



The Journal of Decorative Concrete

VOL. 3 No. 3 • JUNE/JULY 2003 • \$6.95

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WEEKLY TIME SHEET

WORKER: Bill W. WEEK: Last Wk

DATE	DAY	START TIME	LUNCH	END TIME	WORK DONE	JOB	TOTAL HOURS
	Monday	7:00	1/2	3:30	Driveway	Westgate	8
	Tuesday	7:00	1/2	3:30	Driveway	Westgate	8
	Wednesday	7:00	1/2	3:30	Driveway	Westgate	8
	Thursday	7:00	1/2	3:30	Driveway	Westgate	8
	Friday	7:00	1/2	3:30	Driveway	Westgate	8
	Saturday						
	Sunday						
TOTAL HOURS:							40

REALITY?

Created 2/7/2003 4:52 PM

Employee Report

Bill Winston

Jobclock Name: Westgate Apartments

Date Range: 2/3/2003 through 2/7/2003

Start	End	Activity	Hours
2/3/2003 7:13 AM	2/3/2003 12:02 PM	Surface Prep	4:49 hours
2/3/2003 12:50 PM	2/3/2003 3:17 PM	Surface Prep	2:27 hours
2/4/2003 7:20 AM	2/4/2003 12:06 PM	Surface Prep	4:46 hours
2/4/2003 12:57 PM	2/4/2003 3:31 PM	Surface Prep	2:34 hours
2/5/2003 7:08 AM	2/5/2003 12:01 PM	Pour/Stamp	4:53 hours
2/5/2003 12:41 PM	2/5/2003 3:07 PM	Pour/Stamp	2:26 hours
2/6/2003 7:16 AM	2/6/2003 12:15 PM	Pour/Stamp	4:59 hours
2/6/2003 1:05 PM	2/6/2003 3:16 PM	Pour/Stamp	2:11 hours
2/7/2003 7:21 AM	2/7/2003 11:50 AM	Seal/Coat	4:29 hours
2/7/2003 12:40 PM	2/7/2003 3:19 PM	Seal/Coat	2:39 hours

Signature Bill Winston
Bill Winston

Employee subtotal

36:13 hours

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CIRCLE #36 ON READER SERVICE CARD

We're Moving and Grooving ...

... a new path to education and training in decorative concrete.

On July 1, Professional Trade Publications will be moving to larger facilities here in Eugene, Oregon. The new facility will accommodate not only two growing magazines, but an exciting new education and training center as well.

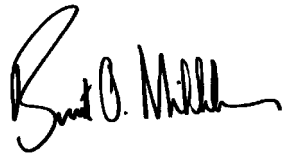
The center, named the Institute for American Craftsmanship (IAC), will offer educational programs designed for basic and advanced contractor training as well as product-oriented training seminars hosted by manufacturers. The Institute includes 3,500 square feet of indoor training facilities and over 8,000 square feet of outdoor area. Many of the nation's top professionals will be teaching seminars at the IAC.

As a publishing company, our primary objective has been to continually develop and identify new ways to support the trade. The development of the IAC will support overall improvements to the magazines' editorials and stimulate growing interest for educational programs throughout the country. The magazine's connection with IAC will also help improve *Concrete Decor*'s coverage of industry developments.

As always, we would like to express our gratitude to the companies who support *Concrete Decor* through their advertising. Without their support these exciting new developments would not be possible.

Please watch the pages of *Concrete Decor* closely as we will soon be publishing the Institute's events for the balance of 2003.

Sincerely,



Bent Mikkelsen
Publisher

P.S. Visit our newly updated *Concrete Decor* Web site (www.concretedecor.net) and follow the development of the Institute for American Craftsmanship. The calendar of "Events and Training" identifies many exciting learning opportunities, including training events at the IAC. Also, in the near future, you will have "Subscribers Only" access to an archive of all previous articles in *Concrete Decor*.



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ON THE COVER: "Colloquy One," a concrete sculpture by Carole Vincent.
Photograph by Clive Bournsell.

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DECORATIVE CONCRETE TIPS

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

We'll pay for any we publish. Send details to CD Tips, Concrete Decor, P.O. Box 25210, Eugene, OR 97402.

We look forward to hearing from you!

Cleaning your sprayer

Sprayers can be a real pain in the neck when they don't work right, so I'd like to share a procedure that has worked well for us through the years. This was developed after throwing away a mountain of spent sprayer cans!

We always use separate sprayers for solvents and water-base materials. I guess you can use the same one for both, but it seems to work better to keep them separate. Also, that way you'll usually have an extra unit if you're out in the middle of nowhere and your sprayer quits working.

We always clean the sprayer with xylene after using high-gloss sealers. Another quick tip: While you're refilling your sprayer tank, park or rest your sprayer wand in the gallon of xylene. This will melt off excess buildup on the tip and you will be ready to go when you're filled. Many times I have filled up the tank, got ready to spray, and — nothing. Now you're at a standstill — cleaning the tip. You get the idea.

Okay, back to the cleaning. When you are done with the high-gloss sealer, empty out the unused sealer and then dump the gallon of xylene (or your favorite cleaning solution) in the tank (1), shake around a bit (2), pump up and discharge back into the original xylene container (3). You can reuse the xylene again and again. The spent waste residue of the sealer will settle in the bottom in the xylene can and you can

discard the waste the next time you use the cleaning material.

We usually run a little through the fan tip and then remove the tip to discharge mass volume into the xylene container. Next we hold the sprayer wand vertically and open the valve to drain the tube (5). Dump any remaining cleaning material out of the sprayer tank. Wipe down plunger, seals and the sprayer tank at the seal contact area.

Now the most important part:

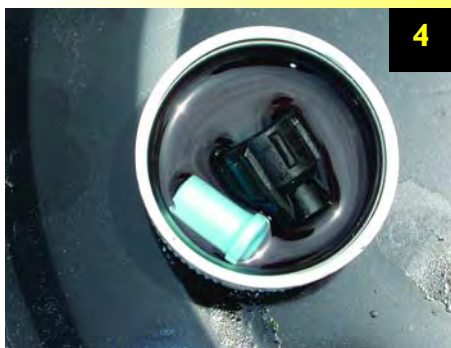
Leave the plunger out of the tank overnight to allow the vapors to escape (6). The next morning put the plunger back in the tank to keep the dirt out. If you allow the xylene or the vapors to stay in the sprayer tank without allowing the vapors to evaporate, you will ruin the seals. They will swell and not perform as well.

Note: Follow the same procedure for water-base material, but clean immediately after use with warm water instead of solvent.

Good luck on all your decorative projects!



— Bart Sacco is the owner of Concrete Texturing Tool & Supply, located in Throop, Pa.



To clean the fan tip, soak the tip and retainer in cleaning solution.



Photographs courtesy of Bart Sacco

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CIRCLE #104 ON READER SERVICE CARD

Ahal Contracting wins global award (and more)

Ahal Contracting Co. Inc., located in St. Louis, Mo., recently received the Outstanding Bomanite Project Worldwide, Gold Award 2002 from the Bomanite International Society for the paving installation at the Ameristar Casino, St. Charles, Mo. The casino paving included a 40,000-square-foot streetscape, a 4,000-square-foot sports bar floor and an 8,000-square-foot buffet floor. The streetscape is Bomanite imprinted concrete. The sports bar and buffet floors each received a reactive stain finish.

The casino also won first place in the Concrete Pavement Awards Specialty/Indoor Category, Cast-in-Place Concrete, 2002 Decorative and Durable Designs.

Ahal also received the Best Bomanite Project over 12,000 SF Gold Award 2002 for the floor installation at Watson's Inc., a retail store in St. Charles that sells

outdoor and indoor recreational equipment and furniture.

Ahal Contracting Co. performs concrete flatwork, tilt-up and pumping for commercial, institutional and industrial projects, and architectural concrete installations for commercial and residential clients.



DecoCrete acquired by Weaver Group

DecoCrete Stamped Concrete Specialties, of Mt. Joy, Pa., has been acquired by The Weaver Group, parent company of Weaver Precast Inc., and Weaver Masonry Inc. A new division, DecoCrete by Weaver Concrete Specialties Inc., has been formed within the Weaver Group of companies.

The new division is a partnership between Weaver Group president Gary Weaver, who will serve as president, and his son Jared Weaver, who will serve as vice president of operations. Sales and administration for the new division will function out of the Weaver Group corporate offices in Ephrata, Pa., and will cover markets in Pennsylvania, Maryland, Delaware and New Jersey.

Weaver will retain DecoCrete's 12 employees. "These guys know what they're doing," says Jared Weaver. "They're talented and professional. I don't foresee many changes in products, services or price."

DecoCrete, established in 1999, serves a specialized, niche market that Weaver believes will be a good fit with its other divisions. Weaver plans to expand DecoCrete's current customer base from residential homeowners to include new residential builders and commercial builders, utilizing The Weaver Group's relationships to grow the division. For more information, call Jared Weaver at (877) 877-0084.

New location for Super Stone

Super Stone Inc. has opened a new location in South Miami, Fla. Super Stone South, located at 4900 SW 75th Ave., offers quality products for decorative concrete contractors. Super Stone also has locations in Riviera Beach and Opa Locka, Fla., and in Las Vegas. Training seminars are held at the Opa Locka location.

For more information, call (800) 456-3561.

USG redesigns industrial products Web site

The Industrial Products Division of United States Gypsum Co. has updated its Web site (www.gypsum-solutions.com) to provide more timely and comprehensive content, as well as enhanced interactive



assistance to its customers and prospects. The site now includes detailed information about selecting and specifying the company's many industrial gypsum brands. New products and applications will be featured on the home page, and the Market Updates section will include case studies, technical articles and news releases that highlight applications and advances of USG's industrial product brands. For more information, visit the Web site at www.gypsumsolutions.com.

Slag-to-cement facility marks first anniversary

Lafarge North America's South Chicago grinding facility has successfully completed its first year of operations, producing a three-way win for Lafarge, steel manufacturer Ispat Inland Inc. and the environment. The innovative site uses an environmentally friendly process that converts slag — a byproduct of steel manufacturing — into a premium product that significantly enhances cement performance when added to ordinary cement.

Lafarge takes slag from the Ispat Inland steel mill in nearby East Chicago, which saves Ispat the cost of disposing of the slag and provides

Lafarge with a steady source of material that it processes into cement (while using less energy than a conventional cement kiln). In its first year of operation, the facility processed about 120,000 tons of slag and produced 110,000 tons of high-quality NewCem-brand slag cement, which the company has found performs better than regular cement. For more information, call (703) 480-3600 or visit www.lafargenorthamerica.com.

Ferguson returns to Multiquip

Multiquip is pleased to announce the return of Mike Ferguson as director of sales for the company's general construction equipment unit. Ferguson will oversee all North American Multiquip sales operations and activities. He has earned numerous honors at Multiquip, including Salesman of the Year in 1985 and Salesman of the Month on numerous occasions. Ferguson also served as chair of AEM's Light Equipment Manufacturing Group in 2002. Multiquip is a leading supplier of compaction equipment, pumps, welders, generators, welders, concrete and masonry cutting, placing and finishing products, dewatering pumps and other construction equipment.

Janeway joins Fab-Form



Fab-Form Industries Ltd., a manufacturer of fabric forms for concrete, is pleased to announce the appointment of David

Janeway as vice president, sales and marketing. Since graduation from George Brown College in Toronto as a concrete technician, Janeway has dedicated his life to the concrete and cement industry. In 1984, he was appointed Pacific Regional Manager of Conchem, a division of Lafarge Materials Inc., where he was responsible for sales and marketing. There he successfully created, developed and launched two new

products, one of which is now offered worldwide.

