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THE JOURNAL OF DECORATIVE CONCRETE
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Vol. 12 No. 8 November/December 2012

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FROM THE editor's DESK

Dear Readers,

The art of shaping curvy, sensuous concrete using fabric forms is not new. Artisans have been doing it for many years, including some of the biggest names in cast concrete. Fu-Tung Cheng has incorporated fabric-formed pieces into his work. Japanese architect Kenzo Unno made a name for himself casting pillowy fabric-formed concrete walls. And the art is taught in schools and workshops across North America, including at Buddy Rhodes' California training center, where Brandon Gore and other master craftsmen teach attendees to use 3-D rendering software to design the pieces.

Our feature story in this issue of *Concrete Decor* offers a fresh, simple take on fabric-forming a sink. Written by professional concrete trainer Tommy T. Cook, it offers an exciting gateway into learning this unique skill.

"I have no idea how Brandon does his forming," Tommy told me in a recent email. "He inspired me to figure it out, so I did my own thing and came up with my own techniques."

It's no surprise that every trainer has a unique style. Fabric forming is by nature friendly to experimentation and creativity. In our next issue, Tommy will teach a second kind of fabric forming he calls "free-form." Let your imagination wander. There's a lot of ways you can achieve unique-looking results with these techniques.

Of course, you have to sell the pieces too. One of the more exciting developments in this magazine over the past year has been the addition of Jacob Webb's "Fundamentals of Business" articles. Jacob is known in the industry as president of manufacturer NewLook International Inc., but he has taught marketing too, at a Salt Lake City business college. His column in this issue wraps up an eight-part series inspired by the class he taught. In 2013, he will continue to contribute business-related articles slanted specifically to the decorative concrete professional.

Mastering running a business is just as important to your success as mastering mix designs or spray patterns. So give him a read.

Enjoy Christmas and the other holidays of the season, and don't forget to register for the Concrete Decor Show this March in Charlotte, N.C. Space is limited in some of the educational opportunities. Don't put it off.

Sincerely,

John Strieder
Editor

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FEATURES

BUSINESS & INDUSTRY

On the cover: Tommy T. Cook sands a fabric-formed sink using a Central Pneumatic tool. Keep sanding in mind when you design a fabric-formed piece, he writes in this issue's feature story. "If you create tight areas or a lot of movement, you will have a lot of hand-sanding to do and this can take some time and effort. The easy way to account for this is to make designs with simple lines and broad curves." The story starts on page 24.

Photo by Jennifer Douglass, Gnomeadic Arts

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concrete DECOR® EXPERTS

Doug Carlton *operates Carlton Concrete Inc. in Visalia, Calif. He can be reached at carltondoug@comcast.net. See Doug's column, "Carlton's Corner," on page 18.*

Tommy T. Cook *is the founder of Gnomeadic Arts and Cook's Custom Creations. Reach him at tommy@tommytcook.com. See Tommy's article on page 24.*

Jennifer A. Faller *is vice president of operations for The Professionals, a polished concrete contracting company in Greensboro, N.C. Contact her at jfaller@pcpa.biz. See Jennifer's article on page 45.*

Todd Fisher *works on installs, research and development and online marketing for Unique Concrete, based in West Milford, N.J. He can be reached at todd@uniqueconcretenj.com. See Todd's article on page 52.*

Jeff Girard *is founder and president of The Concrete Countertop Institute and a pioneer of engineered concrete countertops. He can be reached at info@concretecountertopinstitute.com. See Jeff's column, "Success with Concrete Countertops," on page 37.*

David Padgett *is president of Concrete Polishing Solutions, a manufacturer of equipment for grinding and polishing concrete. He can be reached at david.padgett@go2cps.com. See David's article on page 48.*

Bart Sacco *is the president of Kingdom Products and also owns and operates Concrete Texturing Tool & Supply and the Concrete Kingdom Training Center, based in Throop, Pa. He can be reached at bart@kingdom-products.com. See Bart's article on page 55.*

David Stephenson *owns Polished Concrete Consultants, based in Dallas, Texas. As a consultant, he offers decorative concrete programs for retailers and troubleshooting for a wide range of clients. Contact him at david@polishedconsultants.com. See David's article on page 50.*

Chris Sullivan *is vice president of sales and marketing with ChemSystems Inc. He has led seminars and product demonstrations throughout North America. Contact him at trowelanderror@protradepub.com. See Chris' column, "Trowel & Error," on page 33.*

Jacob Webb, *MBA, is a small-business strategy consultant and co-founder and vice president of NewLook International Inc., where he is primarily responsible for business development, sales and marketing. Reach him at jacob@getnewlook.com. See Jacob's column, "Fundamentals of Business," on page 16.*

Talk back! Weigh in online at ConcreteDecor.net

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business & INDUSTRY

INDUSTRY NEWS

Midwest Rake buys Seymour

Midwest Rake Co. LLC has purchased Seymour Manufacturing Co. Inc. Both companies are tool manufacturers serving domestic and international markets with an exceptional range of products.

Midwest Rake and Seymour Manufacturing will continue to operate independently with existing management in place.

Midwest Rake Co. is a 22-year-old family-owned manufacturer and supplier of long-handled tools used in a variety of markets and work environments. Midwest Rake products are sold under the Midwest Rake, Kenyon, Northstar and Toolite labels. Midwest Rake is also known for its OEM and private-label capabilities.

Seymour Manufacturing sells lawn and garden tools and fireplace equipment.

www.midwestrake.com
www.seymourmfg.com

Texas contractor relocates showroom

Advanced Concrete Staining LLC has relocated to expand its showroom.

Located just two blocks from the old space, the new location is at 3702 I-35 South, No. 108, New Braunfels, Texas. Phone and fax numbers will remain the same.

www.advancedconcretestaining.com

event calendar

World of Concrete
Feb. 4-8, Las Vegas, Nev.
www.worldofconcrete.com

Concrete Decor Show
March 11-15, Charlotte, N.C.
www.concretedecorshow.com

West Coast Training Center opens

The Vertical Artisans West Coast Training Center conducted its first workshop Sept. 27 through Oct. 5 at the Underground Concrete House in Lorane, Ore. The trainings focused on vertical carving techniques for indoors and out.

The house is a unique concrete dome home normally covered with earth. It is expected to be restored top to bottom with the help of decorative concrete. The next workshop, planned for mid-April, will include training on positive carving, epoxy molding, Celtic weave creation, stone facing, and staining, plus manufacturer demos.

verticalartisans.com

U.S. Concrete adds to Texas operations

U.S. Concrete Inc. has announced that its wholly owned subsidiary, Ingram Concrete LLC, has completed the acquisition of certain assets of the ready-mix operations of Colorado River Concrete L.P., Cindy & Robin Concrete L.P. and E&R Artecona Family Limited Partnership (collectively "CRC").

