. It's a penetrating combination of acrylic and silane, and it's for horizontal broom or textured-finish concrete."

Cleanup time

When it comes to cleaning up after the job, acrylic stains are the hands-down champs. Acid stains need to be neutralized and residue has to be disposed of properly.

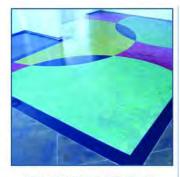
"There is a process you have to go through when dealing with acids," Brunner says. "You have to neutralize the stain afterward with a water/baking soda wash, and that's a hazardous waste. How you get rid of that depends on [the laws of] different states. In California, if you get caught putting that stuff down a drain, it's a \$10,000 fine. With acrylics you don't have that step. You don't have to neutralize."

"Acrylic stains are environmentally friendly and exhibit ease of application and cleanup while providing an attractive appearance," Ruggiero says. "The majority of the products sold today are water-based. However, there are a few manufacturers that still have a solvent-type stain available. Solvent-based stains are more tolerant when it comes to



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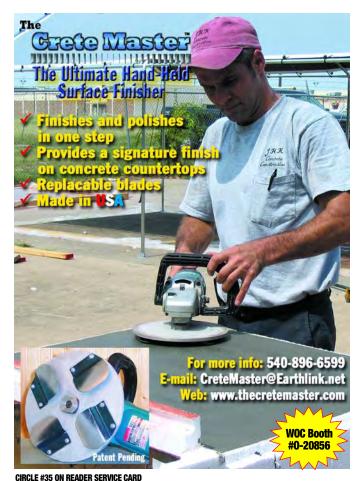


surface preparation, but they have a solvent odor and need to be cleaned up with solvent."

Having an environmentally friendly product also means that contractors can use acrylic stains in places where being relatively unobtrusive is critical, such as day-care centers, churches, athletic clubs and schools.

As in the case of the paint industry moving toward low-VOC products, the decorative concrete industry is finding that acrylic stains have many advantages over their acid-based counterparts. Some suggest that somewhere down the road, acrylics may even nudge acids aside.

But at least for the present, it appears that the two stains acting in concert is a fruitful combination. "I've been selling acid stains since 1973, and in my opinion, I don't see it (acrylic stains) replacing chemical-reaction stains," Sargent says. "I see it complementing and augmenting. Almost like partners, if you will. But I don't see it as replacing the acid stains. Someday that may be the case, but I don't see it now."





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hat's the secret to that shine?
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Byrd, senior technical salesperson with
VIC International, a company in
Tennessee that specializes in surface prep equipment and supplies, she'll tell you success lies with the polishing process.

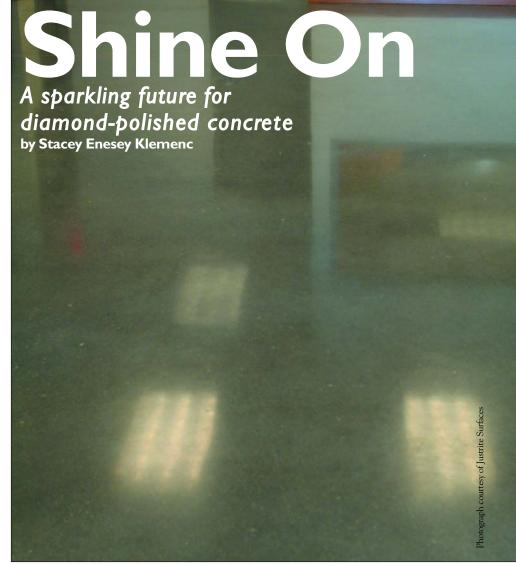
Typically, after waiting 28 days for the concrete to cure, "The first tool you'll use is a 40-grit metal-bond diamond," she begins. "This opens up the surface and allows maximum penetration of the densifier. After applying the densifier, you'd typically go to a 150-grit metal-bond diamond."

At this point, you'd switch to resinbond diamonds, going back over the floor with a 100-, 200-, 400-, 800-, 1500- and 3000-grit diamond to achieve that highgloss shine that can be seen in automotive showrooms across the country. "I know that's a lot of steps but there wouldn't be so many different grit diamonds if we didn't expect you to use them," she says. "So many contractors get frustrated when they can't get off the job because the shine isn't quite right. Ultimately, when we talk, I find out that they have skipped some of the grits. If they had done the right sequence in the first place, they would be off that floor and onto the next ... not calling me for advice."

Jim Walton, sales and training consultant for Innovatech Products & Equipment Co. Inc., a Seattle-based company that also specializes in surface prep equipment and supplies, echoes Byrd's philosophy. "It's typically a six- or seven-step process to bring the concrete up to a high sheen," he says. And unlike the high gloss that can be achieved with any number of coatings, "This highly reflective appearance is all done mechanically."

The new kid on the block

Polished concrete floors — which are popping up at big box stores, malls, warehouses, restaurants, distribution centers, showrooms, schools, hotels, manufacturing facilities and high-end residential homes across the country — are relatively new to the decorative



concrete arena, having made their debut less than 10 years ago. Steadily growing in popularity, these mirror-like surfaces are as tough as they are beautiful. And perhaps the best part of the whole package is that it takes little effort to keep them that way.

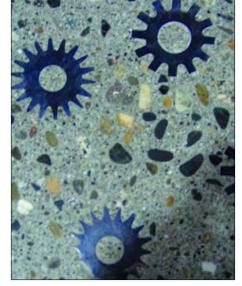
The low-maintenance floors need only be swept or dry-mopped regularly and washed with a neutral cleaner. Although the finish can resemble glass, a clean surface is less slippery than an unpolished slab, independent tests reveal. It's the dirt, dust or water that can cause a ball-bearing effect. For the safety conscious, there are products that can be applied to increase the slip resistance.

Several companies make products specifically for polished concrete that contain special conditioning agents designed to help maintain the floor's luster and to make it more oil and water

repellant. Others make cleaners that contain sodium silicate, the same ingredient often used to densify floors during the initial polishing process.

"The biggest advantage of polishing a floor is that it lets the floor breathe naturally," says Walton, since there's no coating to contend with. "This is a potential fix for any concrete that has vapor moisture transportation problems."

Most any structurally sound concrete floor can be polished, but keep in mind that visual defects that are present before may still be there afterward, albeit a lot shinier. If you're lucky enough to plan for a polished floor from the bottom up, "The possibilities are endless," says Greg Ferchaud, national sales manager of Seattle-based SASE Co. "While the concrete is being poured, you can add all sorts of things: different aggregate, seashells, screws, bolts, broken glass,



marbles, whatever you want. Then when you start to grind it down, all these things start showing their faces."

With new pours, you have the option to integrally color the mix or stain it at any stage you pick. Some contractors also use shake-on color with good results, but this process tends to be a bit tricky.

There are no hard and fast rules governing when to add color to an existing slab, Ferchaud says. "You can stain and polish existing concrete or you can polish and stain existing concrete, depending on the look you're after." Most of the jobs out there, however, involve polishing uncolored existing floors. "People are just starting to see the opportunity of planning ahead. I'd say nine out of 10 polishing jobs involve floors that weren't meant to be polished," he says.

"Stained concrete has been around for many years," Ferchaud notes, while polishing concrete has really only taken off in the last three or four years. "Marrying the two together has become the new trend in the last year. It's difficult to do."

But the end result is stunning. "First and foremost, you get a low-maintenance floor. It also just so happens to look great and last a very long time. The shine is just a plus."

Planetary polishers do it right

Most contractors today use a planetary polisher or a quad-head system to give the surface its reflective qualities. A properly polished concrete floor can last



Ferchaud, whose company SASE prides itself as a surface preparation equipment specialist, points out that most concrete slabs are not very level and have both high and low spots. To accommodate the typical slab's shortcomings, a planetary polisher with a floating head system is your best bet. "You need to have a machine with floating heads that follows the contour of the floor. This will allow you to increase production, shine and, ultimately, your bottom line."