In 1992, he became the British Columbia market manager for Holnam Inc., a division of Holderbank Inc. of Switzerland, at the time the world's largest cement manufacturer. There he authored a supply allocation strategy which became the model for the launch of blended bulk cement products across the USA and Canada.

In 1999, Janeway became senior account manager with PFB Corporation, Canada's largest expanded polystyrene (EPS) manufacturer and molder. There he was responsible for implementing a marketing plan and establishing the distribution channel for an innovative concrete wall-forming product using EPS.

New appointments at Sika Corp.

Sika Corp. has appointed Bruce Strickland to the position of New Construction Regional Manager for the southeast. Strickland comes to Sika from NGRM Concrete Company, where he served as president of sales and marketing. He has also worked for such notable companies as Euclid Chemical Co. and Master Builders Inc. in various technical and sales positions. In his new position, Strickland will focus on introducing Sika's advanced admixture technology and technical support to the ready mixed concrete and precast/prestressed industries in the southeast.

In other Sika news, Danny Matthews is now district manager for the Carolinas, and Jason Zelinski is a senior sales rep for South Carolina. Sika Corp. provides solutions and products for concrete production, repair and protection.





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CIRCLE #108 ON READER SERVICE CARD

Industry Spotlight

Association News

NRMCA endorses performance-based criteria

The National Ready Mixed Concrete Association Board of Directors has endorsed the voluntary use of performance-based specifications for U.S. ready mixed concrete applications. This effort, coined the Prescription-to-Performance (P2P) Initiative, calls for design engineers to seriously consider incorporating performance-based criteria in job specifications as an alternative to prescriptive requirements that constrain the producer from optimizing concrete proportions and innovation.

The P2P concept has long been a goal of influential industry leaders, says NRMCA president Robert Garbini. The current initiative is a collaborative group effort of concrete producers through NRMCA to identify any barriers and to work with all stakeholders to make this initiative a success. Adopting the performance-based concepts will be voluntary.

NRMCA elects new director



The National Ready Mixed Concrete Association has elected James A. Russ as chairman of its board of directors. Russ succeeds David L. Vickers, Lehigh Cement Co., who completed his one-year

term at the conclusion of the annual convention in San Diego.

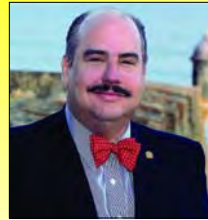
Russ first entered the concrete and aggregates business in 1966, joining the Lone Star Industries group. Since 1969, he has held numerous management positions in the ready mixed concrete and mining industries in both private and public companies. He joined Aggregate Industries in 1991 as president of its mid-Atlantic region. Prior to that, he was president of Rosenfeld Concrete and New England Concrete, both subsidiaries of Boston Sand and Gravel Co. Russ holds a bachelor of science degree in physics and engineering from Washington & Lee University.

He will lead a newly elected board that includes Hardy B. Johnson, Tarmac America, as first vice chairman; Hale D. Ritchie Jr., Ritchie Corp, second vice chairman; and Peter Brewin, Cemex, as treasurer.

ICRI announces new chapter in Greece

The International Concrete Repair Institute approved the charter of the ICRI Hellenic Chapter, based in Greece, in April. The chapter is the first outside of North America. Anyone interested in joining the chapter or learning more about its activities should contact Athanasios Froussos,

chapter secretary, at groutec@tee.gr. If you are interested in starting a chapter in your area, contact Chris Jorgensen, marketing/chapter relations coordinator, at (847) 827-0830. ICRI is a nonprofit association dedicated to improving the quality of repair, restoration and protection of concrete and other structures.



ACI elects new president

José M. Izquierdo-Encarnación, principal of Porticus, an engineering services company in San Juan, Puerto Rico, was recently elected president of ACI International (the American Concrete Institute).

Izquierdo became the 80th president of ACI, a technical and educational society dedicated to improving the design, construction, maintenance and repair of concrete structures.

Izquierdo received a bachelors and masters degree in civil engineering, majoring in structures, from the University of Puerto Rico. He started work as a structural engineer for Capacete, Martin and Associates; founded Izquierdo, Rueda and Associates; and was the Secretary of Transportation and Public Works for Puerto Rico.

An internationally recognized leader in civil engineering and construction, Izquierdo has been actively involved with ACI since 1980. In addition to serving five years on the ACI Board of Direction, he has been a member of numerous committees and task groups. He has also been active in Puerto Rico, where he was president of the San Juan chapter of the Institute of Engineers and Surveyors, president of the Institute of Civil Engineers, chair of the governmental Infrastructure Task Force for Health Facilities, chair of the Corporation for the Development of San Juan, and a member of the Boards of the Technological Institute of San Juan and the Catholic University of Puerto Rico.

More ACI news

ACI also elected James R. Cagley to a two-year term as vice president. Cagley is president of Cagley & Associates, a consulting structural engineer firm in Rockville, Md. Four directors were elected to three-year terms: Anne M. Ellis, senior program director, Earth Tech, Inc., Alexandria, Va.; Charles K. Nmai, chief engineer, Master Builders, Cleveland, Ohio; Aimee Pergalsky, consultant, Beachwood, Ohio; and Basile G. Rabbat, manager, transportation



structures and structural codes, Portland Cement Association, Skokie, Ill.

PCA elects chairman



Dan Harrington of Lehigh Cement Company is the new chairman of Portland Cement Association. Harrington's official appointment follows a period as interim chairman following the resignation of Paul Yhouse on March 17.

As president of Lehigh's northern division, Harrington has 19 years of cement industry experience. He is also the current chairman of Pennsylvania Aggregates & Concrete Association (PACA) and the former president of the Northeast Cement Shippers Association. He earned his M.B.A. from Fairleigh-Dickinson University and holds an M.A. in executive management and a Ph.D. in executive management from the Claremont Graduate School.

Based in Skokie, Ill., the Portland Cement Association represents cement companies in the United States and Canada. It conducts market development, engineering, research, education, and public affairs programs.



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CIRCLE #98 ON READER SERVICE CARD

CONTEST!

Cutting Pictures in Concrete with Diamonds

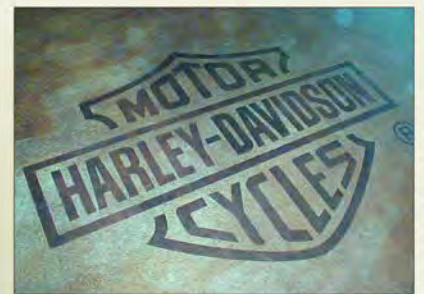
Send us a photo of your best work and an explanation of how you did it using diamond blades, bits and/or grinders. The winning project may be displayed on the cover of *Concrete Decor*. All winners will be featured in the August/September 2003 issue. Other prizes to be announced.

Send your photo and explanation along with your name, address and telephone number to:

Concrete Decor magazine
P.O. Box 25210
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Please be sure the picture(s) you send are the best quality possible. Poor quality photos may limit our ability to use them in the magazine. Thanks.

All entries must be submitted by August 1, 2003



Lakeland Company, Rathdrum, Idaho

by Susan Brimo-Cox



On the Nevada side of Lake Tahoe, there's a sprawling residence on the lakeshore that has something its neighbors don't have — a 24-foot tall mountain gushing numerous waterfalls, pools, and a meandering stream winding through the grounds. On the side of the mountain you can see an old, abandoned mineshaft with a rusted railcar on the siding. Live trees and shrubs, plants and flowers of all kinds merge this environment into the landscape. Birds fly from tree branch to streamside as water gently splashes over rocks. It certainly looks and sounds real, but it's not.

Under the mountain — accessible via the mineshaft door — are the electronic controls that run this elaborate water feature, which spans several acres. Water flow and water purification are all handled automatically. At the push of a button, controls for colored lights and fog machines can turn this naturalistic haven into a mesmerizing drama for the senses.

But building mountains for homeowners is only a fraction of what David Long and his team at Lakeland Company Inc. have accomplished. You'll find Lakeland Co.'s creations across the country at upscale residences, casinos, zoos and museums, theme parks, restaurants, corporate offices, and even a hospital and airport. As word spreads, so does the reach of this Rathdrum, Idaho-based firm.



Long saw his own “signs” for the future

David Long, president of Lakeland Co., grew up working in his father’s sign business — creating, constructing and installing signs and three-dimensional displays. By the time he was 18 years old, he was a journeyman signwriter.

“We were involved with large-scale signage and displays, entailing several different construction and concrete methods,” he says. “Being surrounded by multiple journeymen in this environment enabled me to learn more of the design and application methods which I rely upon today.” But at the time, he wasn’t ready to follow in his father’s footsteps.

Fifteen years after his father closed the business, Long took his family to northern Idaho, where he and his wife started Lakeland Sign & Display Co. in the spring of 1991. “Our first project was estimated at \$152,” he says, “and we grew from there due to the fact that we maintained the attitude that anything could be created provided you apply the right materials and application.”

Today, Lakeland Co. designs, manufactures and installs themed elements, artificial rock and water features, museum dioramas, simulated environments, Glass Fiber Reinforced Concrete panel systems, monument signage and architectural applications. Long is quick to acknowledge the contributions of others to his success.

“The team environment has allowed us to apply the strengths of each individual in different areas of required design, manufacturing, mobilization, shipping and construction application in order to create the highest quality of finish product possible,” he says.

Get things right from the start

Long reports that the bulk of Lakeland’s business comes either from word-of-mouth or the company’s Web site (www.lakelandco.com).

Typically, 10 to 20 staff people work on any given project, plus Lakeland

frequently outsources work to the local labor pool.

Often there’s customer education involved, as many people don’t realize how very labor-intensive the work is, Long observes. “Time is spent educating a lot of our customers who are not familiar with the costs associated in producing these types of elements. We have learned through replication and tracking what our costs are and what our minimum profit requirements are to stay in business.”

Project costs vary based on the location of the project. Not only are local material prices factored in, but also travel, accommodations, shipping, transportation, staff per diem, and more. Thanks to the assistance of a management advisory team, Lakeland has incorporated all these variables into its estimating process.

Ensuring that the customer understands what the final product is going to be also aids the process. “We combine the ability to hand draw and use computer programs as another tool to enhance project designs with faster service to our clients. We also provide scale models of larger projects to help our customers envision the final exhibit, while giving us an element to do better product estimates from.”

Lakeland uses a variety of materials

Many of Lakeland’s artificial environments rely on Glass Fiber Reinforced Concrete, which Long says he uses for its durability and highly detailed replication abilities. “We have developed our molding capabilities to mold and recreate just about anything imaginable,” he says.

Lakeland’s GFRC mix is an alkali-resistant matrix of portland cement, graded silica sands and alkali-resistant chopped glass fiber. The material, which contains 4 percent to 5 percent glass content, is applied in a spray-up method, using concentric guns, and compacted in quarter-inch layers. The panels produce strength of approximately 6,000 pounds per square inch at

$\frac{3}{4}$ " of thickness and can be left hollow or filled with concrete grout for structural applications. They can also be filled with two-part foam to discard hollow sound where weight is a concern.

“Most projects we grout fill to further the quality of the application,” Long says. “We have not had any structural problems with panel or boulders in freeze-thaw conditions as the result of quality control during manufacturing.”

While 60 percent to 80 percent of a Lakeland project may utilize GFRC, you’ll also see positive carved concrete, textured concrete overlays and real rock. To simulate eroded shorelines and cut



Photographs courtesy of Lakeland Company



Photographs courtesy of Lakeland Company

banks, shotcrete is used. "Very seldom do we do all artificial," says Long. "That's primarily in indoor environments. In exterior applications we strive to use real rock in and around the artificial."

Coloring methods vary with each project

Long says his company typically doesn't color dust their molds, because you'll have grout seams anyway. His preference is to apply a base coat in a random color application after the panels are grouted together.