The acquisition includes ready-mix concrete plants located in Stephenville, Aledo, Glen Rose and Granbury, Texas. This acquisition will add to the company's existing Ingram operations in west Texas as well as to its Redi-Mix Concrete operations in the Dallas-Fort Worth area.

www.us-concrete.com

Tilt-up award winners named

The Tilt-Up Concrete Association has announced the recipients of the 22nd Annual Tilt-Up Achievement Awards.

This year, the panel of judges recognized a total of 26 award recipients and selected 11 overall Excellence in Achievement winners. Four Excellence in Achievement winners contained decorative elements:

Korean War Veterans Memorial. Submitted by Summit Concrete, of Lee's Summit, Mo. Help from Needham and Associates Inc., Innovative Brick System LLC, Tincher's Welding LLC, Meadow Burke and White Cap Construction Supply.

Oxygen Development. Submitted by Woodland Construction Co. Inc., of Jupiter, Fla. Help from Permit Engineering Services Inc., Meadow Burke, White Cap Construction Supply and SpecChem LLC.

UCSD East Campus Office Building. Submitted by Gensler, of San Diego, Calif. Help from Minegar Contracting Inc.

Ak-Chin Entertainment Complex. Submitted by Baker Concrete Construction Inc., of Phoenix, Ariz. Help from Dayton Superior Corp. and Nox-Crete Products Group.

In addition, two projects with decorative elements were selected as category winners.

In the educational category, the winners included the **Central Arizona College Academic Services Building**, submitted by Baker Concrete Construction Inc., of Phoenix, Ariz.

In the special projects category, the winners included the **America's Car Museum**, submitted by SAK & Associates Inc., of Puyallup, Wash.

www.tilt-up.org

Second edition of concrete textbook

American Technical Publishers has released the second edition of "Concrete Principles." The textbook features step-by-step placement, consolidation and finishing procedures for flatwork and structures, as well as formwork

and reinforcement requirements.

This edition includes updated coverage in the areas of concrete exposure safety, pervious concrete, precast and tilt-up construction, slip and flying forms, insulated concrete forms, grouting and epoxy injection, self-consolidating and reactive-powder concretes, and the use of concrete in sustainable design and LEED certification.

www.go2atp.com

Super-Krete relocates headquarters

Super-Krete recently relocated its corporate office, training facility and manufacturing and production plant to 2705 Via Orange Way, Suite B, Spring Valley, Calif. Phone and fax numbers will remain the same.

The new location allows for even more streamlined production and shipping, with a loading dock that will allow for greater efficiency in loading trucks and containers, a wireless connection for visitors, ample parking and a robust classroom for training.

www.super-krete.com

Dur-A-Flex selects Korean distributor

Dur-A-Flex Inc. has appointed IL DO Trading Co. Ltd, of Seoul, Korea, distributor for the supply and installation of Dur-A-Flex systems.

IL DO deals in total concrete solutions in Korea, including equipment and materials for the concrete industry. The company has an expansive network of dealers throughout the country. IL DO will offer all of Dur-A-Flex's flooring systems, including urethane, epoxy, methyl methacrylate and colored aggregates.

www.dur-a-flex.com

WerkMaster, Braxton-Bragg complete first joint training seminar

As part of their new partnership, WerkMaster and Braxton-Bragg have teamed up to offer first-class instruction in concrete surface preparation and polishing. The first three-day, hands-on seminar, hosted at Braxton-Bragg's Knoxville, Tenn., facilities, provided each attendee with a working knowledge of start-to-finish floor prep and polishing using WerkMaster machines and diamond tooling.

www.braxton-bragg.com

www.werkmaster.com

ASCC awards CIM scholarships

The American Society of Concrete Contractors Education, Research and Development Foundation has awarded three scholarships to students in the Concrete Industry Management program.

The recipients are Tyler Abbott, a student at California State University, Chico, and Jason Dixon and Ethan Bruce, students at Middle Tennessee State University, Murfreesboro, Tenn.

www.ascconline.org

Ardex Americas names directors

Ardex Americas has promoted Mark Walsh to director of sales, United States, and Bob Dalton to director of customer operations and commercial excellence. Previously, Dalton was Western division sales manager, while Walsh was Eastern division business manager.

(888) 512-7339

www.ardexamericas.com

Photo by Robert Harris Photography, Richmond, Va.

Charity auction planned for 2013 Concrete Decor Show

Pinkrete would like to extend an invitation industrywide to join the group in its endeavor to contribute in the fight against breast cancer. The 2013 Concrete Decor Show has given Pinkrete a unique opportunity to host a silent auction featuring items designed and crafted by members of all categories of the decorative concrete industry.

Participating items will be placed on display the week of the 2013 Concrete Decor Show in Charlotte, N.C. Items will be advertised in numerous venues, including forums, Pinkrete.com and social networks.

Pinkrete would like to encourage each of you as individuals, vendors, manufacturers and artists to create awe-inspiring items that will spotlight your talents and products, and in turn create a successful event. In the coming weeks, registration will open and an ongoing catalog will be compiled. Artist bios, links to their sites and item descriptions will be made available to prospective buyers. Once you are a registered participant, you may post sketches, descriptions and pictures of your contributions.

We are proud to announce the following artists have already joined the fight: Remik Iwuc of Concrete Shop LLC, Tommy T. Cook of Gnomeadic Arts, Mike Cook of ModaCrete, Paul and Annette Lundy, Steve Gartner of Greyrock Concrete Design LLC, and Jake Brady of Concrete Countertops Etc. Eco Concrete Concepts will be donating a piece designed by John Gidding of HGTV's series "Curb Appeal: the Block."

For registration, details, and inquiries, please contact Karen Frazier at (888) 644-3555 or (434) 447-2988, or email karen@ecoconcreteconcepts.com or karen@pinkrete.com.

www.pinkrete.com

Kansas City Concrete Trade Group Celebrates Great Work

The Concrete Promotional Group of Greater Kansas City has announced its annual Excellence in Concrete Awards. The awards recognize outstanding work in concrete construction in the greater Kansas City area, comprised of parts of Missouri and Kansas.

CPG is a nonprofit trade association that represents the concrete industry and promotes quality concrete construction.

Among the awards are several recognizing decorative and architectural concrete work.

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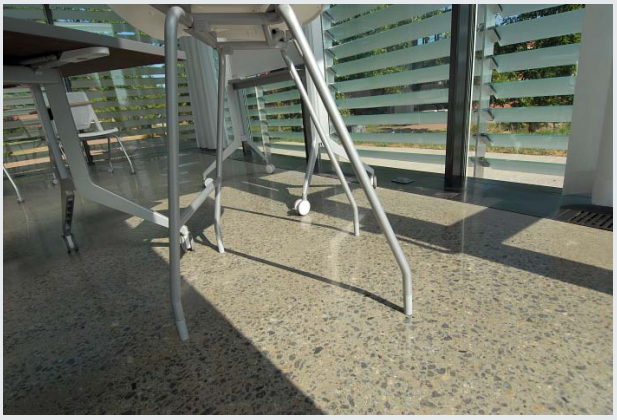

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Heinerkson Family, Shane Roach Concrete & Construction LLC, Webster Architects, Century Concrete Co. Inc.