Elna Beck, president of Leitch and Co./Intertool, a company in California specializing in stone-polishing equipment that it has adapted for the concrete industry, makes a variable speed side-driven planetary polisher that is designed to produce a flat, swirl-free finish on smaller areas including countertops and steps. She says her equipment is so easy to operate that you can move it across the material with one hand. And it's very efficient. "It'll produce a perfect finish five times faster than a single-head polisher," she says. The company also makes a larger version, specifically for floors, that can grind, hone and polish.

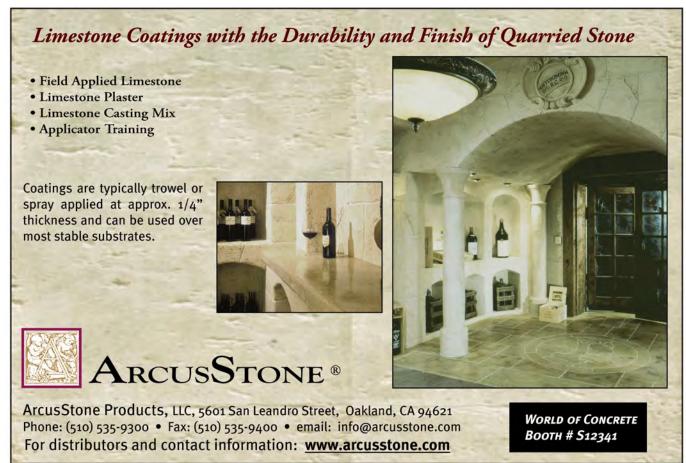
Like Beck and Ferchaud, Innovatech's Walton is among the many that believe a variable speed, counter-rotating planetary grinder and polisher is critical to the concrete polishing process because it flattens and levels the floor better than anything else out there. Still, there is a lot of torque associated with the typical three-headed planetary polisher, he notes, adding, "It has a tendency to pull the equipment operator one way or another." To combat this problem, Innovatech has developed a four-headed version which eliminates this torque. The company will debut the new counter-rotating grinder at the World of Concrete in Las Vegas in January 2005.

Diamonds make it sparkle

When it comes to polishing, the experts agree: Skimping on the diamonds will get you nowhere fast.

"To get that beautiful mirror finish without waves, you need to give that floor as much flatness as you possibly can," explains VIC International's Byrd. Each diamond grit forms its own "hills and valleys" scratch pattern, she says, and "A lot of people skip steps and buff in material in between changing diamonds. They're just filling in the hills and valleys."

To properly polish a surface, she says, "The next tool you use must take out those hills and valleys and replace them





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with its own. Eventually the scratch patterns get very tiny and you wind up with a surface that is virtually flat." And, if you combine all these steps with a good densifier that actually penetrates the concrete rather than just sits on the surface, you'll create a hard and flat surface that is very wear resistant.

There are lots of things to consider when choosing which diamond to use, Byrd continues. Typically, you should start off with a 40-grit diamond that could be bonded soft, hard or normal. If you have a hard concrete floor, you need a softer bonded diamond. Conversely, if you have a soft concrete floor, you need a harder bonded diamond.

Resin diamonds have a tendency to roll with the waves in a concrete floor, Byrd says, while metal bonds typically grind through that. "If you weren't concerned about flattening the floor, you could just polish the surface with resin diamonds, but you wouldn't get the best results."

Walton adds that he's found that phenolic resin diamonds work better



than other resins he's tried. "They give the floor a much deeper shine," he says. "They're capable of making the light reflection look 10 feet deep."

To be truly successful, Ferchaud says, you need to let the concrete talk to you. "I don't believe there's a true formula for polishing concrete because every floor is different, every pour is different. Let the floor tell you when to use metal or resin and when you need to switch. Understanding concrete and diamonds will put you ahead of the competition."

Polishing: It's not for everybody

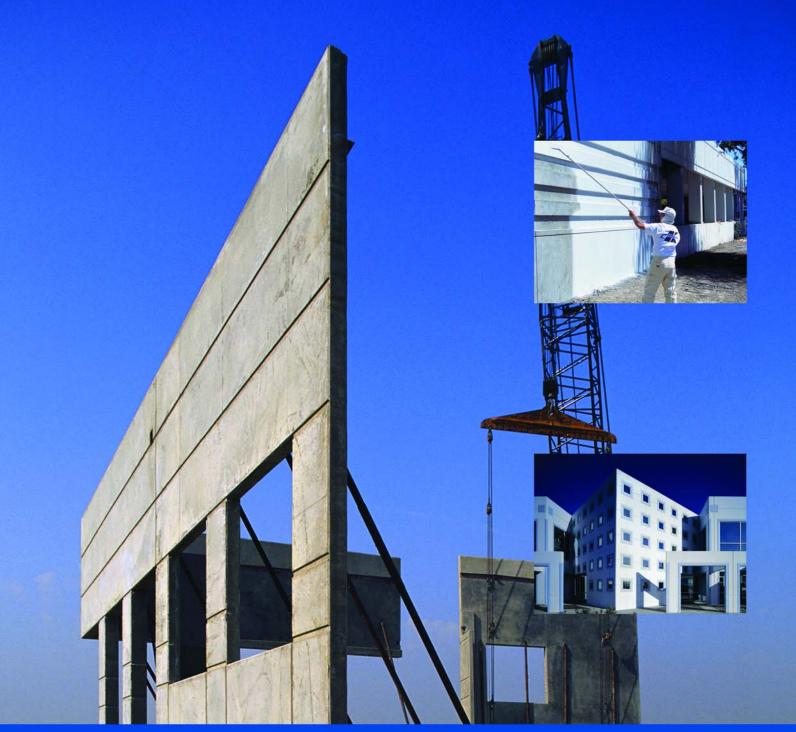
"Polished concrete is a great flooring solution, but is not going to be found everywhere because of the initial installation costs associated with the application, especially in floor rehabilitation projects," says Thad Hovis, sales manager of Innovatech. "Typically, it's geared more toward larger size projects, as these can be installed at a lower cost. And

anyplace subject to heavy oil or chemical exposure should consider alternatives such as floor coatings."

Contractors who are considering breaking into the polishing business, he adds, should be prepared to spend between \$10,000 and \$50,000 for a comprehensive equipment package. However, Hovis adds, just having the equipment isn't enough. Contractors should consider "the total package" when selecting an equipment supplier, he stresses. "To maximize profits and overcome the learning curve associated with polishing concrete, contractors need the right equipment, superior diamond products and ongoing service and technical support."



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CIRCLE #79 ON READER SERVICE CARD

Contractors Take a Shine to Polished Concrete

by Stacey Enesey Klemenc

ontractors across the country have plenty of good things to say about polishing concrete.

"It's a great alternative to surface coating and that's what excites me the most," says Rick Zingale of Centennial Surface Technology in Phoenix.

"There are inherent problems with coatings," adds Zingale, who's been in the concrete repair business for eight years and has been polishing for the last two. "They're hard to put down and lots of things can go wrong with them. Plus, their life span can be short depending on their use. The long-term advantages of the polishing process are incredible — and you get a heck of a nice floor out of it, too."

When he polishes, Zingale says he always uses a densifier, which is designed to tighten up concrete's pores, prevent





dusting and create a more abrasion-resistant surface. It also has similar properties to a sealer in that it helps prevent materials such as oil and chemicals from penetrating the surface. And, he adds, a densifier helps maintain luster and keep the surface shiny.

Shannon Ware, vice president of Concrete Restoration Inc. in Seattle, says the densifier also helps to lock in the color of an acid stain and harden the surface so that when you begin to polish you're not removing color. For best results, he adds, a stain should be introduced during the higher level of the polishing process.

Shane Siefken, general manager of Justrite Surfaces in Council Bluff, Iowa, says his crew typically applies the densifier after the 120- or 220-grit diamond application.

All three men agree that the application of a densifier will slightly darken the color(s).

Tooling options

Most contractors — including Ware and Siefken — praise the results achieved with a good densifier and a planetary polisher, a machine which consists of one large drum that turns in one direction and three smaller platens with grinding media that turn in the opposite direction. Siefken, who's been polishing for six years, says he started off with a buffing machine but after one job purchased planetary equipment.