"Our base coats consist of a very fine concrete color coat mixed with acrylic admixture to promote excellent adhesive capabilities. The bulk of the color base coat is applied with a very fine concrete color coating so as not to lose the detail of the panel textures." Acid stains may be used in different combinations to create various effects. Painting techniques, such as creating washed areas with water-based acrylics, are used as accents — for example, to replicate oxide or soil residues.

Especially with large outdoor projects, the company will often work with local landscapers to color-match local stone.

Long has also used these and other color and texture methods to re-create antiquities or period pieces.

Maintenance of artificial environments is minimal, Long says. The greatest challenge is ultraviolet light damage, but it helps to apply a penetrating sealer after the coloring is complete.

"We have found that our coloring process will hold its color about 3-to-5 years. . . . We have had customers refresh the coloring on their project at that time and others who leave it due to the fact that they like the way it has weathered and find it looks more natural."

Challenges create opportunity

"Each project in itself is challenging from the standpoint of striving to constantly better the finish look and

application methods," reflects Long. Replicating trees and architectural antiquities takes a special touch. One project included creating a trail of fire through a waterfall.

Of course, some projects are much more challenging than others. Take the Lake Tahoe project for example. The decision to incorporate the mechanical room into a "mountain" forced them to keep ahead of the tight construction schedule by re-engineering, designing on site, changing rock work and the pump/control systems simultaneously without stopping construction, Long recalls.

A project in Cripple Creek, Colo., presented an interesting altitude-related challenge. "The lack of air was obvious during the project, and we were forced to sit down and catch our breath multiple times throughout each day."

Then there was a project for the U.S. Bureau of Mines to replicate a mine shaft interior for its training facilities. The job site was two stories underground. Lakeland had to crane concrete panels down through a vertical shaft, cart them to their location, and then lift and bolt them to the ceiling, which was constructed of 25,000-psi concrete 2 feet thick, with pipe sleeves through to the surface. "We had to run all thread through those sleeves to secure the panel placements, and that enabled us to recreate the plate bolting that occurs to anchor loose rock in real mineshafts," Long says. "We also paneled the walls and created what appeared to be natural seepage and water emitting from rock crevasses into mineshaft drain trenches."

Long's advice for others interested in this area of the industry? "Be patient. Be willing to go into the unknown areas of the normal construction trades, as this is a combination of art and heavy construction methods. Gain as much knowledge as possible and be willing to spend a lot of time and money on research and development."

Other recommendations cover good business practices. "Be prepared to be accountable and make right any failures of product or application methods in

order to keep your client, projects and reputation intact. Sometimes, no matter what you do, you will not make some clients happy. Therefore, do the best you can prior to contracting — survey them like they will do with your company to see if you foresee any possible difficulties during and after construction or payment for construction.”

When your project takes you to a new location, treat local suppliers the way you want to be treated, Long says. “If we come into an area, we need to leave a positive reflection when we leave. We may return some day.”

“Challenging and rewarding,” that’s how Long describes his involvement in the industry thus far. Stimulating and encouraging might also apply. “The more projects you have completed the more you want,” he says, “as the elements associated with each project allow us to rise to the next level of imagination.”



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Keep your concrete pliable with the right **Aggregate**

by Gail Elber

Any concrete mix is an attempt to balance cost, placeability and setting time while maintaining the necessary qualities of strength and durability. Ready-mix producers use different ingredients from region to region depending on what's available and what kind of weather the concrete will experience before and after curing.

Coarse aggregate makes up more than 40 percent of a typical concrete mix. The type of aggregate that is available varies in different areas. In the northern parts of North America, round gravel occurs naturally, the result of glacial action during the Ice Ages. Other aggregates available are crushed rock, which is angular in form, and recycled concrete.

So what is the best aggregate to use for stamping applications? To answer this question requires an understanding of aggregate's role in the mix.

A tale of two mixes

There's no such thing as "the best mix" for decorative applications. "There's not necessarily one right way, but there are upper and lower limits for each ingredient, and if you work within them, you'll get better results," says Bruce Chatten, executive director of the Washington Aggregate and Concrete Association. Examining two mixes from decorative concrete contractors in different parts of North America shows how great regional and personal differences can be.

Tom Ralston, of Tom Ralston Concrete in Santa Cruz, California (www.tomralstonconcrete.com), starts with this mix for one cubic yard of concrete:

Cement: 564 lb (6 sacks)

Sand: 1300-1500 lb

Aggregate: 1600-1800 lb

Water: 312 lb (39 gal)

Water reducer: 18 oz

Air-entraining admixture to produce 1 percent air (freezing weather is rare in Santa Cruz, which is on the coast south of San Francisco)



Ralston specifies that the mixture be poured at a 3- to 4-inch slump. Rather than trying to predict the weather, he orders the truckload to arrive 30 to 45 minutes before the pour, then doses it on the spot with Fritz-Pak admixtures (www.fritzpak.com) to accelerate or retard setting as needed.

In Cincinnati, Ohio, Bob Ware, president of the Decorative Concrete Store (www.decorativeconcretestore.com), favors a different mix appropriate to his freeze-thaw climate:

Cement: 564 lb

Sand: 1330 lb

No. 8 gravel (pea gravel): 770 lb

No. 57 gravel (a crushed stone that can be as large as 1½ in.): 1130 lb

Water: 230 lb

Water reducer: 21 oz

Air-entraining admixture to produce 6 percent air content

Though Ware also pours at a 4-in slump, his mix contains a lot of water reducer to make the water content unusually low in comparison with Ralston's.

With these general mix proportions in mind, let's look at how the size and shape of aggregate affect the properties of the wet mix and the finished product.

Aggregate and strength

First, the shape of the aggregate affects the strength of the finished concrete. In general, angular crushed particles give concrete greater strength because they interlock more than rounded pea gravel particles do. Mixing sizes, as Ware does, enhances that interlocking action.

"In our area, we have a lot of round aggregate because of deposits of glacial till," Ware explains. "To get an angular gravel, we would have to have it trucked in." When he does a job in the southern part of his territory, south of where the glaciers stopped, he takes advantage of the ready availability of crushed rock.

"Angular gravel is better," he says. "Round gravel is soft. You have to push it deeper into concrete than angular gravel, or it will break and spall the surface."

Size also influences strength: The bigger the aggregate, the stronger the finished concrete will be, since the chunks of rock don't crack as cement paste does.

Aggregate and stamping

But if you're going to stamp the concrete, big chunks of rock will interfere with the impression of the

stamps. Brickform Rafco (www.brickform.com) recommends using aggregate no bigger than ⅜ inch with its stamps; other manufacturers let you go as high as ¾ inch. Ralston uses ¾-inch angular hard aggregate for jobs that will be textured with mats. If he plans to use cookie-cutter-type stamps, which penetrate more deeply, Ralston switches to pea gravel or ½-inch



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crushed stone. "The larger stone won't allow the stamp to make an impression," he says.

With this in mind, Dave Pettigrew, principal of Diamond D Concrete (www.diamonddcompany.com) in Capitola, California (near Santa Cruz), used to use pea gravel for stamping applications, the size of aggregate he still favors for concrete that is going to be pumped. But now, for stamping, he specifies a ½-inch angular rock for interior floors and a ¾-inch angular rock for foundations, which require more strength. He points out, "With smaller rock, you have to use more control joints because it is not as strong," something to consider when you're planning a stamp job and want to position those control joints inconspicuously.

Aggregate and water

Aggregate size also affects the amount of water needed in the mix. Ralston explains, "Because smaller aggregate particles have more space between them, more sand is added. To make the concrete more workable, people want

to add more water, which increases the shrinkage potential." Instead of adding water, he says, a better practice is to add water-reducing admixture to improve workability without introducing these problems. Slump should not exceed 4 inches.

Other admixtures

Water reducers aren't the only admixture that is useful. Another ingredient that can improve workability without compromising strength is type F fly ash. Chattin suggests using it to replace 10-15 percent of cement in a mix. It will produce some of the effects of adding more water — increased setting time and improved workability — without compromising strength as increased water does. Granulated slag cements, relatively inexpensive in the steel-making regions of North America, can have the same effect and, being more uniform in content, are more predictable in their air-entrainment properties. An important consideration for decorative applications is that Type F fly ash makes concrete

that's darker than concrete made with plain portland cement, and granulated slag cement makes it lighter in color.

Tom Ralston uses 15-20 percent fly ash to replace cement, but he doesn't do it to get workability benefits. In his town, many of his residential and commercial customers have heard of the environmental benefits of fly ash — getting particulates out of the air while it reduces the carbon dioxide production associated with cement manufacture — and are eager to specify it for that reason.

An ingredient to avoid if you are planning to use color hardener is calcium chloride, which will interfere with the action of the colorant. If you're going to experiment with other admixtures, make sure to consult the manufacturers about each chemical's interactions with other components of the mix. "Crack reducing and air-entrainment admixtures 'fight,' and it weakens the mix, which becomes spongy," Ralston explains. "It won't set up properly. I've seen it not ready to trowel after 24 hours."

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Still, correct use of admixtures can shave time off a job. "They may cost more money, but you could be done an hour sooner or use fewer workers on the job," Chattin points out. Just consult the manufacturers and the ready-mix producer to make sure that you don't brew up a batch of trouble in your mix.

An important relationship

In fact, it's always a good idea to keep your ready-mix provider informed about what you're going to do with the concrete. Sit down with the ready-mix rep every so often to talk about the mixes you need for different kinds of work. "Having a relationship with a ready-mix producer is important," says Chattin. You know the habits of your crew and the patterns of your climate, and the ready-mix rep knows the materials that are available locally and the quirks of the admixtures on the market. Together you can put together a mix tailored for your decorative applications.



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CIRCLE #74 ON READER SERVICE CARD

Concrete Hardscapes

Concrete- inspired artistry

by Rosemary Camozzi



A new stamping pattern, a really cool countertop or an unusual color effect always draws an excited crowd at a concrete training school or trade show.

Many decorative concrete contractors grew up in the industry — often their dads were in the trade — and they learned the basics of working with concrete at an early age. But as the demand for decorative work has increased, contractors have tackled new techniques with an enthusiasm fueled not just by the money to be made. Unlike plain old slab work, decorative concrete brings creativity to the forefront.

We present to you here four people who fell in love with the possibilities inherent in concrete — its fluidity, endless possibilities for color and shading, and longevity. They have taken a substance usually thought of as mundane and used its natural characteristics to create enduring works of art.



Buddy Rhodes Studio

Based in San Francisco, Buddy Rhodes has built a successful business around the artistic side of decorative concrete. He produces indoor and outdoor floor tiles, pre-cast counters for kitchen and bath, sinks and tubs, surrounds, and unique architectural elements ranging from colorful spheres to outdoor benches and tables. A former potter who switched to concrete more than 20 years ago, Rhodes' pieces capitalize on concrete's strength and versatility while still reflecting the earthy,

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handmade quality of pottery.

Rhodes uses his own concrete mix — which he also sells to contractors — to create hollow three-dimensional pieces. The water/cement ratio is about one part water to 10 parts mix. "The mix is very plastic, very claylike," Rhodes says. "It can be pushed up on the inside of a mold and it will stick there." The concrete is colored with integral color.

Molds are made from plaster, melamine or fiberglass. To create a sphere planter, for example, Rhodes first makes a "plaster positive," starting with an open framework with

wire mesh over it, using perlited plaster for the first layer to build it up and then using casting plaster to finish it. The form is mounted on an axis, and after each layer is applied it is spun around a semicircular screed. "It's similar to making a clay pot," Rhodes says. Once the positive form is complete, it is used to make a fiberglass two-part mold.