RESIDENTIAL DECORATIVE
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Artistic Concrete Surfaces, Apex Engineering, Complete Pools, Quicksilver 2005 LLC

CONCRETE COUNTERTOPS
Custom Desktop, Olathe, Kan.
Artistic Concrete Surfaces, Decorative Concrete Supply Inc.

SUSTAINABLE CONCRETE
Galileo's Pavilion, Johnson County Community College, Overland Park, Kan.
Johnson County Community College, Studio 804 Inc., KTI, Artistic Concrete Surfaces, Fordyce Concrete Co. Inc., Geiger Ready-Mix Co. Inc.

CONCRETE RESTORATION
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159th Street Bridge, Overland Park, Kan.
City of Overland Park, Pyramid Contractors, HNTB, Kaw Valley Engineering, Fordyce Concrete Co. Inc.

DECORATIVE COMMERCIAL
9/11 Memorial, Overland Park, Kan.
SFS Architecture, Concrete Concepts LLC, Trevor Miller, Decorative Concrete Supply Inc., Geiger Ready-Mix Co. Inc.

CIM steering committee's new officers

The National Steering Committee for the Concrete Industry Management program recently announced the election of new officers and board members.

The newly elected officers are:

Chairman: Frank Craddock, executive vice president, U.S. operations of Cemex Inc.

Vice chairman: Alan Nedza, director of sales, admixture systems, North America, at BASF Corp.

Treasurer: Danny Rodgers, president and CEO, Dunn Investment Co.

Newly elected board members include: Rex Cottle of Trinity Industries Inc.; Steve Cox of Grace Construction Products; Wally Johnson of U.S. Concrete Inc.; Kari Saragusa of Lehigh Hanson Region West; Julie Garbini of RMC Research and Education Foundation; Beverly Garnant of American Society of Concrete Contractors; Matt Childs of American Concrete Pavement Association; James Toscas of Precast/Prestressed Concrete Institute; Douglas Guerrero of CIM Patrons of California State University, Chico; Rick Yelton of Hanley Wood; Brian Gallagher of O'Neal Inc.; Randy Beard of Walker Restoration Consultants; Michael Schneider of Baker Concrete Construction Inc.; and Eugene Martineau of CIM National Steering Committee.

www.concretedegree.com

Metabo hires marketing manager

Metabo Corp. has hired Jere L. Geib Jr. as its new marketing manager. Geib will be responsible for marketing, advertising, and sales promotions as well as supporting the development efforts for the company's distribution channel.

www.metabousa.com

Allen appoints rental sales manager

Allen Engineering Corp. has hired Garry Haferbier as rental sales manager. In this new position, Haferbier recruits, trains and manages independent sales representatives who sell Allen equipment into the North American rental channel. He is also the point of contact for independently owned rental centers.

Haferbier will continue in his role as the vice president of sales at Equipment Synergy International, which is a manufacturer and distributor of small-to-medium construction equipment. ESI and Allen Engineering recently entered into a joint marketing agreement.

www.alleneng.com

MAX USA hires Southwest rep

MAX USA Corp. has hired Louis Diaz as Southwest regional sales executive. Diaz's career includes more than seven years of experience in industrial sales.

www.maxusacorp.com

Recent additions at Husqvarna

Husqvarna recently named Gene Millican as district sales manager for the Eastern region, specifically Alabama and Mississippi. Also, Dave Thornsburg has joined Husqvarna as the district sales manager for Alaska and Washington.

www.husqvarnacp.com

Life Deck names general manager

Life Deck Coating Installations has hired Skip Motsenbocker as general manager.

For more than a decade, Motsenbocker spearheaded global brand development for Lift Off Inc. He has also worked on product development and marketing strategies for a variety of other nationally recognized consumer products firms, and most recently, he served as managing partner of SignalPoint Asset Management.

www.lifedeck.com

Contractor hires Concrete Decor writer

Concrete Decor contributor Jennifer A. Faller has accepted a new role as vice president of operations for The Professionals, a polished concrete contracting company in Greensboro, N.C.

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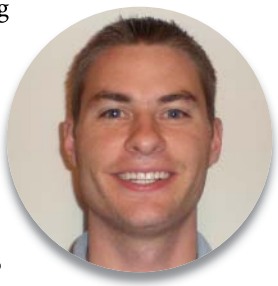
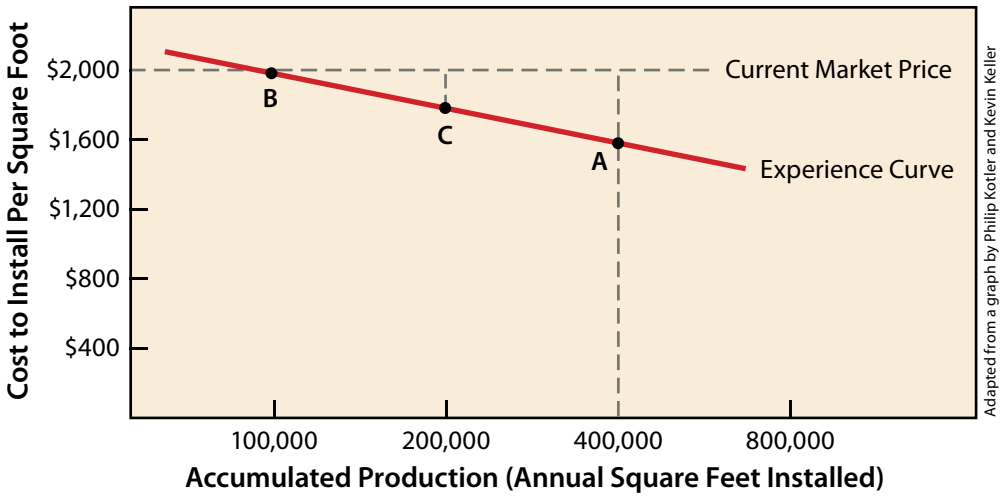


by Jacob Webb

There's a lot riding on your price. It's a reflection of your brand value and the perceived quality of your work. Customers will even use heuristics to determine if your price per square foot is consistent with what they would expect to gain from hiring you. Unfortunately, the process of determining the right price for your decorative concrete services is much more involved than throwing a dart at a wall of numbers.