Zingale says he doesn't use a planetary polisher but rather a 25-horsepower machine that is capable of doing bulk removal, diamond grinding and concrete polishing. Its four heads all spin in the same direction, he says, and he loves the results he's been getting. "There's a lot of talk about which machine is better, but I think the type of diamonds you use has more of an impact on the outcome than the equipment," he says.

The mix design, Ware says, also needs to be taken into account. Regardless of the machine, "It's hard to get a consistent polish with lightweight concrete. It's definitely not the preferred mix design for polishing."

True grit

Choice of machinery aside, Ware agrees that diamonds are pertinent to a project's success. With the highs and lows of some surfaces, he says, "If you use the wrong grit diamond, you'll take the stain out. It's important to use the proper steps during the process."

Siefken likens diamonds to sandpaper. "You don't want to start out too smooth or you won't remove the surface impurities."



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He also adds that when he doesn't want to expose the aggregate, he uses only resin diamonds. "That way I get more of a salt-and-pepper look rather than exposing aggregate that's fingernail size."

Zingale estimates that about 90 percent of the work he does stops at an 800 grit. Ware says he also usually takes it up to 800, sometimes as high as 1,500. Both finishes meet the slip coefficient standards set by OSHA and ASTM.

Wet or dry?

Zingale does all of his polishing dry, which has been a big plus for his business. "I can do a small section at a time



while the facility is still operating and making money," Zingale says. And he can add the densifier as he goes. "The densifier has no odor," he points out, unlike an epoxy, which would force the facility to shut down to let it cure.

Siefken prefers to do his polishing wet. "It's messier than dry but the diamonds last longer and we get better results wet. We get a shinier finish when wet. But if the client is worried about mess, we'll do it dry."

Ware, who has been polishing concrete for about four years, says his company polishes both wet and dry, depending on the project and stage of construction.





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CIRCLE #67 ON READER SERVICE CARD

Maintaining the shine

One of the best things about polished concrete is that it is lowmaintenance. "The maintenance is practically nil," says Jeremiah Fentress,

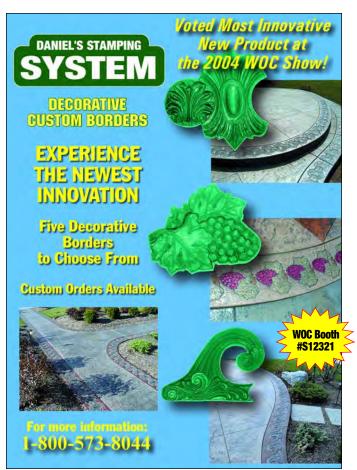


superintendent of Ladybug Concrete Specialists in Chesapeake, Va., who has just begun to dabble with polishing. "You don't have to wax it or strip it. If you get wear patterns, you just have to go back in and repolish it, but that's not very often."

Ware says he recommends a dry mop on a daily basis and, depending on traffic, a wet mop or an auto scrubber if it's a big facility.

"Keeping a polished floor clean is a lot cheaper than restripping the floor and putting something over it," Zingale says. "When you don't have to strip or replace worn-out VCTs [vinyl composition tiles] your client will enjoy a dramatic savings over a period of time."

Fentress says he's very interested in the prospects of polishing and he sees a bright future for the finish. "There is a definite market for it," he admits. "I just haven't aggressively pursued it."



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Manufacturer Profile: Southern Color

Cartersville, Ga.





ike Gibbons recalls his first interview with Ken Bishop, founder of Southern Color Company Inc. Bishop told him, "We're trying to sell solutions, not products."

Bishop's emphasis on problem-solving attracted Gibbons to the business more than three years ago, and he's found that customer service is still the No. 1 priority even after acquisition of the business by Rockwood Pigments NA Inc., of Beltsville, Md.

Southern Color, based in Cartersville, Ga., supplies pigments, packaged mortar products and coloring services for the brick and ready-mixed markets as well as decorative concrete surface treatments such as overlays, sealers and acid stains.

The company, which built its reputation in the Southeast, is now expanding all over the country with the help of Rockwood, which is pouring money into every aspect of the business.

Gibbons, business manager of the construction products division, joined Southern Color after 24 years in the concrete industry, but he has never witnessed the explosive growth that Southern Color is now enjoying.

What started in the early '80s as a home-based business expanded in 2001 to Ocala, Fla., where Southern Color operates out of two additional manufacturing facilities covering 45,000 square feet on seven acres. The stucco and cement market is booming in Florida, despite this year's string of hurricanes, and business has grown by nearly 20 percent this year, Gibbons says. "It started off slow, but the guy who's in charge of the Florida operation, Don Abernathy, has done everything — maintenance, credit, you name it — he's like an Energizer bunny. He's just done an incredible job."

Pigments were the main focus of the business when it started, and they remain so today. Judy Craig, one of Bishop's first employees, can take a swatch of color and match it precisely every time. The pigments go into more than ready mixed concrete; they are also used to color animal feed







and are even used by dog groomers to fill in the coats of high-priced show dogs.

"That's the range. We supply pigments for the World Congress Center, to bridges, to a 2-pound dog," Gibbons says. "There's the whole gamut. There's never a routine or normal day around here."

The fast-paced growth of the decorative concrete industry is keeping all manufacturers on a continual search for better products. Southern Color keeps at the top of its game by holding monthly training sessions not only to teach distributors about the products, but also to find out how they can be improved.

Again, it's all about solving problems. "Like I said, we really are consumer-oriented. We're focused on solutions, not just selling a product. If you're just selling a product, someone else out there is going to have the same kind of product cheaper," Gibbons said.

He is particularly excited about a new top-ofthe-line, water-based sealer that will "quite bluntly, knock the shorts off anything out there now," Gibbons said. All manufacturers are turning to more environmentally friendly, waterbased products, but the challenge is to develop products that perform just as well as their solventbased counterparts. Southern Color's new waterbased sealer uses technology that just became available, and works well over acid stains, Gibbons said.

Once selling to both distributors and contractors, Southern Color has streamlined its operations and is now selling strictly to distributors. The company takes its training to the distributors' facilities. "Most of them love the products because we're constantly reformulating them to try to enhance them," Gibbons says. "It's a never-ending quest to find a better product."

Training includes the customer service representatives and the sales force so they can be experts on the products. At the 2005 World of Concrete, Gibbons said Southern Color will announce that it is working with Davis Colors,







which is also owned by Rockwood. Southern Color products will be introduced into the Davis Color line in 2005.

Rockwood is not just putting money toward training seminars and new buildings, but supporting other areas of the company as well. As of Jan. 1, Southern Color will unveil an updated Web site. Roughly \$1 million has gone into upgrading the plant, improved safety equipment was installed, and a new software system will allow employees to find up-to-the-minute sales and inventory information. The company will add another 20,000 square feet in 2005.

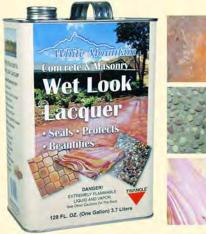
Moving from a family-owned business to one owned by a conglomerate has had its challenges — there's more paperwork, unfamiliar procedures, a new computer system — but the benefits far outweigh the negatives, Gibbons says.

"It truly has been a fun time, because you have the deep resources of a larger company but you still have the flexibility of a smaller company."



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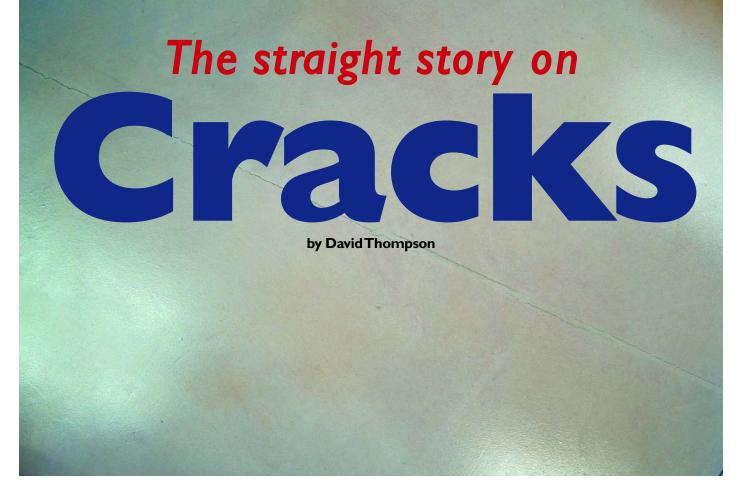


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racks are to concrete what death and taxes are to life — inevitable.