Then it's time to start packing in the concrete and working it up the walls of the mold. Someone actually gets inside the sphere to do the packing. First comes a pastry layer, $\frac{1}{2}$ " to $\frac{3}{4}$ " thick, then a layer of expanded galvanized steel diamond mesh. This is followed by a wetter, $\frac{3}{4}$ " layer of cement that works itself into the holes of the mesh.

After the concrete comes out of the mold, it is troweled over to produce a varied surface color and texture.

At this point, Rhodes takes advantage of natural veins in the concrete to add additional colors, using three to four

"Throw away the preconceived notion of what concrete is and create your own vision."



colors of cement (mixing white cement with liquid colors) and making a "cream cheese" paste which he swipes over the holes. Then he polishes the surface, bringing it down about 1/2" to reveal a little bit of the aggregate.

For planters and other outdoor objects, he generally seals with Glaze 'N Seal, an acrylic sealer. Lacquer sealers are his choice for countertops because they give the surface a wet look and bring out the color.

Over the years, Rhodes has done an enormous amount of experimenting with mixes, colors and techniques. "There was a lot of trial and error," he says. "That was half the fun of it."

His business has grown through word-of-mouth, magazine articles and by sending samples of his work to architects. He now offers his own line of products, including his proprietary counter mix, liquid colors, extruded edge forms and sealers.



Photographs courtesy of Buddy Rhodes Studio



Carole Vincent

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Carole Vincent does not have e-mail or a Web site. She is happy to receive letters or phone calls from people who are interested in her work.

Carole Vincent

Carole Vincent lives in Cornwall, England, in a house overlooking the sea. Her father was a concrete contractor and she grew up around the trade, originally working with concrete as a building material and then turning to more artistic uses for her favorite medium.

Now she makes concrete spheres, pyramids, sculptures, columns and more, all dazzling in their colors and textures. Some of them make use of fiber-optic technology to radiate light.

Vincent has earned recognition in England for her innovative work with concrete hardscapes. Her work was recently displayed at the Royal Horticultural Society's Chelsea Garden Show, one of London's grand spring events.

She is not inclined to share many of her techniques, but she was willing to give us some insight into her work.

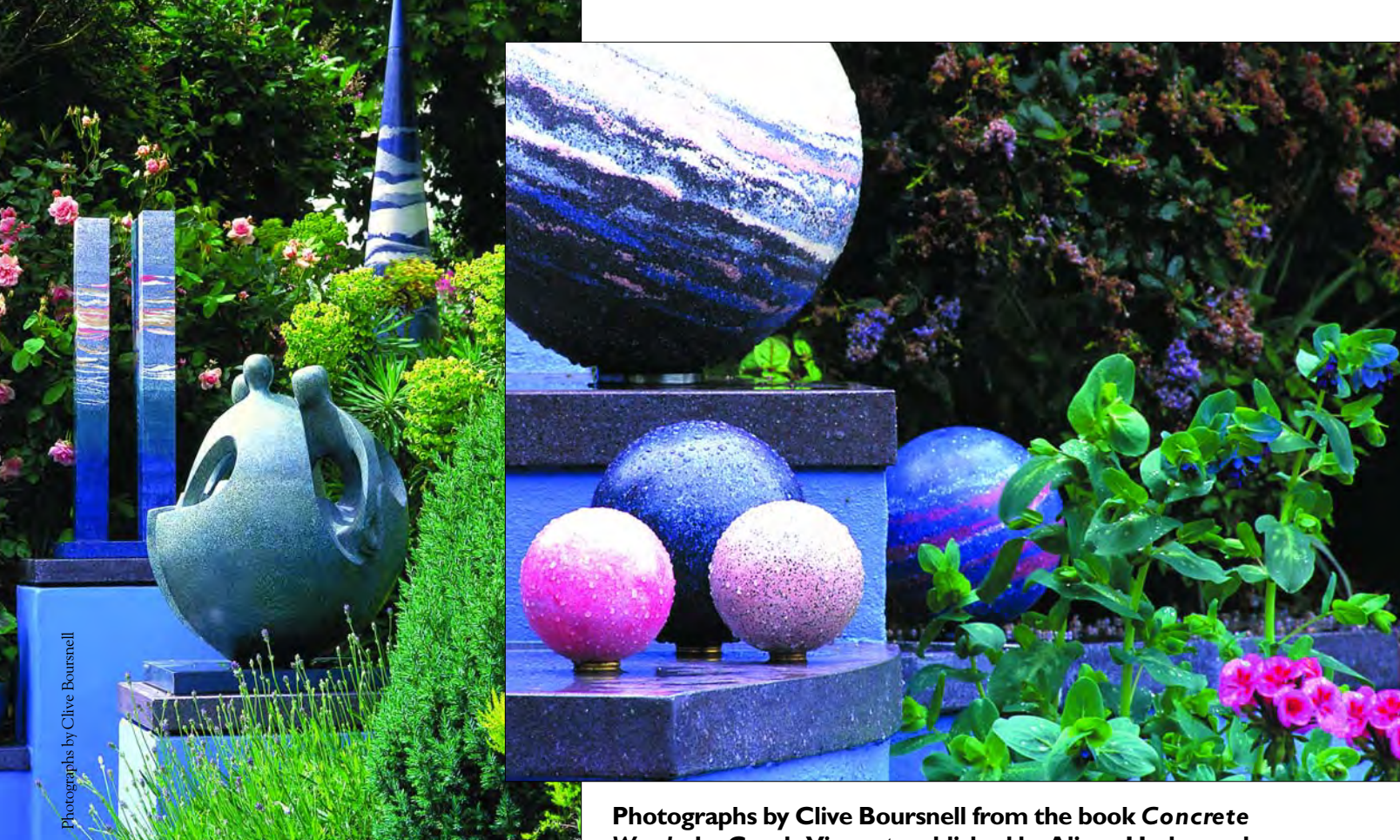
Like Rhodes, she starts with a mold. For sculptural pieces, she makes a clay model, then a plaster mold. For larger pieces that need structural strength, she uses fiberglass. Like Rhodes, she uses integral color.

But for the rest of the process, her approach is radically different. First of all, her pieces are solid. And second, she uses self-compacting concrete. Until a few years ago, she says, she was using dry, compacted concrete mixes. In order to get full-strength color, she had to use a water/concrete ratio of about .40. But since discovering self-compacting concrete, which has gained increasing attention in Europe, she hasn't looked back. Self-compacting concrete contains superplasticizers and has the fluidity of a wet concrete mix while maintaining full color strength, she says. And, it requires no vibration.

As far as proportions in her admixture, Vincent weighs everything down to points of a gram. She monitors factors like moisture content in aggregate very carefully. "My aggregates contain less than 1/2 percent moisture," she says. "You have to be very meticulous about the proportions."

Vincent doesn't want to reveal any details about her coloring techniques. She lacquers her pieces using lacquers from Sika.

Some of her pieces actually glow from within. Vincent spins a web of fiber-optic fibers inside the mold and then pours



Photographs by Clive Boursnell from the book **Concrete Works** by Carole Vincent, published by Alison Hodge and available online from www.alison-hodge.co.uk

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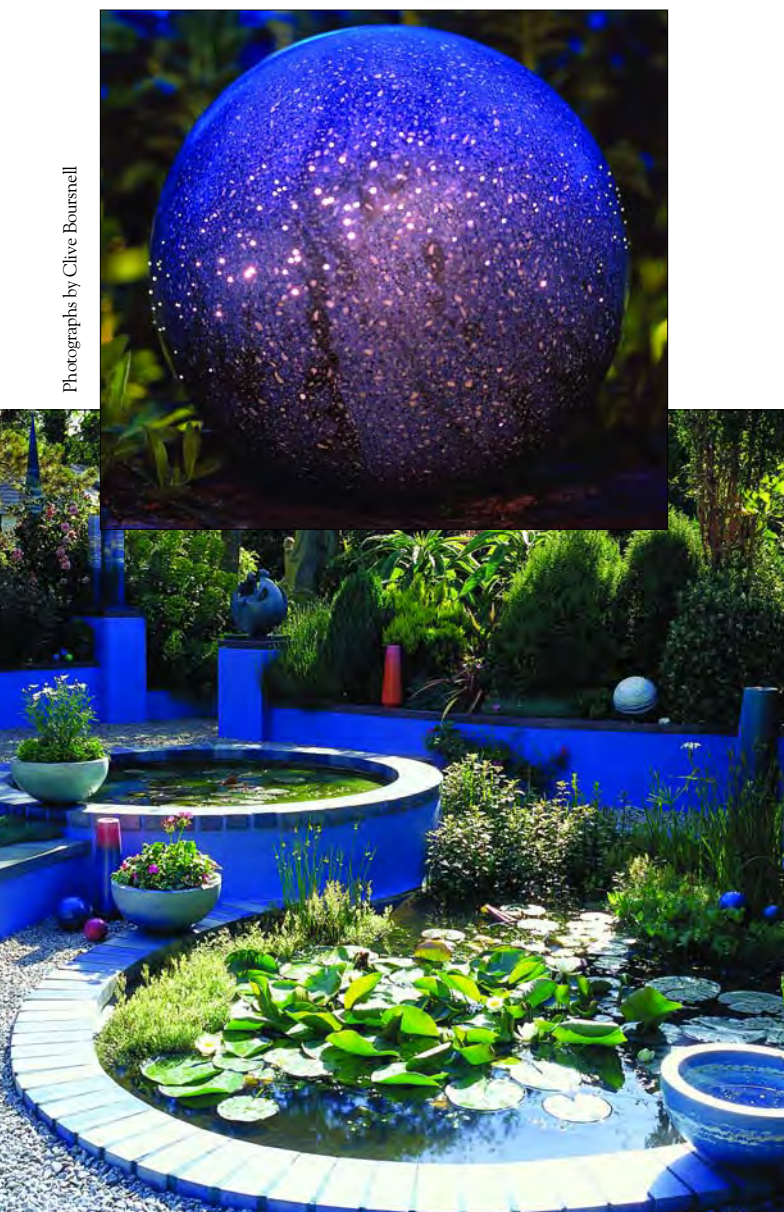


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“Concrete is wonderful because it will take the colors and the forms that granite or marble or all these polished stones can’t possibly take. But you can’t take shortcuts.”

Photographs by Clive Boursnell



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Marvin and Lilli Ann Killen Rosenberg

Lilli Ann Rosenberg discovered concrete more or less by accident, when a concrete truck dumped a pile of wet cement in a vacant lot across the street from the Henry Street Settlement in New York City, where she taught art to children. With the children’s help, the pile of cement turned into a sculpture that included mosaic designs made with pieces of pottery the children had created.

Now she has been working with concrete for more than 30 years. “It’s magic,” she says of her favorite medium.

Lilli Ann and her husband Marvin make their own mix, choosing darker or lighter, rougher or smoother aggregate depending on the effect they want to create. They often use a type of calcium aluminate cement called Fondu (manufactured by Lafarge) which is more plastic than ordinary cement as well as darker in color. It is extremely strong and sets up in about eight hours, but remains plastic for about an hour when creating a sculptural form. White and gray portland cement are also favorite ingredients.

Their mix is rich, Lilli Ann says, comprising two parts sand to one part cement. She doesn’t measure the water, adding just enough to get it to a clay-like consistency. “The amount you need each time is different depending on the weather,” she says.

The Rosenbergs color with integrals and use white portland cement to create white areas in a design. Venetian glass and hand-formed mosaic tiles made by Lilli Ann are embedded into the concrete to create patterns and accents that bring the creations to life. Textures are often created by stamping with found objects of various kinds.

Some of their pieces are solid; others have a core of Styrofoam that makes them lighter. Each is completely individual and created for the project at hand.



in the self-compacting concrete. When the piece is installed in its final location, a fiber-optic cable is run between a light source and the object. The fibers in the concrete absorb the light, and the piece radiates a celestial glow.