According to Philip Kotler's and Kevin Keller's "Marketing Management," setting your pricing policy requires selecting the pricing objective, determining demand, estimating costs, analyzing competitors' costs and prices, selecting a pricing method, and selecting the final price.



The Experience Curve (the red line) shows how costs per square foot go down when production increases.

Selecting the pricing objective

Having clear objectives will make it easier to set the right price. For those of you who are overwhelmed by intense competition or the ever-changing tastes of customers, survival might be an appropriate objective. However, simply surviving is a short-term strategy that will end in failure if you don't eventually learn to add lasting value to your brand.

You might also consider choosing between maximizing profit and maximizing market share. The former means choosing a price that yields the most substantial profit margin. The latter means setting the lowest price possible, assuming your customers are price-sensitive.

Or, become the product-quality leader in your market by positioning your decorative services as an "affordable luxury." This means setting your price just high enough to not be out of your customers' reach and justifying it with high levels of perceived quality.

Determining customer demand

The first step in estimating demand is understanding price sensitivity, the degree to which the price of your decorative service affects your customers' purchasing behavior.

Generally speaking, customers are more price-sensitive to premium services. They are also price-sensitive when there are many competitors in your market, they can immediately recognize the higher price, they are quick to change their buying habits, and they don't think a higher price is justified. Perhaps you can see why decorative concrete customers are generally very price-sensitive.

Customers' demand for your service can be estimated using various methods. For example, surveys give you focused insight into customers' expectations about price and the associated quality of your work. Price experiments allow you to test and prove your pricing through trial and error until you identify the price that helps you achieve your objectives.

Estimating costs

Your decorative business will incur two types of costs, fixed and variable. Fixed costs do not vary with sales revenue. For example, you have to pay license fees, interest payments and salaries regardless of how many jobs you do in a year. On the other hand, variable costs vary as your sales increase. The amount you spend on brushes, rags and gasoline, for example, increases as you do more decorative jobs.

To set the right price, you must know how your costs vary from job to job. Take the case in which the monthly payment on a contractor's truck is $400. If he stains a monthly average of 2,000 square feet, he can allocate toward the truck payment 20 cents per square foot (because 400 divided by 2,000 is 0.20). If he stains 4,000 square feet, he can allocate 10 cents per square foot. As the number of jobs (and the total project square footage) increases, the fixed costs are spread over more square feet and the average cost falls. Remember, if you fail to measure your costs correctly, you are not accurately measuring profit.

As you gain experience installing decorative concrete, your methods will

improve. You'll learn shortcuts and save on materials, and your installation costs will fall. In a nutshell, average costs fall with "accumulated production" experience.

In the graph on the facing page, the average cost to install the first 100,000 square feet each year in a given market is set at $2,000 per square foot. Once 400,000 square feet are installed in a year, the average cost falls to $1,600 per square foot. This decline in the average cost is often called the "learning curve" or "experience curve."

Suppose three decorative contractors compete in this market, A, B and C. A has the lowest costs at $1,600 per square foot, having installed 400,000 square feet that year. If all three contractors stain concrete for $2,000 per square foot, A makes $400 profit per square foot, C makes $100 profit per square foot and B breaks even. The smart move for A would be to lower its price to $1,800. This will drive B out of the market, and even C may consider leaving. Then A has a good shot at picking up the business that would have gone to B (and possibly C).

Furthermore, price-sensitive customers will enter the market at the lowest price. As the number of installed square feet increases beyond 400,000 in a year, A's costs will drop still further and faster, more than restoring its profits even at a price of $1,800 per square foot. This aggressive pricing strategy is risky, but it can help you gain market share and drive out competition.

Competitors' costs and prices

Take into account your nearest competitors' costs, prices and reactions when setting your price, since changing it can provoke a response. Research your competitors' financial situation, recent sales, customer loyalty, and even their pricing objectives. If they have a market-share pricing objective, they will likely match any difference in price. If they have a profit-maximizing objective, they may respond by increasing their advertising budget or try to improve the quality of their work.

Selecting a price method

The most basic pricing method is to add a standard markup to your costs. Submit a job bid by estimating the total project cost and adding a standard markup for profit. This is a popular method because you can determine costs more easily than customer demand.

Use target-return pricing by determining the price that would yield your needed rate of return on investment. This pricing generally manifests itself in the form of a percentage.

You can also base your prices on your perceived value, which is comprised of product performance, warranties, customer support and reputation.

Even when you claim that your work is better than that of the competition, not all customers will respond positively. The key to perceived value pricing is to prove through marketing and service quality that your decorative work is more valuable.

Going-rate pricing is simply a matter of charging what your competition is charging or less.

NewLook International's Certified Installers are trained to use a multiple of costs, generally between three and six times material costs, to select a price. Depressed markets necessitate a price closer to three times the cost of materials. Growth markets call for a price closer to six times the cost of materials. Do your due diligence to determine the state of your local economy.

Selecting the final price

Once you've selected your pricing method, consider how it will impact other aspects of your business. Take into account how your price will affect your brand as it relates to advertising. It must also be consistent with your company's pricing policies. Finally, evaluate how your price might impact any other stakeholders of your company, including investors or even your product suppliers.

Jacob Webb, MBA, is a small-business strategy consultant and co-founder and vice president of NewLook International Inc., where he is primarily responsible for business development, sales and marketing. Reach him at jacob@getnewlook.com.

Jacob Webb will teach "Successful Small-Business Marketing Strategies" at the 2013 Concrete Decor Show. For more information, go to ConcreteDecorShow.com.

CARLTON'S CORNER

Successful Contractors Offer Good Customer Service

by Doug Carlton

Turning a profit in today's construction industry is no accident. This is why it is essential — now more than ever — to practice the strong fundamentals that every successful business is built on. I witnessed a perfect example of such a business this fall and it made me rethink my effort as a decorative concrete professional.

The extraordinary business I'm describing today does not install decorative concrete. In fact, I doubt the owner knows anything about the industry most of you use to make a living.

What this business does do right is practice solid business fundamentals from start to finish.

My story begins with a reluctant, long-overdue visit to my local furniture store. My first impression, exposure I should say, was one of friendliness and appreciation from the moment I walked in. Next, my salesperson knew the product well and asked relevant questions that soon matched my needs, not to mention budget, with the right furniture. The sales presentation left no doubt I was dealing with a professional who worked for a professional company. I walked out more than sold — I left the store satisfied and more than willing to tell anyone willing to listen how well I was treated.

Now, let's talk about your business for a moment. Are your customers left with the same positive impression as my experience described above? I sure hope so, but just in case, let's run through three important fundamentals that will separate your business from the competition.

Create confidence

I will be the first to admit that our decorative concrete industry has its share of talented individuals. But let me explain the difference between a customer's confidence and an installer's confidence. I would like for each reader to put themselves on the buyer's side of the table. This buyer could be a homeowner, architect, developer or general contractor.