But at least cracks can be repaired. If and how a crack gets repaired prior to a decorative concrete application depends both on the nature of the topping to be applied and on the nature of the crack.

Static cracks v. moving cracks

Hairline cracks generally fall into the static crack category — they don't move and they're not going to. They're typically surface cracks that were caused by one-time events, like drying shrinkage. Tight, static, surface cracks can be coated with most polymermodified cementitious overlays and never seen again. However, if these same hairline cracks are on a floor that's acid-stained, they may go from practically invisible to far more noticeable if the stain sinks in and darkens them. This could be seen as a desired effect, but it could also be seen as a blunder.

Sealers, tinted or otherwise, can also inadvertently highlight the hairline cracks in a floor in an unattractive way. "The risk is, the sealer flows down into the crack and leaves a little sink area, and when light shines across it, it accentuates the crack," says Seth Pevarnick, a technical field consultant specializing in decorative concrete for Ardex Engineered Cements. "In that situation, when it just a hairline, I'd just leave it go. Yeah, you may see it when you mop it, but when it dries you don't see it anymore."

When a crack is continuing to lengthen, or when the each side of the cracked slab moves independently of the other, you've got what's known as a moving crack, aka a structural crack. Any crack that cuts clear through a slab, whether it seems to be moving or not, ought to be considered a structural crack. "Structural cracks are usually pretty easy to spot," says Tim Cutright, a dealer advisor for PermaCrete. "You'll get chipping around them, or one part of the slab will be slightly lower than the other part, or you'll be able to see

dirt and gravel in the crack itself—that's a dead giveaway."

Sometimes, though, determining whether you're dealing with a surface crack or a structural crack is a bit of a guessing game — though one you can get to the bottom of.

"If you had a small crack in the surface and you weren't sure what it was, I would take a Skilsaw with a mason's blade, and I'd cut down about one-sixteenth of an inch and see if it bottoms out," says Cutright. "If it bottoms out, it's a surface crack."

Moving cracks demand to be repaired prior to doing a decorative overlay. "If you don't do anything to a moving crack and you go over it with an overlay, that crack is almost guaranteed to transmit back up through the overlay," says Dan Cook, president of CemTec Systems. "And once it's transmitted up through there, if you continue to get movement, it can pinch the overlay and cause delamination."

Basic crack-repair procedure includes widening and smoothing out

The Basic Principles of Crack Repair on Slabs

Don't make conditions worse

If the crack is of hairline width, it is usually better to leave it alone. For additional protection against deterioration, apply an epoxy coating over crack.

Cut out only when necessary

If the crack snapped cleanly, with no islands, and if the edges of the crack have not spalled, merely fill the crack with a proper epoxy (semi-rigid).

Cut out as narrow as possible

Don't use a cutting tool (router, etc.) that will create a ½" wide repair of a ½" wide crack.

Cut out deep enough

When cutting out cracks, always go at least ½" deep to provide enough "bite" for the epoxy along the joint walls.

Don't weld the crack

Most cracks in slabs-on-grade do not present structural problems. Welding the slab together at the crack may merely result in another crack occurring adjacent to the first. Use a semi-rigid epoxy for most crack repairs, especially for the first two years.

Don't feather-edge repairs

To feather means to taper to -0- thickness. Instead, create a vertical edge of at least $\frac{1}{2}$ " deep on all crack repairs.

This information was taken with permission from the Web site of Metzger/McGuire, a manufacturer of epoxy and polyurea joint fillers and repair products. For more information on crack repair, visit www.metzgermcguire.com.

the edges of a crack, either with a chisel or a crack-chasing saw; thoroughly cleaning out the crack; applying a primer, if your crack repair material calls for it; then applying the crack repair material.

Three types of repair material

Crack repair materials range from rubbery caulks that you can stretch with your fingers to steely acrylics that you can't drive a nail through. New crack repair materials come onto the market all the time. But basically they all fall into three categories: flexible, semi-rigid and rigid.

Flexible crack repair materials are typically used in joints and in structural cracks that move like joints. They stretch and compress as a crack moves, and they do nothing to restrict that

movement. While flexibles don't technically "repair" cracks in the sense of bonding them together, they're great for weatherproofing. They're disastrous beneath a cementitious overlay, but they are sometimes used beneath some non-cementitious elastomeric coatings. "They might work with an elastomeric topping, but with a cementitious overlay you're almost guaranteed to get a crack," says Ed Diaz, senior technical service specialist with Sika Corporation. Flexibles can typically be found in a wide range of colors.

Epoxy-based crack repair materials are the industry standard for reducing or eliminating a crack's ability to move.

Rigid epoxies are used for structural repairs where the concrete needs to be solidly fused back together, returning the cracked concrete to its monolithic state. Rigid materials make repaired

For more information on crack repair materials, visit these Web sites:

Ardex

www.ardex.com

Makes rigid primer for Ardex
toppings only; can be mixed with
sand to fill cracks.

Dayton Superior

www.daytonsuperiorchemical.com Rigid, semi-rigid and flexible

Degussa

www.degussabuildingsystems.com Rigid, semi-rigid, and flexible

Metzger/McGuire

www.metzgermcguire.com Rigid, semi-rigid

Sika Corp.

www.sikaconstruction.com Rigid, semi-rigid and flexible

CemTec

www.cemtecsystems.com Crack repair kit

cracks stronger than they were before they cracked. They can be troweled in, like other crack repair materials, or applied with a low-pressure injection system. Injection systems require specialty equipment, and often a specialty contractor, but they offer the best guarantee that a crack will never crack again. Crack injection is the standard approach for structural repairs.

Semi-rigid epoxies are most widely used for repairing cracked concrete for decorative applications, and they're commonly used beneath cementitious overlays. Semi-rigids allow for rapid turnarounds on crack repairs, as well as repairs that are perfectly flush with the floor, since excess cured material can be shaved off. They allow for a slight amount of crack movement, though hopefully not enough to reflect

Go with the Flow: Incorporating Cracks into Your Work

by David Thompson

There are two basic approaches to incorporating cracks into the design of a cementitious floor: highlighting them and hiding them.

One ever-popular way to hide cracks is to conceal them as grout lines in a flagstone pattern.

Tom Ralston of Tom Ralston Concrete in Santa Cruz, Calif., used this camouflage concept while resurfacing a residential driveway with a few long, deep cracks running



through it. Ralston filled the cracks with a flexible caulking, which he dusted with sand for a grout-like look. Then he applied a ¾" cementitious overlay along one side of the filled cracks, forming 2- to 3-foot wide bands of topping

along the cracks. With a stick, he carved through the wet topping down to the slab, creating additional grout lines and forming faux flagstones. He colored the flagstones with earth-toned dry-shake colors, then sealed them. He covered the rest of the driveway with an integrally colored topping, feathering it up against the flagstones. Any slop that got onto the flagstone washed right off, thanks to the sealer.

After a day he washed the entire driveway with muriatic acid, which brought up the sand grit for a more natural feel. "It looked awesome," Ralston says.

The finished driveway was featured in Sunset Magazine.

Victor Pachade of Colormaker Floors in Vancouver, Canada, tells of a faux flagstone pattern that Colormaker created while staining a cracked floor at a cancer care center in Yakima, Wash. The cracks were filled with anchoring cement, then sprayed with muriatic acid. Muriatic acid was also sprayed in a few other meandering lines across the floor to delineate a pattern of enormous flagstones. Then the entire floor was stained.

"The areas that were sprayed with the muriatic acid did not react to the acid stain, so there wasn't any acid stain color there," Pachade says. "That formed a border or a grout line for the flagstone."

Sometimes contractors opt to emphasize good-looking cracks

"A crack is like a living thing," says Mark Donaldson, owner of Skookum Floors in Seattle. "It occurs and it kind of does its own thing and moves in its own direction. Most of the time it could be interpreted as something it's not."