Vincent scoffs at the suggestion that her work is technologically advanced. “Hah,” she says, “fiber-optic technology is well known. What isn’t well known is how to make good concrete.”



The "love seat"

To create the "love seat," installed in a children's garden at the Eugene Public Library in Eugene, Ore., they first made an armature (framework) out of welded rebar. Inside the framework they put slabs of Styrofoam to make the seat lighter in weight. Then they covered the armature with wire mesh and covered that with about an inch of concrete. The white areas are portland cement. Patterns are created with



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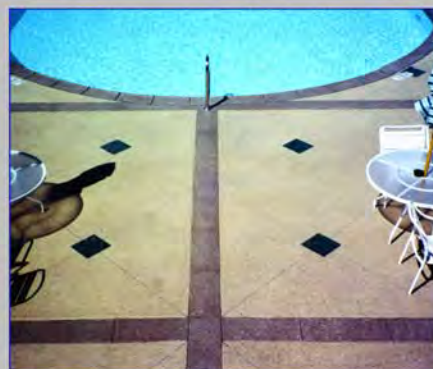
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“You have to like concrete to work with it. You have to tune in to where it’s at.”

hand-made tiles embedded in the fresh concrete.

The frog

The frog does not have Styrofoam in the middle. It began life as a clay model,

which was then copied to make a larger armature. After covering the armature with wire mesh, Lilli Ann turned the frog over and plastered his “innards” with concrete. Then she turned him over again and coated the outside, so the concrete is two to three inches thick. The texture on the frog’s legs was created by stamping with decorative wrought iron, which was first dipped in light cooking oil so that it didn’t stick in the concrete. Brightly colored tiles were inlaid while the concrete was still workable.

The lizard bench

To make the bench, Lilli Ann created a pattern out of cardboard. Then a welder used the shape to create a color-coated metal tray with rebar welded into it. The Rosenbergs

Photographs courtesy of Marvin and Lilli Ann Rosenberg



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poured concrete into the tray and pressed in clay pieces, stones etc. The legs were an integral part of the welded frame and were set into a concrete footing on the site.

The dragon

The dragon, created in three sections, was first carved out in Styrofoam. Rebar ($\frac{3}{8}$ ") was bent to fit the form and wire wrapped around it. White sections were created with portland cement, brown areas were integrally colored, and details were created by stamping and embedding mosaics and tile into the fresh concrete.

Finishing touches

When the Rosenbergs complete a piece, they treat it with a dilute solution of muriatic acid to expose a little of the aggregate. Then a penetrating sealer is applied. They are careful to educate their customers on the importance of a regular maintenance program in the form of yearly cleaning and resealing.

"Just like when you plant a tree, you need to take care of it," Lilli Ann says.



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A dual-purpose application

by John Strieder



When contractor Richard Smith needs a tough, easy-to-repair coating on a hotel or apartment walkway, he starts scattering the color hardener. "It becomes very, very hard," says Smith, based in West Hills, Calif. "It becomes a very, very wearable surface. It almost becomes like an eggshell finish."

Like other concrete craftspeople, Smith still values hardener for its original function: making a concrete surface more durable and resistant to heavy traffic and other abuse.

But for a growing number of contractors, color hardeners aren't just for hardening anymore.

"I'd say the balance of interest has gone from hardening to the dry-shake color aspect," says Steve Johnson, marketer with Solomon Colors.

In the age of decorative concrete, the allure of "dust-on" has as much to do with its coloring properties as its ability to harden. Color hardener can, in fact, be purchased in just about any color a contractor can imagine, including uncolored. "We stock 40," says Debbie Bliss of Rafco Products, maker of Brickform color hardeners, "but we can make any color in the rainbow."

Hardeners have other practical applications in decorative work, too. When stamped, their dense surface holds clear, sharp impressions. They are also used as lighteners, covering gray concrete with a more workable shell of a lighter color.

Color hardeners are made from cement, sand and pigment, with finishing agents, wetting agents or retardants added to suit manufacturers' preferences.

The most common pigments are iron oxides. Contractors pay more for cobalt oxides, used in blues, and chromium oxides, which make greens. Titanium additives are used for whites and to lighten colors. "Organics" can make quirky colors such as ultramarine.

But the most important element in color hardener isn't the pigment, says Joe Garceau, co-owner of Butterfield Color Inc. It's the sand.

Photographs courtesy of Rafco/Brickform

Quality sand should be hard and clean, he says. The grains should have angular shapes or hard edges like crushed quartz, not be round like silica. "Round aggregate doesn't have good finishing characteristics," he says. "The surface does not close as well. They don't nestle into each other. They just continue to want to move as you trowel them closed."

Another big factor is gradation, Garceau says. Most manufacturers' sand mix recipes are proprietary, he says. "That is the secret. Everybody can buy cement."

Hardener is usually scattered across a surface by hand or by brush, although machines are available for big commercial jobs. Water in the wet concrete bonds with the cement in the hardener after troweling.

The material is applied in two sweeps with spot follow-up, using about two-thirds on the first pass. The recommended coverage rate for Brickform is 60 pounds for every 100 square feet of concrete, Bliss says. With light and pastel colors, contractors may need to use more, she says, as much as 90 to 100 pounds per 100 square feet.

Distributing hardener is something of a skill. "How do you keep it even? You get good at it," Garceau says.

Put it on too early, Bliss says, and it will not allow moisture to escape from the curing concrete, causing the solidified hardener to peel away. Wait too long, and the color will not be worked in properly, resulting in blotchy color.

Use too little, and either the gray will show through the hardener or foot traffic will wear it off. "I've never had a thickness problem," Smith says. "I've had numerous failures not having enough. The secret to dust-on is, thicker is better than thinner."

And if the dust-on is troweled before it becomes uniformly wet, lumps form, Johnson says.

Application is also affected by weather conditions and the kind of concrete used. Back east, for example, contractors often use air-entrained concrete, which cracks and crumbles

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less when it freezes. In those cases, a retardant is needed to keep the surface open long enough for the dust-on to set, Bliss says. "Even then there's some technique involved. I've seen contractors stick their fingers up in the air to see if the humidity is right."

When it comes to color, hardener faces some stiff competition from integral colors, which are mixed into the concrete before it is poured.

Johnson of Solomon Colors, for one, is sold on integrals. "If you're asking me, absolutely, integrals are preferable," he says.

Integrals require less manual labor, don't leave airborne residue, have a

greater chance of achieving a solid color, and don't require access to every square inch of a slab's surface, Johnson says. "I really don't think the use of color hardeners is increasing much across the United States, but integral color use is increasing by leaps and bounds."

Integral color is often used indoors simply because it doesn't flood a site with loose powder. And because the entire slab is saturated with color, it holds up better to scrapes and chips.

But color hardeners offer more colors and snazzier effects, such as marbling.

They are less expensive than integral colorants, Garceau says. And, of course,

they strengthen the slab's surface. "Foot traffic causes more abrasion than vehicular traffic," he says. "People scuff their feet. They shuffle."

Dust-on colors are long-lasting, says contractor Richard Smith. When hardeners are used, the color of a section can be duplicated well after it's been finished. "It's easier to add to it because the color density hasn't changed," he says. "I would definitely, definitely go with a dust-on color. Most of my competition uses integral colors. But if the customer eventually wants to add something to it, or there's a complication or failure, I can come back to the customer and say, no problem."

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What's more, he says, contractors who work on big jobs must sometimes use concrete from different quarries with varying shades of sand. Color hardeners cover up the difference.

Contractors who opt for dust-ons also duck the costs that come with mixing a batch of colored concrete, Johnson notes. "Contractors don't want to pay a cleanup fee. Ready-mix concrete makers can charge contractors \$150 a truck to clean them out."

Garceau says his company sells more color hardener down south. Integral colors are generally more popular up north, although Detroit and Chicago contractors are healthy consumers of color hardeners, he says. The primary factors are cold weather and cost, he says. "We find that when labor is cheaper they prefer color hardener. When labor is expensive they prefer to keep an extra man off the job and go with integral."

Geography also influences the mix of the concrete. Maine concrete tends to incorporate particularly hard rock, Johnson says, while Illinois concrete contains porous limestone. "Because aggregates have different densities, you will get different amounts of bleedwater," he says. "You have to alter the mix design of your base concrete in colder areas to use dry-shake color hardeners."

Contractors often mix colors on the job. One technique, called "flashing," involves laying down a base color, then scattering small amounts of others. "It kind of blends together," says Las Vegas-based contractor Ron Garamendi. "You get a highlighted surface, with different shades, rather than a bland one."

Garamendi, like many other contractors, has some favorite recipes. "I like the off-white color to start with," he says. "And then I flash in some coconut, some coffee, a little bit of terracotta and a little green." It gives the surface the look of "a nice natural slate," he says.

Smith has a technique for antiquing the surface after applying hardener. Mix 20 parts water to one part color hardener, he says. Pour the mixture through a screen to take out the sand.

Then spray the liquid onto the corners of selected tiles. This gives each tile an individual, weathered look, he says.

Bliss of Rafco says her company does not recommend contractors mix colors by hand. "Job problems come back to the manufacturer," she says. Instead, her company touts its own custom color service, which is no extra charge. "That way we've got recourse. We know what we did. We can track it back here."

Garceau of Butterfield sees the issue differently. "I think anybody should be able to get as artistic as they want," he says. "I think that's what the industry's about. Concrete guys are not as dumb as they are cracked up to be. They understand if they mix two colors together at a job site that the result of those two colors is their responsibility."



CIRCLE #60 ON READER SERVICE CARD

Manufacturer Profile: Stencil Systems

Quality stencils can up your profit by cutting down on time

by Stacey Enesey Klemenc



Creative contractors looking for new ways to boost their profits and differentiate their work would be wise to check into the stencils available from Stencil Systems Inc. and its distributors.

Headquartered in Sandy, Utah, Stencil Systems is part of the Decorative Technologies Group, an Australia-based company that manufactures and supplies more than 60 million square feet of products annually to more than 25 countries.

In addition to its large selection of high-quality stencils — as well as custom-cut logos and designs — Stencil Systems offers an extensive range of color hardeners, color dispersants, modifiers, release agents, acid stains and decorative tools for use with concrete cast-in-place projects. Most recently, the company, which has been operating in this country for the

past seven years, added Cover-tex, a decorative overlay that is sprayed onto existing concrete and is formulated to work with stencils.

Comparing stencils to stamps, "You can be a lot more creative with stencils as far as the application goes," says Clark Paepke of Stencil Systems. "The only limitation is your imagination. We like to encourage contractors to think outside the box, to be creative, to manipulate the stencils."

A pattern on the floor can continue up a wall or onto a stair riser and over a tread. With the snip of a regular pair of scissors, you can create endless design variations. And that's not even counting the colors and finishes that can be applied over the design.

"Another advantage of using stencils with the variety of finishes that can be applied is that you end up with a consistent finish," says Chad Austin of Salt Lake City-based Cencotech, Stencil Systems' West Coast master distributor. "The surface texture is much more even."

With 26 field patterns, six borders, five circles and a diamond, there's plenty to manipulate, mix or match. The field patterns come in 1,076-square-foot rolls made of a polycoated paper. They are only good for one job, but they can be repositioned if the need arises. Paepke recommends figuring the cost of the roll into your job estimate.

How can stenciling increase your profits, you may ask?

"You can do a greater amount of square footage in less time," explains Scott Maxfield, president of Cencotech. Once they get comfortable with stenciling, contractors are more productive, he says. "Normally, they're in and out pretty much



the same day. Stamping, on the other hand, can take three times that long, and it's more work."