Each presentation must begin with a level of professionalism beyond what you believe is typical. At this point, your best asset is the ability to listen first and talk second.

Most customers will tell you what they want. Our industry, decorative concrete, is no longer a secret that you need to yell from the rooftop. Your customer may not know the best product or procedure but they do understand many colorful options exist today besides tile, naturally gray concrete and wood.

Whether they ask about it or not, the potential customer is investigating to see if you are the right person for the project.

You will build far more customer confidence by listening than by boring a customer with boatloads of product knowledge or details describing past projects. If you're listening, really listening, your customer will be left with a sense of professionalism, trust … and confidence.

Follow through

I've had the opportunity to mentor many young decorative concrete contractors over the years, and so many make one common mistake — breaking a promise.

Nothing erodes customer confidence like a broken promise. If you promise a sample, deliver it. If you promise a color chart, drop one off. If you promise a bid date, fulfill it.

Following through on promises is the one reason a customer will pay more for your service over a competitor.

Builders and architects love decorative concrete contractors who make their job easier. I purposely make it a point to communicate with each builder new to our services by first introducing myself and then explaining my goal as someone that uses visual aid and samples to make sure their customer gets exactly what is expected.

Remember, many builders don't have a decorative concrete subcontractor but do have customers asking about decorative concrete. Why not make the process as simple as possible for a builder who has the potential to send repeat business your way?

I have yet to run into a builder who would refuse to allow my sales team to work with their customer during the front-end process. Most architects and builders would rather have a confident decorative contractor working through the front-end work, since our industry is extremely specialized. I've personally practiced this type of teamwork on everyone from billionaires to young new homeowners.

Every employee is in sales

A young man named Patrick worked for my company many years ago. At the time, this guy had all kinds of personal issues and getting him to work on time was an effort. However, the one thing Patrick could do is treat customers just like I was treated at my furniture store. It takes time to develop employees into solid and trusted representations of your company.

I want you to think about this: Everyone working for your company is dependent on new leads and work consistently flowing through your doors.

Make the effort to explain how important it is for each employee to represent the company in a professional manner, ALL THE TIME. I can't tell you how many customers have complimented our decorative crew, even to the point of referring our company, based on our crew's professionalism. This is not by accident. We have invested dollars and time to make sure each employee truly understands the personal benefits of such professionalism.

From the person answering the phone to the team member spraying the last coat of sealer, make sure your company makes each customer contact one of confidence, appreciation and professionalism.

Doug Carlton operates Carlton Concrete Inc. in Visalia, Calif. He can be reached at carltondoug@comcast.net.

Photos courtesy of Artistic Concrete Surfaces

Mike Denny, Artistic Concrete Surfaces

Olathe, Kan.

by Stacey Enesey Klemenc

The advice Mike Denny offers to aspiring decorative concrete contractors is simple. "Underpromise and overdeliver," he says. "I've seen a lot of people do the opposite and it comes back to bite them later."

The president of Artistic Concrete Surfaces, an award-winning company in Olathe, Kan., Denny confesses that his commitment to quality sometimes drags on the business. "I'd rather lose money on a job instead of doing a job that didn't look right. I have a good reputation for making sure everything is done above and beyond what people expect. Unfortunately, this isn't always good for the bottom line."

On the other hand, it's great for repeat business.

Denny founded his own company in 2005 when he was just 22, forgoing college to become his own boss at an early age. "I knew I wanted to own my own business and couldn't wait to get started. I used to skip high school to go to work," he says. "And I also would sneak onto big commercial sites to watch flatwork crews ride on trowels and place concrete with laser screeds. I guess I've always been fascinated by concrete."

He comes by this fascination honestly. "My father and I have been working next to each other ever since I was old enough to bend a nail," Denny says. Back then, his dad, Don Denny, who is now his partner at ACS, was a general contractor, a custom builder with a penchant toward concrete.

When the younger Denny first opened his business, it largely dealt with concrete placement for homeowners and local businesses, with an emphasis on stamped and colored concrete and overlays, which still remain the company's bread and butter. At first, Don only offered his guidance and helped out when needed. But business took off after the first year and he soon came on board full time.

As time progressed, Mike headed up sales, marketing, designing and various office duties while Don managed the crew in the field. "And it's stayed this way ever since," Mike says. However, he adds, he still schedules time to go daily to every one of their jobs. "It's very important to me to keep involved in our projects. At one point I got away from this and I noticed a major disconnect between me, the customer and the project." And he didn't like the distance.

The power of 3-D

Denny, whose company has about 20 employees, diversified the business back in 2008 when new construction started to drop off and outdoor living spaces began to gain popularity in the Kansas City area. "We reconfigured our marketing to offer not only

concrete but a full design/build contractor service for anything outside the home," Denny says. Within a few months, ACS was buried in work.

"Needless to say the old spray-paint-on-the-ground method of designing a job would no longer suffice," Denny says. He subcontracted with architects to help design the larger, multifaceted projects — but they all worked too slowly, he says. To remedy this problem, he literally decided to take matters into his own hands and learn how to use AutoCAD.

While it took more than the few days he predicted it would, he eventually became proficient with VizTerra, a 3-D outdoor-living design software program. "I started turning out three to five additional designs per week and our closing ratios doubled," he says. With extremely lifelike renderings, "Our customers can see what a project will look like before it's even started."