Donaldson sometimes transforms cracks into crawling vines by chasing them and filling them with colored grout. To complete the effect he might put flowery splashes of color at the ends of the cracks.

For interesting color effects, Donaldson likes to fill a crack with acid stain and then blast the crack with compressed air. "The color kind of explodes from the crack," he says.

One idea Donaldson would like to try is to embed rope lighting (that flexible plastic tube lighting) into some cracks with a clear epoxy. "Your cracks would have a glow in them," he says. "I've never done it before, but I always thought that would be cool."

Of course, another way to go is to simply let cracks be cracks. Cracks can add character to a floor, especially a stained floor, notes Ron Cottingham, decorative concrete program manager for Dayton Superior.

"The idea with stains is to make a floor look timeworn and patined," he says. "When stain gets down in a crack, it darkens along the edges and makes the crack more visual, so it become part of your design."

And why not show off a genuine concrete crack? After all, some clients pay good money for fake ones, Cottingham points out. "In the stamping business, we

manufacture stone or slate textured skins that have cracks in them, where we make the new concrete look like it has cracks!" he says.





through the overlay. Some semi-rigid crack repair systems incorporate a fiberglass mesh layer, which is bonded to the top of the crack. It helps to disburse any movement in the crack, to reduce the likelihood it will telegraph through the overlay.

Old cracks, new control joints

Simply stopping or restricting a crack's movement does nothing to address the underlying cause of the crack and doesn't insure that the crack won't continue cracking or reappear nearby. But short of calling in a structural engineer and undertaking an expensive slabjacking, slurry-pumping repair, there is a simple and crucial way to hedge your bets: cut control joints. With a new control joint in place a few inches away from a repaired crack, any future cracking will be directed along the bottom of the control joint. Hopefully.

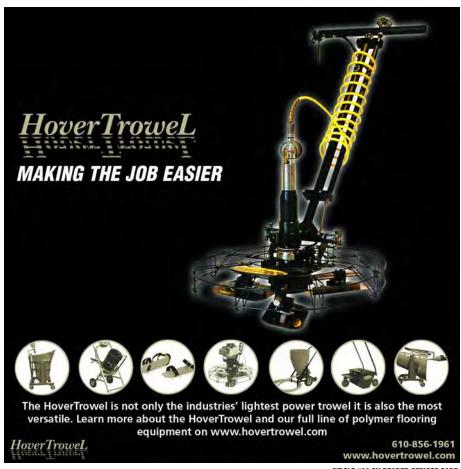
It's standard practice to cut control joints near cracks repaired with either semi-rigid or rigid epoxies. "If you don't relieve the stress somewhere near that crack, you'll develop another crack somewhere near your repair, and that will show up through the overlay," says Ron Cottingham of Dayton Superior.

Control joints are especially critical near cracks repaired with rigid materials, since the welded crack allows no movement whatsoever. "If you had a pencil that snapped, and you Superglued those two pieces back together and then tried to break that pencil again, it won't break in that crack — it will break somewhere else," Cottingham says.

Cutright recommends waiting to cut control joints until the repair material has cured. "You never know what's going on with the substrate, and if you start cutting control joints prior to repairing the crack, you may possibly exacerbate any cracking problems the concrete has," he says.

Honoring the joints

Any joint in the slab, of course, needs to be honored through the cementitious



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overlay. Once that saw cut is in place, other purely decorative saw cuts may be used to conceal the functioning joints in a decorative pattern.

The joints themselves can be made with an angled cut using a V-shaped diamond crack-chasing blade. "More often than not that's the tool of choice in decorative," says Tom Roe, director of the concrete/masonry cutting

division for Multiquip, which markets crack-chasing equipment as well as concrete saws capable of handling crack-chaser blades. "It gives you a nice beveled look — anywhere from 30 to 45 degrees on both sides — that's very attractive."

Typically a thinner, square-edge blade will be used to cut the initial joints while the topping is still green. After the concrete cures, the wider V-blade is used to finish the joint. "Green concrete is very abrasive, and some of the aggregate might not necessarily be set up in the cementitious material," Roe says. "If you were go in with a wide blade too soon, oftentimes what you're going to do is create spalling that's very unacceptable aesthetically."

Coloring crack fillers

If a particular crack repair material will take any stain at all, it won't stain the same way as the surrounding concrete. So if the idea is to make the crack disappear, an overlay is generally used.

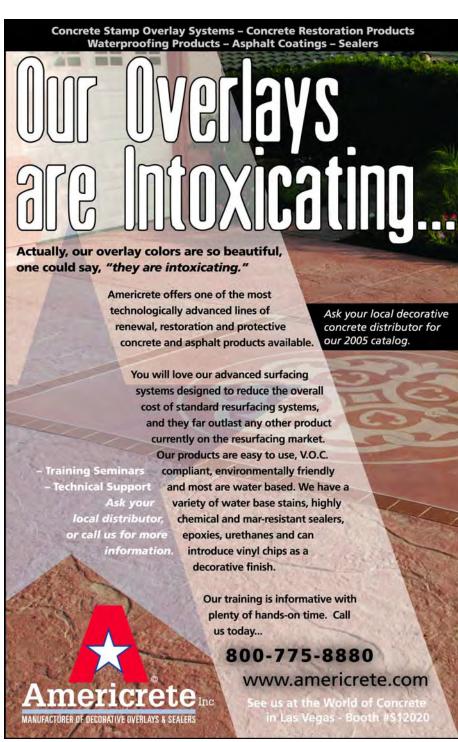
However, integral colors can be used with some repair materials to match them to the surrounding concrete. "You can use standard powder pigments, but you have to do some sort of mock-up phase to find out what the proper pigment loading is," says Diaz. "We have cases where we've actually done some historical repairs and have needed to match weathered concrete that way. It's possible to match colors pretty closely."

When a crack appears in a cementitious overlay, a patching compound made by the overlay manufacturer is often the best bet for a seamless repair. Patching compounds are often un-sanded versions of an overlay material. They can be feathered onto the topping and colormatched, integrally or with stain.

No guarantees

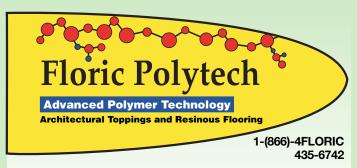
One thing you should never do to a crack is warranty the repair. There's simply no way to guarantee that a crack won't be back. But the return of a crack doesn't mean a repair was all for naught. "A crack may come back, but it's going to be less severe and hopefully less noticeable," says Cook. "The crack that comes back to the top is usually a hairline crack that a lot of people can live with. It's not so unsightly."





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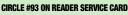


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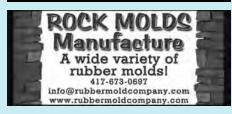
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Solving Color Problems in Concrete

by John Strieder

olored concrete is beautiful, but laying it down can be an ugly business. So many things can go wrong — the weather turns, supplies run out unexpectedly, batches of cement vary in shade. Getting decent results often means spending hours or days compensating for circumstance.

Concrete Decor came up with three "what if" disaster scenarios and posed them to three experts in the decorative concrete industry. Will their responses help? They might. If you run into any of these three scenarios, you will appreciate all the help you can get.

You've completed a stamped porch and walkway using color hardeners. But you ran out of color hardener while treating the walkway, and now the walkway is lighter than the porch. The concrete is dried but not yet sealed. How do you darken the walkway so the two slabs match?

Clark Branum, northwest area manager for Rafco Products, offers a simple answer. "You're better off just re-covering everything with one product," he says.

Rafco uses the same pigments in its release agents and color hardeners. If you treat both slabs with a pigmented release, you can achieve the same color you would using the proper amount of amount of color hardener on each surface, he says.

For a more permanent solution, Branum recommends coating with cementitious paint, such as his company's Cem-Coat. "I can also make Cem-Coat an exact match to the hardener," he says. "And it's quick and easy to use."

Acrylic pigments are useful for touch-up and will work with a variety of base carriers, he says.