Stenciling is less labor intensive because you don't have to continuously pick something up and reposition it, says Jerri Adams, who co-owns Texoma Decorative Concrete Supply in Wichita Falls, Texas, with her husband, David. The company is Stencil Systems' master distributor for the East Coast. "You can have two to three guys handling a fairly large job while it takes twice that many to have four or five stamps running."

Help is yours for the asking

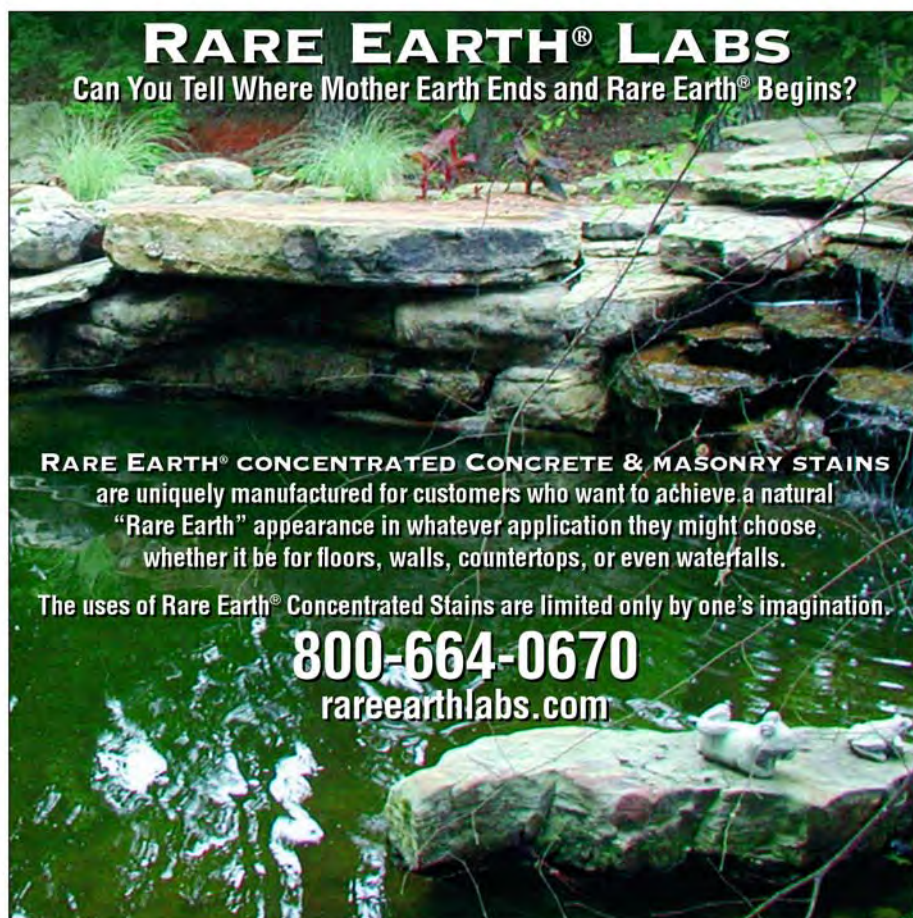
Besides distributing all of the products needed to create, color, texture and seal stenciled concrete, Paepke says, "We pride ourselves big time on technical support, and we have a network of contractors and dealers all over the United States who will take time out from their business or projects to help others in the field."

If you call with a problem, "We're going to help you right then on the phone," he says. "You won't get that salesman attitude reply: 'Let me look into it and get back with you.' We'll provide information right then and there or quickly find someone who can."

You won't find Stencil Systems products in The Home Depot or other similar retail stores. Both master distributors sell directly to contractors in their territory, as well to a select group of local distributors that meet certain criteria. To keep business profitable for all, local distributors don't compete with one another. "We don't want to create a 'Black & Decker effect' and have too many distributors in one area," Adams says.

For those of you wondering, there are no franchise fees. "You don't have to pay to play," Maxfield adds.

"It's our goal to have enough distributors so that everyone is within a two-day ship," Adams says. Last March, for instance, Texoma welcomed Mt. Union Lumber & Supply in Pennsylvania on board to



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distribute wares in a nine-state region. "It all comes down to better customer service," she says.

Contractors are king

Any way you slice it, Paepke says, the contractor is the ultimate customer. The company makes it its business to listen to what contractors have to say about its products, which are constantly being fine-tuned and improved "by the contractor, for the contractor."

Both master distributors offer free training seminars to their customers. Seminars are routinely held in Texas and Utah, as well as other locations around the country. Basic seminars are usually held in the spring while advanced seminars are offered in the fall. Both run for two days. For more information on upcoming seminars, check www.stencilsystems.com for dates and locations.



Photographs courtesy of Stencil Systems



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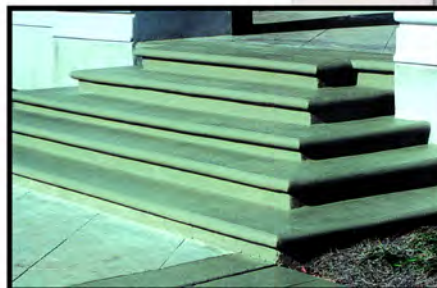
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Paepke recommends that those new to stenciling start with a smaller area than they would normally tackle. "Give yourself a little cushion area when you first start out. It's a lot different from a seminar setting to an actual job. Keep it basic and simple and build from there. Don't bite off more than you can chew.

"There are certain rules you have to follow when using stencils," Paepke continues. "We teach the basics but then you take your creativity and apply that to our process. You can have your own special technique and create your own special look. Decorative concrete is an art. If you can stencil and stamp, you can get some gorgeous looks you can't get with just one or the other."

Contractors should be concentrating on their technique, he concludes. "The last thing we want you to do is worry about the product." And with Stencil Systems, that's not part of the pattern.



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CIRCLE #46 ON READER SERVICE CARD

Concrete Sealers

Keep your work beautiful by choosing the right sealer for the job

by Susan Brimo-Cox

Concrete sealers help protect and beautify concrete work. But choosing the right one from a bewildering assortment of products is not always easy. Making the best selection depends on several factors: the application, desired aesthetics and maintenance requirements. Knowing the basics can help you make the right choice for each project.

Concrete sealers are sometimes grouped either as film-formers or penetrants, based on how they integrate with the concrete surface.

Film-forming sealers do just that — they form a protective film on the surface of the concrete. “Film-formers create a surface barrier for stain prevention and ease of maintenance,” reports Jim Glessner, general manager of White Mountain Products, a division of Triangle Coating Inc. in San Leandro, Calif. Film-formers typically have a glossy sheen, which can enhance decorative concrete.

Straight acrylics, urethanes and epoxies are examples of film-formers. Sometimes these are said to be penetrating, but that can be misleading. As Jerry Churray, Pittsburgh-based regional manager of L&M Construction Chemicals Inc., explains, film-formers’ penetration extends only into the surface pores.

Penetrating sealers migrate into the top layer of the concrete surface and work well to repel moisture and stains. Sometimes these sealers are described as reactive. Silanes, siloxanes and fluorinated resins are examples of penetrating sealers. These sealers typically do not change the appearance

of the surface, leaving the concrete with a natural look.

“Most sealer technology is available in solvent and water systems,” says Frank Livingston, president of OKON Inc. in Denver. Which formulation you go with also depends on the application and the desired appearance.

If you get confused by the wide range of products on the market described as concrete sealers, you are not alone.

“Sometimes sealers are confused with caulking materials, which are at times referred to as sealers as well,” observes Livingston.

Sealer-hardeners, too, are considered concrete sealers by some. These products seal and densify the concrete surface, so, for this discussion they exceed the parameters of “sealer.”

Boiled linseed sealers used to be used a lot, but little today, according to Churray. These “fringe products” are not very environmentally-friendly because they are oil-based. However, Livingston observes that these sealers are often still specified by state DOTs as an anti-spalling agent for bridge decks.

For the most part, concrete contractors will use either film-forming or penetrating sealers. Here’s a look at the basics:

Acrylics are a popular choice

Acrylic sealers are used frequently by decorative concrete contractors — indoors and out — for several reasons. “They are inexpensive, they have a nice initial shine and they provide relatively good protection against water and chloride [salt] intrusion,” observes Churray. But you need to be careful. There are many different grades of acrylic sealers, he says.

Max Iwaniec, owner of Silverback Sealants in Salt Lake City, says that acrylic sealers are thin and allow the concrete to “breathe.” However, he also observes they “can break down faster than other coatings.”

Solvent-based acrylics enhance color better than water-based technology, reports Glessner. But, he adds, it’s important to understand that many of

these products have been reformulated since the federal VOC requirements were changed in 1999. To meet Federal VOC requirements, most products must meet ASTM C1315, which requires 25 percent minimum solids. Products with high solid percentages can be problematic, he explains. “From an application standpoint, 15 percent to 20 percent solids is ideal for acrylic application.” Problems occur because contractors often thin [higher solids content] products that have met the VOC requirements. Thinning changes the chemical makeup of the product so you can’t expect the same longevity and wearability as the unaltered product. Two light coats at 25 percent VOC material will make an ideal sealer.

As most acrylic products are non-yellowing, they allow the surface colors to shine through. These products also can be tinted to enhance the color of aggregate in exposed aggregate applications or to enhance integrally-colored concrete. But beware. Bob Fininis, operations manager for Sierra Design Concrete in Sparks, Nev., says coloring with a tinted sealer “can be tricky — a hit or miss deal.” He advises purchasing sealer and tinting from the same manufacturer for the best results. And, most importantly, “test it before you take it to the job.”

For maintenance, surfaces sealed with acrylic products should be kept clean. These sealers are easy to apply and repair. As a general guide, exterior applications should be resealed or refreshed every 18 months to 2 years. Indoor use can last longer if a sacrificial wax is used regularly.

Urethanes and epoxies are tough

Urethanes and epoxies are good choices when durability and stain resistance is important.

Iwaniec explains, “Epoxies are a thicker product. They are an indoor application which has more abrasion resistance than some of the other products. They can be tinted to custom colors and are ideal for industrial



Concrete sealers at-a-glance

Characteristics of concrete sealers vary depending on the specific formulation, but typically the following applies to these most-commonly used concrete sealers:

Acrylic sealers

- Film-forming
- Typically UV stable
- Solvent-based formulas have a glossy, color-enhancing sheen
- Water-based formulas not as shiny, but sheen can be built up in layers
- Can be tinted
- Provide relatively good protection
- Good adhesion to concrete
- Easy to apply and repair
- Inexpensive and easy to obtain

Epoxy sealers

- Film-forming
- Aesthetically very pleasing; available in colors
- Glossy finish
- More durable than acrylics
- Excellent chemical resistance
- Aromatic versions are not UV stable; aliphatic versions are UV stable
- Requires careful preparation and application, but generally good bonding
- Can be very expensive



Urethanes

- Film-forming
- Very glossy finish
- Provides a hard, durable surface
- Excellent chemical resistance
- Aromatic versions are not UV stable; aliphatic versions are UV stable
- May have bonding problems
- More expensive than acrylics

Silanes/Siloxanes

- Penetrating (reactive)
- Don't change surface appearance; no gloss
- Excellent water repellency
- Easy to apply
- Twice as much as acrylics

environments. Urethane is designed to be able to last the longest. It is thinner than an epoxy coating, but still has the high impact durability.”

On the down-side, urethanes and epoxies are more expensive than acrylic products. Most are generally considered for indoor-use-only (although Vexcon’s new Breathable Technology epoxy and urethane systems are formulated for both exterior and interior applications) because they are sensitive to moisture, and they typically require specific surface preparation and careful application.

If quick turn-around time is important, these products may not be the way to go, reports Wes Vollmer, a decorative concrete consultant and owner of Alternative Finishes in San Antonio, Texas. “The time requirements for epoxy and urethane are huge — 12 to 16 hours dry time for heavy traffic — depending on the specific product. Acrylics usually dry very quickly.”