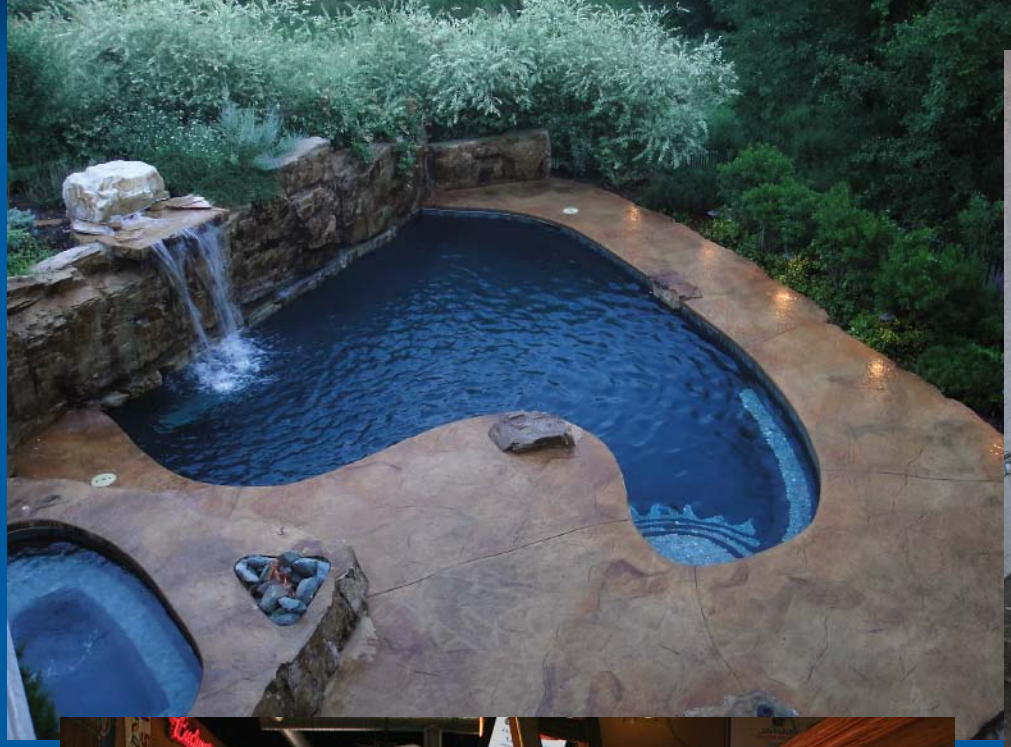
Fire, water and lighting

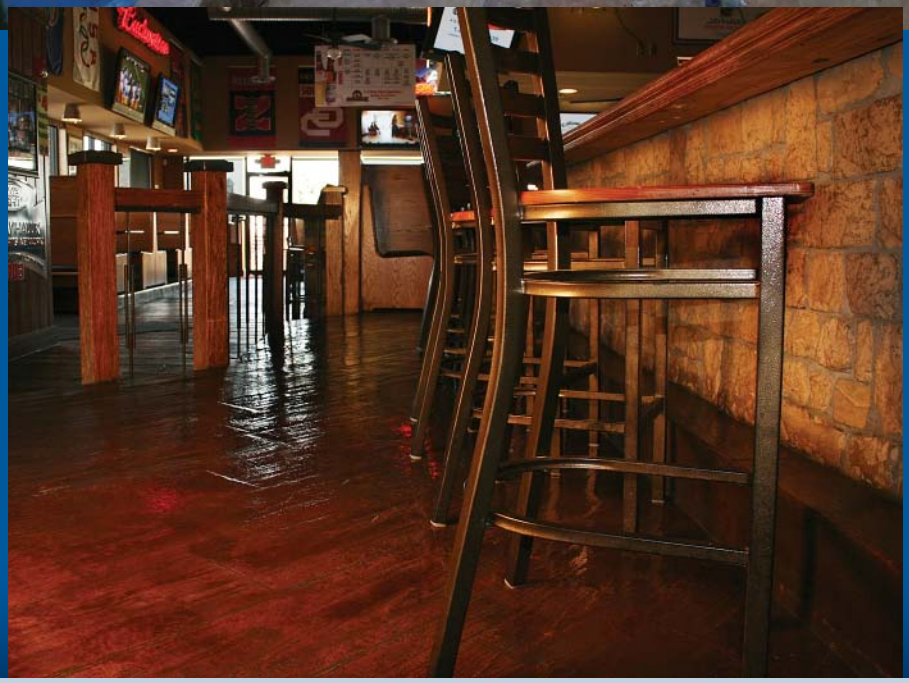
Several years ago, Denny began tinkering with fiber optics in countertops, which he now views as old hat. He says he's most attracted to decorative concrete projects that others don't want to attempt, such as stamping concrete that also contains fiber optics or installing fiber optics in slab-on-grade.

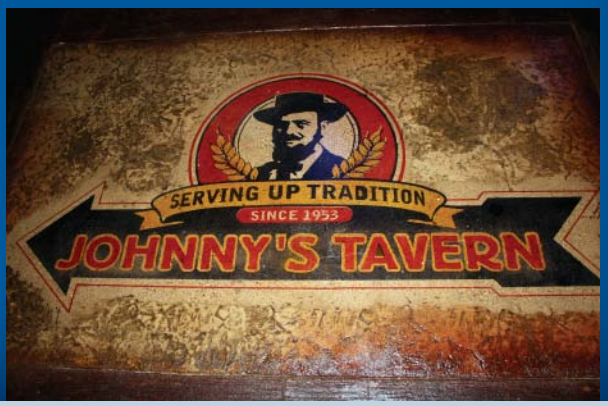
"I love figuring out ways to incorporate new things into concrete, whether it's fire, water or lighting. The more difficult, the more it draws my attention. I love running across clients interested in trying new ideas. It's fun to experiment when someone else is covering the costs."

For instance, in 2012 ACS completed one of its largest residential projects in company history. To the tune of about $600,000, the project included a gunite swimming pool, pool house, swim-up bar with convection-cooled cup-holders, deck laminars, fiber-optic concrete, flagstone reef-stamped concrete patio, exposed aggregate stairs, waterfall, concrete water slide, outdoor kitchen and pergola.

There's little demand and a huge learning curve for these elaborate projects,







he cautions. "Realistically, there is probably only a handful of these jobs that we actually turned a profit on." He urges contractors to carefully research what they are getting into when entering uncharted territory. "If not, things can go south very quickly, and when concrete goes south, it usually costs a lot of money."

Recently, an architectural firm subcontracted ACS to create an accurate presentation in concrete of a constellation with about 500 stars and planets for the Dick and Dotty Hanger Family Preserve, a small state park in Shawnee County, Kansas. "We'll be using different gauges of fiber optics for the stars depending on their size, and we'll use an assortment of transparent gemstones to represent different planets."

The completed project will feature a walkable, exposed aggregate concrete surface, complete with plaques that offer facts about the individual stars and planets.

Learn before you earn

Denny, who's certified as a Master Concrete Finisher by the American Concrete Institute, says that to succeed in this business you need to learn as much as possible about the products you're installing.

"If I could go back in time, I'd rather learn the easy way than the hard way (through mistakes on a job). There are so many events and seminars for concrete contractors that there's no good reason why someone shouldn't take advantage of some of them. You can always learn something new."

To keep up with the latest concrete trends and techniques, Denny participates in trade associations. He's been an active member of the American Society of Concrete Contractors for going on six years. He's also on the board of the Concrete Promotional Group of Greater Kansas City and chairs its Decorative Concrete Board, for which he helped create a specifiers' guide for both decorative concrete and polished concrete placement.

artisticconcretekc.com

Photos by John Farley, Threshold Design, and Jennifer Douglass, Gnomeadic Arts

Simple Fabric Forming to Make a Sink

by Tommy T. Cook

how TO

FIBERGLASS has been used in the precast industry for many years. The use of resin-and-glass mats to make master-mold plugs, keeper molds to hold the shape of rubber molds, and good old-fashioned production molds is standard in the industry. Now, the next use has been developed — fabric forming.

In this article, we will walk you through the basics of using polyester resin and different types of fabric to make forms and molds. We will cover standard fabric forming for creating a sink.