A third option is color-washing the surface with a release agent, then topping it with a pigmented sealer. Blending a release agent with a sealer can allow a contractor to get pretty

specific in terms of color. But the result will be more translucent than opaque, Branum says, and it can't be tweaked once it's on the slab. What's more, VOC regulations prohibit colorwashing in some parts of the country.

Finally, there's the option of ripping it out and redoing it. "That's not beyond some guys," he says.

On an outdoor acid staining job, bad weather creates the need for two separate pours. Because of the different mix compositions, the staining application produces different colors. Is there anything you can do to get them to match better?

When it comes to fixing uneven stains, there's no great answer, says Ira Goldberg, president of Beyond Concrete (formerly Bomanite of New Jersey, New York City and Long Island). "It's really, really hard to even something out. Once it's done reacting, it's done."

Goldberg doesn't like using topical fixes, such as pigmented sealers, to fix a faulty stain job.

Instead, focus on staining the lighter side a second time, as it's almost impossible to lighten concrete. "Another application will make it darker - if it takes," Goldberg says.

If the two gray slabs are different shades after a pour, Goldberg says, the sides will definitely differ after stain is applied. In cases like this, where a problem appears imminent, stain both sides evenly with one coat. Wash a sample to see how both sides look. Then apply a second coat, diluting the stain used on the darker portion. Keep in mind that overloading the lighter side with stain can be dangerous. "What might happen is you might change the color altogether," he says.

If the initial coat of stain is diluted, the concrete is more likely to react to additional coats. Most contractors apply acid stain straight out of the can, which cuts their chances of success, Goldberg notes.

If color adjustments don't work, you can still try to trick the eye. You may be able to mottle the stained surface enough to make shade differences hard to notice, he says.

A straight line between two pours invites an observer to compare the two sides. So make the line between the two shades irregular. Instead of darkening the whole lighter side, touch it up and blend it in, going up to three or four feet back from the line. "You don't have to do the whole surface," Goldberg says. "You just have to play with the transition line."

Time sometimes solves the problem by itself, he says. Often, separate pours will look more like each other after they've cured. A panicked contractor will sometimes sink hours of labor into fixing a difference, only to make the cured result worse. "They sometimes have to take up to a month to catch up to each other," Goldberg says.
"Semetimes you can rain a good thing."

"Sometimes you can ruin a good thing."

The best defense against mix composition differences is using mixes that don't differ. Often, of course, a contractor has no control over how the floor was poured. But if you can, lean on the supplier to use identical cement in both pours. "Try insisting that the concrete is coming out of the same plant and that there's no change in the cement that day," he says. "It has to be the same plant and the same cement."

You poured a driveway using integral color. You're expecting rain overnight. What do you cover it with? If it rains for days, what do you do then?

"The first answer is, don't pour," says Steve Johnson, marketer and product developer for the ready-mix division of Solomon Colors. "If you haven't poured yet, don't begin."

If you persist, or if bad weather sneaks up on you, the goal is to protect the pour while sustaining its color. Covering the pour with a plastic sheet or blanket may discolor the surface. "It will look beautiful," he says, "but different."

First, look for gutters on the building, Johnson says. If they aren't up, the biggest threat to the slab will be a cascade of rainwater from the roof. Its velocity and volume will carve into fresh concrete, and it will continue dripping even after the rain has stopped. "Even if you pour in the morning and it rains at night, the rain will erode a strip in front of the garage doors," he says.

A contractor should check gutters and weather conditions before starting the job, he says.

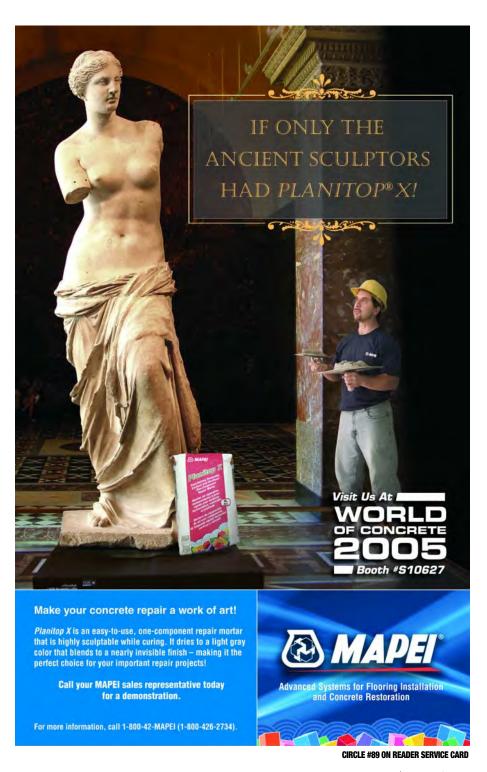
"When I was in the business as a concrete contractor, I wouldn't pour at all if there were no gutters. Go to another job. I'm serious."

If there are no gutters and rain is imminent, erect a plank system above

the concrete that will take the force of the falling water. It doesn't have to carry the water off, just break the fall. A 1-by-12 board suspended just above the concrete by a 2-by-4 at each end will do. "It will roll off either side, but a several-inch drop is OK," Johnson says.

He says the best advice he can give to protect the rest is to use plastic, sealing the cover so water can't get underneath, then pulling it off as soon as possible so it doesn't leave marks. An imperfect solution, it's still better than using drywall, which leaves residue that must be pressure-washed, or cardboard, which will leave stains on the concrete.

"Any cover will have a reaction," Johnson notes. "But you have to save the pour. You never know. You might get lucky."



PRODUCT PROFILES

Flexible Blade Smoother

n the market for about a year now, the Flexible Blade Smoother has earned a slightly flashier nickname. According to its manufacturer, Midwest Rake Co. LLC, concrete contractors have taken to calling it the "long-handled supertrowel."

Designed to work with cementitious and viscous materials, the smoother is a steel blade with round corners, angled to maximize surface impact and attached to an aluminum handle. At widths of 24 inches and 36 inches, the tool is longer than a hand trowel and attacks thick toppings with more force than does a smoother with a nylon blade. In action, a large portion of the blade rides on the surface horizontally.

The smoother can also be used to spread, if the coating is viscous enough. "If you angle the blade downward you really have a tool that can move material," says Midwest Rake co-owner Jeff Plank. "It's almost a long-handed trowel. But it's larger than a trowel, so it saves time."

The idea for the Flexible Blade Smoother came to the Warsaw, Ind., company as a request from its customers, "as most of our tool ideas do," Plank says.



Proline debuts border stamps

proline Concrete Tools Inc. isn't in the winemaking business, but if contractors all over the country want to press its grapes, the company would be more than happy to make that happen.

Proline is introducing a new line of flexible stamps with unique shapes, and yes, a grapevine pattern was the first to go on the market.

The stamp, which Proline started selling a couple of months ago, creates an imprint of grapes, vines and leaves when pressed into concrete

Typically, they're used just inside a design's border, says co-owner Jeff Irwin, but they'll work anywhere. "It's kind of revolutionary."

Because the rubber stamps are idiosyncratic shapes, a contractor needs to lay a feathered-edge seamless texture mat on top of one before stamping. Both textures are embedded at the same time.

The stamps will bend to hug any curve or contour and adjust to fit any design. With traditional tools, a curve or contour design must essentially be faked using hand tools, Irwin says.

Since the debut of the grapevine, Proline has introduced three more designs — dolphins, ivy leaves and a "Spanish flair" design. Each design is hand-sculpted by an artist, not made at a factory.

By January's World of Concrete, the company hopes to be

selling 12, including geometric designs, floral designs and a Celtic knot pattern.

Based in Oceanside, Calif., Proline Concrete Tools Inc. has been in business since 1991. For more information, call (760) 758-7240.



Create a masterful finish on countertops

f you're looking to create a smooth-as-glass countertop finish, you should check out the Crete Master, a hand-held surface finisher that excels in

finishing concrete countertops, horizontal and vertical overlays, colored hardeners, edges on concrete slabs and many other applications that require a smooth finish.

This finishing blade buffs a concrete countertop to finish before the concrete fully sets. It works on curing concrete, eliminating the need for hand grinding. It also allows a contractor to swirl the pigments in a curing slab, allowing for all kinds of neat marble and flower effects.