Urethanes can last five years to eight years; epoxies can last five years to 15 years. Life-expectancy can be dramatically increased with the use of a well-

What sealer where?

The following are examples of typical concrete sealer choices for various concrete applications:

Driveways — acrylic sealers; silane/siloxane sealers; exterior epoxies and urethanes

Indoor residential decorative concrete — acrylic sealers; urethane sealers; epoxy sealers

Patios and poolside — acrylic sealers; silane/siloxane sealers

Restaurant and retail spaces — acrylic sealers; urethane sealers; epoxy sealers

Industrial settings — urethane sealers; epoxy sealers

maintained sacrificial wax. Both epoxy and urethane are reported to be difficult to repair.

Penetrating sealers

Because they actually penetrate into the concrete surface — $\frac{1}{8}$ to $\frac{3}{16}$ of an inch on average, Churray says — these sealers are particularly effective. Glessner reports silane and siloxane sealers provide very good water resistance, while fluorinated resins are designed to resist oil penetration.

These sealers are expensive but easy to apply. Because they do not change the appearance of the concrete surface, they may be a good choice when a natural appearance is desired. However, in some applications, the lack of sheen can be considered a disadvantage.

Churray points out that these products are often used by state highway departments on bridge surfaces. “Parking garages are another good application.”

Jeffrey Potvin, owner of Architectural Concrete Consultants Inc. of Lutz, Fla., explains some penetrating sealers are used as a “water” blocker with a film-forming sealer applied on top.

Surface preparation and maintenance are keys to longevity

“Surface preparation cannot be emphasized enough,” Livingston says. “Proper cleaning, surface pH, surface temperature, surface dryness.... If there is any question about whether a surface has been cleaned properly, clean it again!”

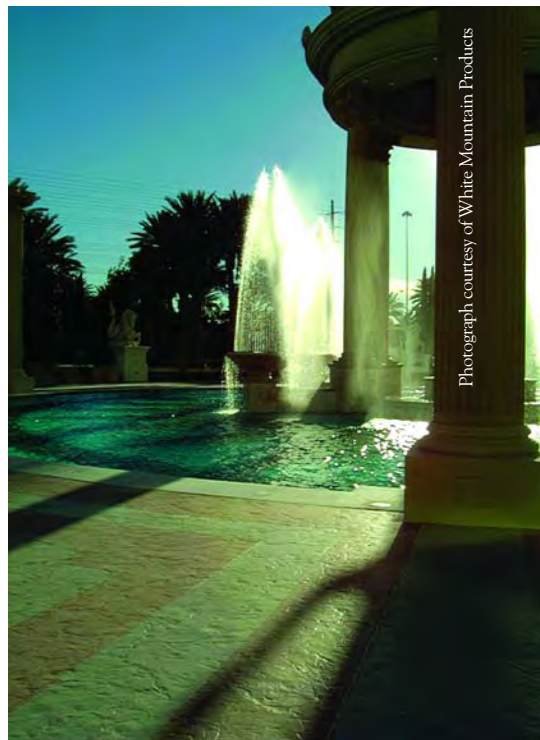
Vollmer emphasizes that it is important to mop several times with clean, clear water. “The No. 1 problem is using water that’s not clean and not cleaning your mop regularly. Then, wait for the floor to dry before sealing.”

“Over acid stains or over acid cleaners, you need to neutralize the surface before sealing,” says Glessner. “Water-based acrylics are particularly prone to destabilization in contact with acid.”

(Neutralize by adding a basic material such as baking soda or ammonia. Flushing with plain water does not neutralize an acid).

Mark Donaldson, director of operations for Skookum Floors USA in Seattle, cautions, “Each system requires different surface preparation, although you will almost always find that the surface must be free from all sealers, waxes, dust contaminants and other potential bond breakers. Some systems require a minimum surface profile, while others require the product to be scrubbed into the surface. Always read the manufacturers’ recommendations for installation.”

Iwaniec agrees. “It is very important to refer to the technical data sheets and material safety data sheets for the product



to determine proper application.” Depending on the product, application techniques “can vary between brushing, rolling, lambswool applicators, squeegees/trowels, low pressure pump sprayers and electric airless sprayers.”

Improper application, over-application or applying sealers too thickly can cause problems. Depending on the product used, two thin coats may be better than one heavy coat. Or backrolling or back brushing may be required. Some products are more forgiving than others. Other times you may have to sacrifice ease of application for durability.

“You have to be real careful about over-application,” says Potvin. “There will be a recommended film thickness you need to follow to ensure correct curing.”

Longevity of a sealer usually depends on the wear-and-tear of the surface and the maintenance schedule. One of the biggest problems is maintaining the surfaces properly. Vollmer recommends, “Use the proper chemicals to clean the floors — watch out for ammonia and other harsh chemicals and cleaners. Use cleaners compatible with the [sealer and/or wax] used.”

Potvin says water latents (mineral deposits) can also cause problems — and do at a lot of theme parks — so it’s important to remove puddles and standing water.

Manufacturers and contractors alike recommend routine inspection of the sealed surface. Moisture should not penetrate the surface if it is well-maintained. Similarly, if the pores of the concrete surface are sealed correctly, mold and mildew should not become a problem.

Start with the application; then make your choice

There is a sealer for just about every concrete application — horizontal and vertical, as well as concrete pavers, masonry, stucco, unglazed tile, natural stone, manufactured stone and brick.

However, “there is no one sealer that can be used for all applications,” Livingston points out. He suggests you

ask yourself many questions before selecting or specifying a sealer.

For example: Are you concerned about UV resistance? Abrasion resistance? Moisture, stains or chemicals? What are your state and local regulations regarding solvent-based products? Is there vegetation nearby the project that might be damaged by solvent-based products? How long will the sealer last? Does the manufacturer provide a warranty?

Don’t be afraid to ask for help. “Sealers and coatings require an educated experienced installer to successfully select and ultimately install,” explains Donaldson. “It is important to have a close relationship with the manufacturer and have all the required variables brought to the table before selecting and installing a sealer or coating system. As a beginner the easier-to-install systems usually consist of acrylic-based or one-component

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Film Forming/Penetrating Sealer Selection Chart

Chemical Classification	Epoxy	Acrylic	Modified Acrylic	Silane	Siloxane	Aliphatic Urethane
Primer Required	✓	No	No	NA*	NA*	✓
Adhesion ASTM 4541	5	4	4	NA	NA	3
Application Rate sq.ft./gal	75-125	200-300	200-300	125	125	75-125
Exterior Gloss Retention ASTM G-53	3	5	4	NA	NA	5
Interior Gloss Retention ASTM G-53	5	5	5	NA	NA	5
Chemical Resistance ASTM D1308	5	3	3	2	2	4
Abrasion Resistance ASTM D4060	4	2	2	NA	NA	5
Impact Resistance ASTM D2794	4	3	3	NA	NA	5
Non Skid Properties ASTM D2047	3	3	3	3	3	3
Non Skid Applied ASTM D2047	5	5		3	3	5
Dry Time ASTM 1640	3	5	5	5	5	4
UV Stability ASTM G-53	3	5	5	5	5	5
Meets VOC Regulations ASTM D3960	✓	✓ 25% solids must meet ASTM C1315	✓ 25% solids must meet ASTM C1315	✓	✓	✓
Water Resistance ASTM D1308	5	2	4	NA	NA	3
Water Repellent SSW110C	✓	✓		✓	✓	✓
Water Proofing TTP1411, TTP1098	✓	✓	✓			✓
Breatheability ASTM D1653B	2	3	5	5	5	2

Rating: 1-5 5=Best

*NA: These are penetrants and do not change the concrete surface properties.

This chart was created by Darryl Manuel of Vexcon Chemicals Inc.

For more information on ASTM Standards, visit www.astm.org.



Photograph courtesy of Skookum Floors

systems. These are a good stepping stone to eventually move into the multi-component, harder, more chemical- and wear-resistant systems."

Doug Carlton, owner of Carlton Concrete Co. in Visalia, Calif., says that while sealers can be a difficult area to grasp, it is an area that contractors should thoroughly explore. "I believe a contractor should only seal with products they learn inside and out. Sealer is the Achilles' heel of decorative concrete. The secret is becoming comfortable with the product you are using."

Unfortunately, what you may need to know about concrete sealers isn't necessarily cut-and-dry. Some manufacturers combine technologies for hybrid products; such as blending acrylic and urethane or acrylic and siloxane. In other cases, additives are introduced to help solve some potential problems. For example, fine grit or silica is sometimes incorporated to provide slip resistance.

Some sealers can be used in combination with others for enhanced results; for example, applying urethane over epoxy, or an acrylic sealer over a penetrating sealer. If you layer sealer products, though, be sure to use compatible products.

"In most cases, stick with the same manufacturer," advises Potvin. "Most contractors aren't chemists and are looking at dollar signs rather than compatibility. The [compatibility] problems often don't show up until later."

It's more than a price decision

In making your final decision about a sealer, remember the sealer is a small part of the overall cost of a project. As Churray points out, "It's not the place to save pennies. You rely on customer satisfaction and word of mouth that you do quality work."

Donaldson says, "We like to relate price to cost. A less expensive system initially might add up to a costly mistake down the road. Imagine saving 25 cents a foot initially but having to shut down operations in a year to refinish a worn and damaged sealer system. Explain this

to the customer and always offer a couple options for their review."

"So many people get stuck using one type of product because they don't know what else is out there," Iwaniec says. "It is important to try more than one product so you can compare your end results."

If you can inform your customer about various concrete sealer products, you convey the appearance of someone who is knowledgeable and up-to-date with technological changes in the

industry. And some customers are willing to pay more for a knowledgeable contactor and a better product.

After all, making the right sealer choice enhances and prolongs the life of your hard work. Learning about the options out there and getting the support and technical assistance you need from a reputable sealer manufacturer makes good business sense.



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PRODUCT PROFILES

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Texture Crete, manufactured by Life Deck, is a polymer-modified cementitious coating that can be applied to existing concrete surfaces as well as plywood decks. The coating creates a decorative and safe textured finish with numerous color and texture options.

Texture Crete has been on the market since 1987. The product's bonding and weathering capabilities have been well tested at hundreds of apartment and commercial buildings, top-end hotels, and residential decks and patios. It was specified by 7-Eleven for store entryways because of its ability to withstand heavy abuse.

Life Deck uses highly concentrated acrylic polymers in Texture Crete, which gives the coating strength and flexibility as well as excellent weathering characteristics. Designed for driveways, walks, patios, garage floors and pool decks, it is easy to apply, low cost and extremely durable. The anti-skid finish makes it an excellent option for areas that receive a lot of foot traffic.

Designs — including a stamped look — can be created by putting down special "Stone Strips" and then skip-troweling over the surface with texturing material.

Texture Crete (when incorporated in the Life Deck AL system) can also be used as an overlay on plywood decks and has received a Class A fire rating. For interior surfaces, the easy-to-clean overlay is used with an epoxy or urethane topcoat.

For more information, call (800) 541-3310 or email LIFEDECK@aol.com.

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CIRCLE #32 ON READER SERVICE CARD



Flex-C-Ment

Having attended World of Concrete a bunch of times, I have never failed to find something new — a tool, product, or technique that inspires me to go home, put on the rubber boots and gloves and play in the mud. This year it was Stan Yoder, Andy Yoder's son, applying Flex-C-Ment vertically, then stamping and hand-carving the surface. Stan created a garden wall with a walk-through archway by overlaying wood and Styrofoam.

Flex-C-Ment Wall Mix is a cementitious dry mix designed specifically for deep wall textures, creating the appearance of various stone and brick patterns. It can be applied up to 2"-3" thick without sagging. A few applications include: fireplace surrounds, interior and exterior walls, foundations, retaining walls and chimneys.