With just basic materials and a lot of imagination, you will find that you can create more than you ever thought possible.

❶ GATHER TOOLS AND MATERIALS

To get started we have to get the tools and products we will need on hand. So, here is the shopping list. It includes several types of materials that you will need to make fabric-formed molds, plus some that you don't need but are nice to have around.

Polyester resin. This is typically available at most of your box stores in quart and gallon size. However, if you can find it at a supply house you will pay a lot less for it.

- There are several grades of polyester resin, but for our purposes an inexpensive resin, usually called "boat yard resin," will work. No need for the premium stuff as we are not building boats.
- Before buying at the box store, search for local fiberglass supply shops. If you cannot find one, you can call local body shops, boat builders, plastic supply shops and auto supply stores to find the supplies at lower prices.

MEKP (methyl ethyl ketone peroxide). This is the hardener for polyester resin. Be aware that regular MEK will not work. You must use MEKP. This is usually supplied with the resin when you purchase that. It is also a very nasty chemical, so wear protection.

- As a side note, you can get colored dye for your MEKP as well for your resin. Dye will help you see them blend, ensuring that you have a good mix.

Fiberglass matting. Though you will not typically need this for making these types of molds, it is good to have some around to strengthen certain areas of the molds. A 1-ounce mat material is best, as it will fit better into the nooks and crannies of the mold. Cut small pieces to fit into tight areas. Do not try to stuff a big piece in, as that will only frustrate you.

- Matting comes in different weights and can serve many uses. For example, if you want to make your fabric molds reusable, you can cast one and then make a standard fiberglass mold off of it with matting.
- You can in some cases back up your fabric mold with this matting, giving it much longer life.

Polyester-based filler. Bondo brand filler (or putty) is the most common, but there are several types that you can use. Finding one (often called lightweight filler) that is designed for easier sanding will save you a lot of sanding as you get into the process. Just make sure that it is polyester-based.

The hardener is typically furnished with the filler. You can get different colored hardeners for your filler. This can allow you to build up layers with different colors so you can see low spots.

Fabric. Most fabrics will work for making molds, but each will have different capabilities for forming and will work differently with the resin. Be wary of some materials, as they can "melt" from the chemicals or the heat of the chemical reaction. We will talk more about which fabric to choose later in this article.

- I try to get my fabric by shopping at the local thrift stores. They have a LARGE selection of material and it is available for a small fraction of the price you will pay at a fabric store.

Acetone. This is the cleaner for your brushes and messes. It is not a thinner for the resin. It has been used for this, but that is not a recommended practice.

Sandpaper. The grits you need will depend on the type of mold you make and the finish you want. I recommend having a stock of 60, 80, 120, 220, 320 and 400. You will likely not need the 60-grit or the 400-grit very often, but it is nice to have them when you do. Also, buy these at the auto-body supply shop — much more affordable than the box store — and buy in bulk, because you're going to need it.

TOOL LIST

- **1-inch, 2-inch and 3-inch chip brushes.**
- **1-quart and 2-quart plastic mixing buckets.** You can get these at the box store, but you can find them cheaper at the auto-body supply shop.
- **Rags or heavy-duty paper towels.**
- **Mixing sticks.** Plastic is best as it will not absorb your hardeners.
- **Respirator.**
- **Palm sander or dual-action sander.** There are two different types of backing for sandpaper: sticky-back and Velcro. Make sure that you get the right type of backing for your sander.
- **Upholstery stapler.** A simple pneumatic stapler that shoots T-50 staples is easy to get. A pneumatic stapler is much better than a hand stapler, which will work but leave you with sore hands at the end of the day.
- **Boxes of vinyl gloves.** Do not use latex, as they do not hold up well with the resin. The cheap vinyl ones are the best, as you will throw them away after each mix.
- **Cup gun.** This is not necessary for smaller projects, but it can be helpful for bigger molds. I would suggest getting used to the process before you run out and spend $150 on this tool, unless you are planning on doing larger projects right away.
- **A couple of pairs of all-metal scissors.** You will want one for dry cutting and one for cutting material that has resin on it. You can clean these with the acetone — just be sure to do it before the resin dries. Plastic-handle scissors may melt or soften from the acetone.
- **Fiberglass rollers.** These are also not necessary, but they are handy to have around for some projects.
- **Metal and plastic Bondo knives.** Get these at the auto-body supply shop or a tool store like Harbor Freight Tools. You'll pay way less than you would at the box stores.

❷ DESIGN THE SINK AND MAKE THE MOLD

Now that we have all our materials and tools, we can start our fabric-forming project. To do this, you have to first come up with a design and then build the armature, the part that will create the design under the fabric.

Fabric forming starts in the creative part of your mind. The armature is the most difficult part, as you have to be able to picture the negative space that will remain after the mold is gone. Beyond looks, you also have to make sure that your sink design will function. You have to make sure that it will drain!

Also, sanding should be considered in the design of your piece. If you create tight areas or a lot of movement, you will have a lot of hand-sanding to do and this can take some time and effort. The easy way to account for this is to make designs with simple lines and broad curves. If you get into more complex designs, make sure you charge accordingly to cover the cost of the added labor.

To make your mold, you will start with a flat board for the base. Melamine at 3/4 inch will be fine, but if you plan to reuse the mold, plywood will last longer.

There are several ways to build the armature. First, decide if the sink will be flush with the surface or drop down into the countertop.

Flush design

If the sink is to be flush, you will cut the base to the size of the sink you desire, and leave the edges at 90 degrees.

You will cut a hole in the countertop mold and set the sink into it, securing it in place. Once this is done, you will seal the gap between the sink mold and the countertop mold with Bondo filler, sand it smooth, then apply a coat of Bondo-resin mix and sand that smooth. This is of course after the sink mold is complete.

Note: Another option is to pour resin over the top of the whole mold, sink and countertop, and let it level out. This will give you a flawless transition between the sink and the countertop in the final piece.

Drop-in design

In our example sink, we went with a drop-in style, tapering the sides of the mold so that it will release. For a sink that will drop down into the countertop (our mold is designed for this) you will taper the sides to a minimum of 5 degrees, which will give you a good release from the concrete after casting. If the sides are at 90-degree angles, you may have a harder time removing the mold from the casting. For our example sink, we cut to about 30 degrees to avoid the line of the base showing through the fabric.

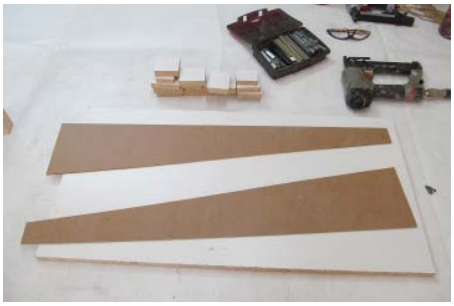
Note: You can use a router to round over the edge of the base. This gives a nice curve at the sink rim. It's a good look that offers an easy release from the concrete.