John Kipp Jr., blade inventor and president of The Crete Master LLC, has been a concrete finisher for 18 years. He was working edges for garage pavement when, he thought, there has to be an easier way than smoothing them with a hand trowel. "Somebody needs to invent a motorized float of some kind," he remembers thinking. "Running edges is a hard job. I'm getting too old for this."

His invention has four smooth-edged blades of blue spring steel attached to a disc. The disc, with a %-inch opening and an 11 thread size, fits onto many variable-speed polishers or angle grinders.

The contractor must still screed or float the surface before using the Crete Master. "But it does take the place of a hand trowel, slick it down and get it smooth," Kipp says.

The blade allows a contractor to create signature finishes on countertops, he says. "It can make concrete as smooth as marble, blend camouflage and work colors together."

Because it allows on-the-spot finishing, it also helps contractors duck one of the most pervasive problems with concrete countertop pours — the nasty choice between cleaning up after a diamond grinder and hauling the finished slab into a house.

The blade is a boon for decorative contractors in particular, Kipp says, because it enables floor-quality sophisticated design work on countertops and even overlay systems. "You have control of everything."

"I can make flowers on top of countertops," he says. Some Crete-Mastered surfaces are so dense with reactions to light from different sources that they almost seem to be three-dimensional, he says.

The Crete Master is (for now) the sole product manufactured by The Crete Master LLC, based in Broadway, Va. The company will present the new tool at the World of Concrete trade show this January. More information is available at www.thecretemaster.com, or call (540) 896-6599.

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Colormaker Workshop Lights Creative Fires

n enthusiastic group of contractors (and one architect) looked, listened, learned — and then got out on the floor and spread color and coatings at a Colormaker Floors workshop held at the Institute for American Craftsmanship in Eugene, Oregon.

The class, taught by Gary Jones, started with a slide show of Colormaker projects around the

world. Later on, Jones went on to explain different types of toppings and their polymer loadings; tools; floor prep; and coloring with Sgraffino and Rotofino, two Colormaker products.

Then, after practicing on sample boards, the class was ready to take to the floor, where they used the Rotofino topping and a variety of stains and dye washes to create a nautilus shell design, complete with multiple shades of pearlescent color.

With Jones' easygoing teaching style setting the tone, the students felt comfortable not just practicing what they had learned, but letting their creativity flourish. When all was said and done, they went home with an invigorated idea of how color and form can turn concrete into works of art.



To learn more Colormaker Floors products and trainings, visit www.colormakerfloors.com or call Victor Pachade at (604) 433-8763.









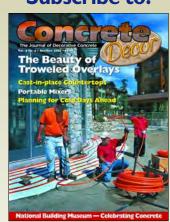








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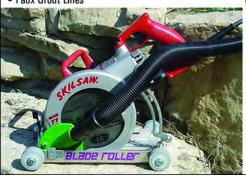


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Product News

Art in the making

Smith's Color Floor is a waterbased extra-strength stain developed to achieve a decorative natural appearance on concrete floors and other porous mediums. Formulated as a user-friendly alterative to hazardous solvent and acid-



based stains, Smith's Color Floor utilizes state-of-the-art pigment preparation and new acrylic polymer research to ensure the highest quality results. Thanks to its superior adhesion, the stain works well on a variety of surfaces, including, but not limited to, interior and exterior concrete, brick, plaster and natural stone. In addition to 20 base colors, Smith's Color Floor is available in "Bright Lights" (a high chroma stain) as well as metallic, iridescent, pearlescent and flip-flop colors.

Smith's Color Floor can be applied via airbrush, high volume low-pressure unit (HVLP), production gun, pump (bug) sprayer, sea sponge and traditional bristle brush. For best results, create a "mist" of Smith's Color Floor on the intended surface. A variegated finish is achieved through the various absorbencies of the surface material as well as the differing specific gravities of the color pigments. Therefore, the application of additional coats or the use of a roller application results in a monotone appearance or painted look. Concrete sealer is recommended to extend the stain's longevity. Smith's Color Floor is compatible with single and two-component epoxies, urethane, solvent and water-based sealers.

For more information, call (800) 466-8781 or visit www.smithpaints.com.



Add Magic to your life

Looking for a Magic Trowel? Midwest Rake Company sells the hot new tool and other decorative concrete application and finishing tools through and to many major manufacturers of decorative concrete systems and the growing number of contractors trained by these companies. A review of Midwest Rake Company's

decorative concrete tools is available at www.midwestrake.com or by calling (800) 815-7253.

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Durand Forms Inc. offers its Classic Series product line as an ideal solution for poured wall applications, including below- and above-ground structures in residential and commercial markets. Unlike wooden forming systems, Durand's forms are made of aluminum, which requires less hardware and labor than wood forms. The aluminum forms are easily stripped and can be used for smooth and architectural finishes. Offered

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Chroma-Stain also offers the ability to score and stain decorative patterns in new or existing concrete, and many special color effects may be achieved using different application techniques. Chroma-Stain is available in Gloss, Satin, Matte or a natural concrete sheen, and can be sealed with Floric sealers for added protection and depth of color. For more information, call (866) 435-6742 or write to floricmarketing@charter.net.

Bonding primer adds versatility

Rudd Company Inc. has added SkimStone Bonding Primer to the SkimStone product line.

SkimStone Bonding Primer allows SkimStone decorative finishes to be used on non-porous substrates such as plastic laminate or ceramic tile. The Bonding Primer is specially formulated to enhance inter-coat



adhesion and may also be used on

previously sealed or

painted concrete floors, where removal by grinding or shot blasting is not possible.

SkimStone is a unique decorative finishing system that transforms ordinary concrete into a one-of-a-kind element of design. A simple three-coat application provides a beautiful organic textured look suitable for both interior and exterior use, in residential or commercial spaces. The versatile SkimStone system provides unlimited color options, easy-to-achieve special effects, and water cleanup. For more information, visit www.skimstone.com or call (800) 444-7833.

Don't let graffiti get you down

Dumond Chemicals has introduced a new graffiti protection product. Wipe Out Porous Surface Graffiti Remover penetrates the surface to clean and lift old, embedded graffiti. A single application will remove spray paint, marker, pen, ink, crayon, shoe polish, lipstick and other marks from most porous surfaces.



Wipe Out is an environmentally friendly, biodegradable gel that clings to the surface for maximum performance. Applied by brush,

roller or spray (HVLP), the product can be used on brick, concrete, mortar, cement, stucco, pavers, granite, marble, terrazzo, sandstone and other natural stone, glass, porcelain, ceramic, glazed tiles, and grout. Even stubborn stains like caulking, compounds, spray booth paints, two-part paints, epoxies, and urethanes are no match for Wipe Out.

The product is available in quart, gallon, and five-gallon containers. For more information, call (800) 245 -1191 or visit www.peelaway.com.

Warning mats meet ADA requirements

Specialty Concrete Products' new Truncated Dome Tactile Warning mats allow concrete contractors to provide a detectable warning surface that conforms with the American Disabilities Act (ADA). The new parallel dome design tool comes in three sizes: 2'x2', 2'x3' and 3'x4'. The surface created by these tools is designed for handicapped curb ramps, store entrances, pedestrian crosswalks and

public transit platforms. The truncated dome design warns visually impaired pedestrians of hazards underfoot. For

more information, call (800) 533-4702 or visit www.scpusa.com.

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Tools aid in crack repair, joint cleanout

New Sawtec 5-inch diamond blades are designed for use with smaller hand tools



such as grout saws and saws used for surface crack repair. The blades are rated for 12,000 maximum rpm and come in a variety of widths from 0.060" to 0.375". Blades with V-shaped segments allow for

better performance during crack chasing. Other styles include continuous-rim and segmented blades.

Need a bigger saw? The Sawtec IS-110 Joint Cleanout Saw is a walk-behind cutting saw for joint cleanout, concrete sawing and trench cutting. It features a heavy-duty chassis made with 3/6" structural steel and a powerful 11 hp gas engine, positioned for maximum stability. The JS-110 cuts to 3" depth and to



within 1½" of front walls. It cleans joints at 20' to 60' per minute depending on the application and the material being cut. An optional kit allows

for the use of multiple blades simultaneously for cutting applications such as spalled joint repair and channel cutting.