I was interested enough to fly out to North Carolina to meet the Yoders and have a look at their product and facility first hand. (My wife, being from North Carolina, had told me that I needed to experience the hospitality and the food! I was not disappointed!) The seminar was refreshing and informative. Those who attended were challenged artistically as well as ethically.

The seminar was held at their facility, a modest warehouse renovated to manufacture product as well as provide space for hands-on training. Company executives, engineers, contractors and concrete finishers all left having learned something new and convinced that the products and training were worth the trip.

The products used at the seminar were very easy to use, a two-part system composed of a liquid modifier and a dry "bag mix" for the vertical wall application. (This was prefaced by a rolled-on bonding agent and a scratch coat.)

The application was incredibly easy. Overworking the material while applying it to a wall was the main concern. The underlay and overlay products were very versatile and like the wall mix, could be applied over surfaces such as plywood, sheetrock, foamboard, paint or linoleum. In the more adverse situations, reinforcement such as metal lathe and or fiberglass mesh was used. The coloring systems used seemed to be endless: color hardeners, integral colors mixed with the material, integral colors added to a water-based sealer, acid stains etc.

The encouragement and reminders to run our businesses with honesty and integrity were priceless. I especially appreciated the quote from King Solomon in Proverbs 22:29. "Do you see a man who excels in his work? He will stand before Kings; He will not stand before unknown men."

— Harlan Baldridge



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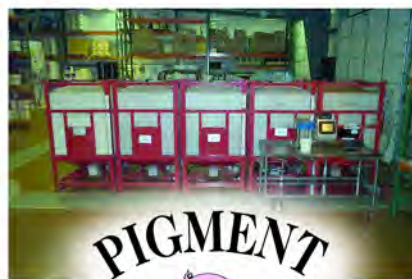
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Garland Floor adds decorative coatings line

Garland Floor Co., a leading manufacturer of industrial floor coatings, has introduced a flooring line that combines beauty with functionality and durability. The new line, Decorative Flooring Systems, is ideal for industrial use, institutional facilities and commercial applications such as restaurants, lobbies, restrooms and kitchens. The floors protect against wear, are impact resistant and have the ability to withstand the rigors of industrial manufacturing, abrasion and chemical exposure. The seamless surface is also easy to clean.

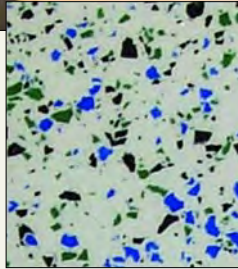
Four lines are available: Spectra-Cast, a quartz broadcast system; Mosaic Blend, a quartz trowel-applied system with a terrazzo look; Color-Crete, a quartz trowel-applied system with multi-colored quartz aggregates; and Deco-Splash, a custom-designed decorative system featuring designer chips broadcast into color epoxy. All floors can be topcoated with CrystalStat ESD, a transparent epoxy that prevents electrostatic discharge.

For more information, visit www.garlandfloor.com or call (800) 321-2395.

Super-Krete presents penetrating sealer

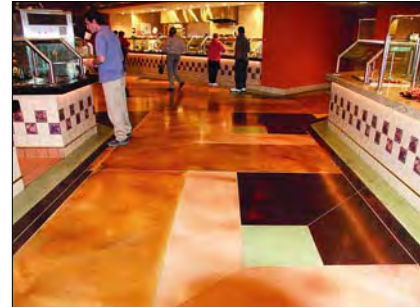
Super-Krete International, a manufacturer of renewal, restoration and protective surfacing systems for concrete, introduced a new product, Pene-Krete, at the AIA National Convention and Expo in May. Pene-Krete is a penetrating sealer that waterproofs any portland cement-based substrate and prepares surfaces for coating. It is recommended for use where water is present in substrates such as retaining walls, basement walls and floors, stucco and other masonry surfaces. The product increases substrate strength, while aiding cure, and increases coating life as much as 300 percent. It retards dusting and penetration of acids, oils and salts.

Super-Krete systems for coating concrete include stamp applications, art deco and numerous other resurfacing systems as well as user-friendly and environmentally safe water-based color stains. For more information, call (800) 995-1716 or visit www.super-crete.com.



New self-leveling topping from Mapei

Mapei has introduced a new product called Ultratop, which it calls "the perfect canvas for integral colors, stains and dyes." Ultratop is a self-leveling concrete topping designed for fast-track resurfacing and interior construction of horizontal wear surfaces in high traffic areas. Available in light gray and white, it can be stained to mimic natural stone, marble, terrazzo or practically any design imaginable. White Ultratop is engineered to maximize the brilliance of architectural stains, integral coloring agents, unique additives, sealers and coatings. Ultratop usually hardens within three hours and can be stained, sealed or coated just 24 hours after pouring. It is abrasion-resistant and cures to compressive strengths of 6,100 psi.



New brackets have added features

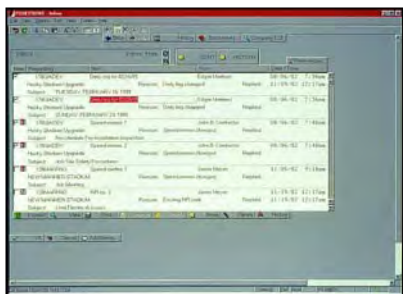
Fab-Form Industries, a manufacturer of fabric forms for concrete, has released the third generation of Fast-Yoke metal brackets used to form footers. The new generation has new features to improve the speed and accuracy of footing formwork, including wedge hanger adjustment instead of a threaded handle; vertical positioning of the 2 x 4; nail attachment of the 2 x 4; thickened base plate; and extra hole in the base plate to enable attachment using 3/4" metal stakes. "We see the Fast-Form product line as a valuable accessory for contractors working on ground conditions where staking is difficult," says David Janeway, VP sales and marketing for Fab-Form Industries. For more information, call (888) 303-3278 or visit www.fab-form.com.



Software aids project management

Dexter + Chaney has released enhanced Project Management software for Version 11 of its Forefront Construction Management Software. Project Management bridges the gap between accounting staff and project managers by providing a standardized process for managing workflow. "At any given moment," says Dexter + Chaney president John Chaney, "Forefront can give the status of each RFI,

submittal, change request and change order. Project Management tracks all of these project components — from initiation to final resolution — by date and detail in an organized, uniform, easy-to-access system.”



Among other innovations, the program's new Inbox screen displays items the team needs to address for a specific project and allows collaboration between members without faxing or e-mailing

documents. Viewers may view or print scanned documents and reply to RFIs, submittals, transmittals, memos or change requests.

For more information, call (800) 875-1400, e-mail info@dexterchaney.com or visit www.dexterchaney.com.



Wet screed new from Wacker

Wacker has introduced a wet screed that bridges the gap for contractors who are looking for an economical and faster way to strike off concrete but don't need to invest in larger truss screeds. The Wacker wet screed is powered by a reliable Honda engine and is offered in a variety of blade lengths and widths.

Additional versatility is available due to the adjustable eccentric weights. The exciter can be adjusted to seven different positions, allowing the unit's amplitude to be matched to the application. It is fully enclosed, which protects the operator and promotes lower maintenance. For more information, call 800-770-0957.

Longer finishing trowels from Marshalltown

Marshalltown's new extended-length finishing trowels can increase the area finished with every stroke.

Each tool extends the trowel's blade length by either 2 or 4 inches over comparable concrete finishing trowels. The extended trowels come with different types of handles, including wood and DuraSoft, and either high-carbon steel or blue steel blades. For more information, call (770) 521-1010.



New tuck point blades from Diamond Back

The new Wafer Style Tuck Point Blades from Multiquip's Diamond Back Diamond Cutting Division boast excellent grinding speeds at an inexpensive price. Eight wafer tuck blades



are offered, with double and triple style models ranging in diameter from 4 to 7 inches and in thickness from 1/4" to 3/8" inch. With their streamlined blade thickness, operators can easily remove damaged grout and mortar between bricks and in concrete blocks in foundation walls in less than half the

time of a conventional tuck blade. Fresh mortar can then be reapplied to strengthen and restore the surface to its original finish. The blade can be used with most right-angle grinders.

EZ cement mixer

The EZ Flipper was designed to make it easy to mix cement for small to medium jobs. Simple to use, compact and durable, the EZ Flipper lets two people mix a 40, 60 or 80 pound bag of cement in less than a minute. Invented by a professional, the rectangular, tub-shaped bag with a handle at each of its four corners costs \$32.95 and mixes cement, sand and water in a short time by flipping and rolling them together. The concrete can be poured from the bag directly into the hole, formwork or mold. The manufacturer recommends it for use in making stepping stones, custom-designed pavers, paths, personalized water features, block walls, concrete sculptures and moldings, garden edgings, mock dry stone walls, steps, drains and more. For more information, call (407) 884-9490 or e-mail Lstutes@EZFlipper.com.

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Sto Watertight Coat is a flexible and breathable waterproofing membrane based on a unique combination of acrylic emulsion, portland cement and fine fibers. Watertight Coat is both flexible and abrasion-resistant. You can use it to waterproof all types of above- or below-grade concrete and masonry, including foundations, block walls, balconies,

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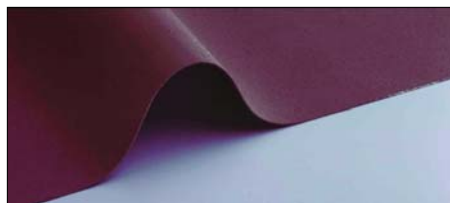


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Liquid stone adds strength and beauty

The Mr. Granite QPC Quartz Polymer Coating System — a high-build waterborne system consisting of three separate waterproof components — is both a beautiful granite finish and a durable monolithic surface. It combines excellent chemical and impact resistance with non-slip characteristics from its cultured quartz stone content. It is also very UV resistant.

Each component was specially engineered with the same cross-linking polymeric backbone that gives the system superior inter-coat adhesion. The system bonds directly to new or weathered concrete, wood, gypsum board and a variety of other substrates. Thin and lightweight enough to be applied vertically or horizontally, its waterproofing properties make the system ideal for everything from basements to pool decks. Designs of tile, brick and flagstone can be incorporated into the finish. The materials are non-hazardous and clean up with soap and water prior to cure. For more information, visit www.mrgranite.com or call (941) 758-1737.

Scraper and grinder ease floor prep

Stow's new Floor Covering Scraper weighs only 130 pounds, but it can remove direct glue-down carpet, hardwood flooring, linoleum, non-slip floor coverings, vinyl tile and any other adhesive, cement or



mastic. The scraper is driven by a ¾-hp fan-cooled capacitor-start motor and constructed with unitized, welded steel plates for added strength. It features a height-adjustable handle that can be easily folded for transportation or storage. The scraper is only 23 inches wide, which makes it ideal for working in narrow, space-restricted areas.

Stow's new DFG Series Floor Grinders can remove grease, dirt, rubber carpet backing and industrial residues on your floors quickly, effectively and with minimal operator effort. Three dual



head floor grinders are offered and each is ideal for grinding and polishing concrete, asphalt, terrazzo and marble floors.

The DFG Series is powered by Honda gasoline or electric motors and a large selection of attachments make the floor grinders perfect for use by concrete repair contractors, industrial building maintenance specialists and surface preparation contractors. For more information, call (800) 421-1244 or visit www.stowmfg.com.



New grout saw from Marshalltown

Marshalltown has released a new grout saw featuring the company's patented, resilient DuraSoft handle, which allows for greater control and comfort and also features a finger guard for safety. Adding to the saw's control and ease of use is a thumb rest atop the die-cast aluminum body, directly over the maximum pressure point. The saw has a 2" abrasive blade coated with tungsten carbide. For more information, visit www.marshalltown.com.



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