For more information on Sawtec tools and equipment, call (800) 256-3440 or visit www.surfacepreparation.com.

Texture mats offer durability, reduce birdbaths

Rafco Products has expanded the Brickform texturing product line with the addition of a new high-density, seamless texture-mat system. Slightly more rigid than the regular line of texturing skins, the new mats are still flexible with the exceptional detail that all of the texturing line is known for. The high-density material distributes

weight more evenly, reducing "birdbaths" and "footprints," and the tear-resistance and durability are unsurpassed. For more information,

call (800) 483-9628 or visit www.brickform.com.

Three-headed grinders work faster

New from Innovatech is the Orbiter line of three-headed planetary floor grinders and polishers. This line will complement Innovatech's existing single- and dual-







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CIRCLE #11 ON READER SERVICE CARD

head grinder line. These grinders have increased production for surface preparation applications including removal of adhesives, mastic, glue, paint, floor coatings, and wet or dry diamond grinding and polishing of concrete, terrazzo and natural stone. The Orbiter line is available in three sizes and power

Innovatech will also be introducing a planetary four-headed grinder at the WOC show. For more information, call (800) 267-6682.



Patch floors with ease

Devcon Ultra Quartz is a heavy-duty, premium floorpatching system with excellent resistance to chemicals as well as to abrasion. Trowelable to a

smooth, nonporous finish, it attains compression strength of 9000 psi more than three times the typical strength of concrete.

Ultra Quartz offers outstanding protection against acids, alkalis, water, oils, solvents, and many other industrial chemicals. It can be built up to a thickness of 1" on damaged or pitted concrete floors. Because Ultra Quartz will not sag, drip, or run, it also can be used to repair vertical and overhead surfaces. With a pot life of 60 minutes, it achieves full cure within 16 hours of application. It withstands temperatures up to 120°F wet or 200°F dry.

Ultra Quartz cures at room temperature and can be easily applied by plant personnel. A 100 percent solids, silica-filled epoxy putty, the product meets federal VOC regulations and is acceptable for use in meat and poultry plants. Surface primer (included) ensures superior adhesion to existing surfaces.

For more information, call (800) 933-8266 or visit www.devcon.com.



Lightweight drill delivers the blows

Atlas Copco Construction Tools has introduced the Cobra Combi gaspowered drill/breaker. Weighing only 55 pounds, the Cobra Combi is easy to

transport. As a breaker, the unit delivers up to 2,600 blows per minute. With the drilling function engaged, the Combi offers a maximum drill depth of 6.5 feet at a maximum rate of 12 inches per minute in solid granite. It is equipped with a catalytic converter and a new carburetor design and meets the demanding EPA1 emission regulations. The Combi also features a new silencing muffler and vibration-dampening handles. For more information, visit www.atlascopco.com/cto.



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Rough it up with diamonds

The new Sawtec Supreme cup wheel is a superpremium

diamond grinding wheel for use with concrete grinding tools. This cup wheel offers superior performance for removing coatings, leveling out uneven areas and grinding softer materials without loading up. It features a unique combination of tapered long and short segments with larger diamond chips to cut through material faster and leave a rougher profile for better coating application. Angled cutouts channel air down to the wheel surface, keeping the segments cool. A unique flat design allows the operator to use a single set of arbor and blade nuts when changing between Zec abrasives and the Supreme cup wheel. Product demos may be arranged by calling (800) 256-3440.



When it's done, it'll bring you a beer

Just kidding, but check out this radiocontrolled concrete power trowel. Guided by a hand-held unit, Tibroc's CF-40 remote-control trowel maneuvers expertly around your slab, allowing you to achieve a smooth, flat finish without setting foot on the slab. The sturdy trowel finishes a width of 40 inches with each pass.

From the radio-control unit, the operator easily guides the CF-40 forward, backward, right, left and sideto-side with two independent joysticks. Additionally, the rpm of the two motors and the pitch of the trowel is maneuvered, adjusted and manipulated from the hand-held control panel.

The trowel is capable of finishing slabs up to several hundred yards in one day. It fits easily into a truck bed and weighs only 85 pounds, making slabfinishing a one-person job.

The trowel is being offered at White Cap Construction Supply's 75 retail stores, where you can sign up to get a demonstration on your own job site. You can also check out the trowel at the World of Concrete show, booth #C4365, and outdoors at booth #020948.

Wide groovers offer improved floating

Marshalltown has released three castaluminum groovers. Designed for pole attachment, the groovers permit extensive reach and have round ends to help eliminate finishing marks. All three feature an oversized wrap-around bit that serves as a sight for making





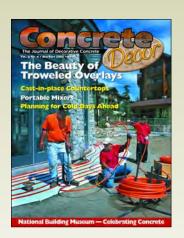
straight grooves. Made of hard aluminum and produced in the U.S., the groovers are ¾" wider than most models for improved floating.

All the cast-aluminum groovers are 24-inches long and feature a ¼" radius, ½" width with a depth of 1¼". One model comes with a clevis bracket and another model with the versatile Rotaleveler for easy control adjustment and smooth operation. For more information, visit www.marshalltown.com.

Take a slice out of concrete

Stow Construction Equipment has introduced two hand-held Gas-Cut-Off saws that effectively slice concrete, tile, ceramics, pipe and much more.

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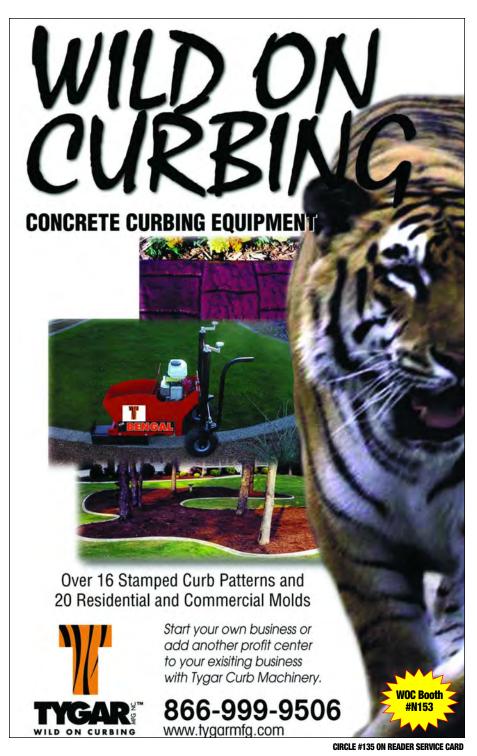


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Both the SHS62 and the SHS81 feature a reversible blade flange to handle both 20-millimeter and 1-inch blade arbors, and both can operate either 12- or 14-inch blades.

Weighing 21 and 23 pounds respectively, the saws will also stick around for the long haul due to their triple stage air filtration systems. They are powered by EPA-approved gasoline engines, and

are ergonomically designed for simplified operator comfort and power on demand. A reversible cutting arm encourages close-in cutting around walls, columns and other obstacles while an easily adjusted cam V-belt tensioner and sturdy front roller bar assembly promote effortless handling. For more information, visit www.stowmfg.com.



Leapin' Leapfrogs, take a look at that concrete! his "Sidewalk Textbook" was the first phase of a public art project funded by "Project WILD," a Schoolyard Habitat Grant through the Arkansas Game and Fish Commission. The eighty-foot concrete walkway depicts the lifecycles of the Monarch butterfly and the Southern Leopard frog and reads like an illustrated textbook. Steven Ochs, art professor at Southern Arkansas University, conducted the research and drew the designs, while Gerald Taylor of Images in Concrete used an angle grinder with a diamond blade to engrave the lines. Coloring was done with acrylic and acid stains, and several layers of gritted sealant were used to ensure many years of beauty and protection. The artist's son, Addison Ochs, posed for this photograph. To see a slideshow of this project, visit www.concretedecor.net, click on the current issue of Concrete Decor, then click on Final Pour.

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