Note: Be aware that the board you choose needs to be strong, which is why a minimum thickness of 3/4 inch is required. As the resin cures on the fabric, it shrinks. If it shrinks enough it can pull the mold in and warp the base. This happens in normal curing, but it can be worse if you run your resin hot (use extra hardener). You can get low-shrink resin, but it can be harder to find and more expensive. If the mold does warp, just use screws to pull it down to the countertop mold and seal the gap with caulk or plasticine.

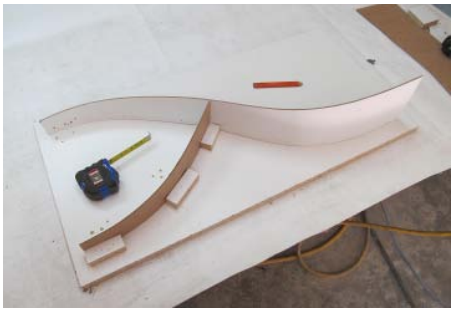
The armature

Once the base is ready, we can move on to building the armature. This is where really thinking outside the box can help you to come up with some unique ideas. The wonderful part of this process is that you can use just about anything to do it. I have seen wood, metal, plastic, junk from the thrift store, branches and even rocks used to make armatures. The design is only limited by your imagination.

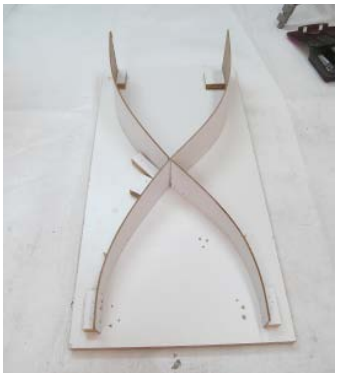
To make our armature, we cut and curved 1/8-inch hardboard to meet our design. We cut two identical pieces with a taper to the draining side.



Using pin nails, we nailed in holder blocks to keep the armature to the curved shape that we wanted.



We then nailed the first piece in a curve using the holder blocks. The second piece was then measured, cut into two and nailed in to match the curve of the first piece.



For the drain area we used a paper cup hot-glued on blocks to represent the height and shape of the drain area.

Stretching the fabric

Once the armature is complete, it is time to apply the fabric. This is where knowing the design elements will help you choose what type of fabric to use. The three basic types of fabric you will use will either be nonstretchable (we don't use this much), stretchable in one direction (fleece is like this) or stretchable in two directions (Spandex-type material).

For our sink, we will have the shape stretching in several directions, so we used a fabric that was stretchable in two directions with a tight weave (which helps keep the resin from soaking through). We used a Spandex-type material.

As I stated before, most types of material can be used for this process. Doing tests on different fabrics will give you an idea of what you can do with them. Even loose-weave fabric can be used, although it can waste a lot of resin. Fleece is most commonly used for regular sink molds but can be limiting as it only stretches in one direction and requires a lot of material to build up the surface.

Also, see if your fabric has texture or designs in it. The patterns may have to be sanded out to get the right finish. Or, they can be incorporated to the design.

Note: Do your tests. Some fabrics may seem perfect but do weird things when wet with resin. Some of the very stretchy fabrics can sag more than you want them to. They seems tight enough when you stretch them, but the resin softens the elastic and causes them to sag or wrinkle. Best to make sure that the mold is stretched very tight to help avoid this, unless the design allows for this movement.

To start, lay your fabric over the armature and pull it a little tight. Cut off any excess fabric, but be sure to leave a minimum of 5 inches around the outer perimeter of the base mold so that you have enough material to pull and staple to the base. Any excess will be cut off after the material is stapled in place.

Now that the material is cut, we can begin stretching. As the material is stretchable in two directions, we will need to be aware of how we stretch it. If you pull from only one side it can affect the lines of the mold. Start by pulling from two opposite areas and stapling them. Then, pull the other opposite sides taut and then staple them. You now have the material stapled at four points in a "plus sign" pattern.

Note: Staple so that the staples are perpendicular to the direction in which the material is being stretched. Otherwise, the material may tear out.

Once the four points have been locked in, you can begin to stretch the remaining material and staple it into place. As you do this, be sure to continue to stretch adjacent sides evenly. Again, this will encourage uniformity in the fabric and the final casting.

Staple the material just like you were doing upholstery, in a straight line and with all staples very close to each other. This will help prevent areas from sagging when the resin goes on or from wrinkling during the curing of the resin.

Once the material is all stapled, you can cut off the excess beyond the staples. This will be necessary before applying the resin, as it will be harder to cut off later if there is resin on it. It will also help your piece to sit flat, though some sanding will be necessary as resin drips will occur.

Your mold is now ready for you to apply your resin.

❸ APPLYING THE RESIN

Depending on the fabric, you will need two to four coats of straight resin before applying the Bondo-resin mix. The objective is to harden the material enough that it only flexes minimally when you touch it. If you do not apply enough resin, you run the risk of the mold not being strong enough and possibly pushing or cutting through the material when you are sanding.

To start, you will mix your resin with 1 percent MEKP hardener — typically, 10 cc (cubic centimeters) to 1 quart of resin. Depending on the size of the mold, 1 quart may be needed for the first coat as the material will soak up the resin. Subsequent coats can be less thick, as you will now be building up the resin and it will not soak in as much.

After measuring the hardener, add it to the resin and stir very well. I recommend mixing by hand as opposed to using a drill mixer. This will help prevent heating up the mix, giving you a little more working time. While mixing, be sure to scrape the sides and bottom so that all your resin is mixed with the hardener. If it is not, you can have areas that will not dry. (If this happens, you can apply another coat of resin with a little more hardener on top of the last coat and this will help to heat up the wet areas that did not get mixed well.)

Polyester resin cures with heat, not air. Air can slow the curing dramatically, so do not put a fan on sticky resin — it will not help.

Once it's mixed, you can apply the resin using a 3-inch chip brush. Try to use the 3-inch, as the 4-inch typically has more bristles and will not apply the resin as well. Work fast! The resin can kick off on you and you may lose the mix if it begins to set up too fast.

Note: For measuring the hardener, you can purchase a measuring bottle from a fiberglass supplier. This is much easier, quicker and more accurate than using the drop method (adding 10 drops of hardener to one quart of resin).

Note: You can step up to 2 percent hardener for quicker curing or if the temperature is less than 60 degrees. Be warned — you will need to move quickly with 2 percent as the resin will kick off much faster. You can also run the risk of the fabric wrinkling on you if it is not stretched tight enough. As the resin cures, it shrinks. If it cures too fast it can shrink and warp the fabric. (If this happens, don't worry — you can use Bondo to reshape the area.)

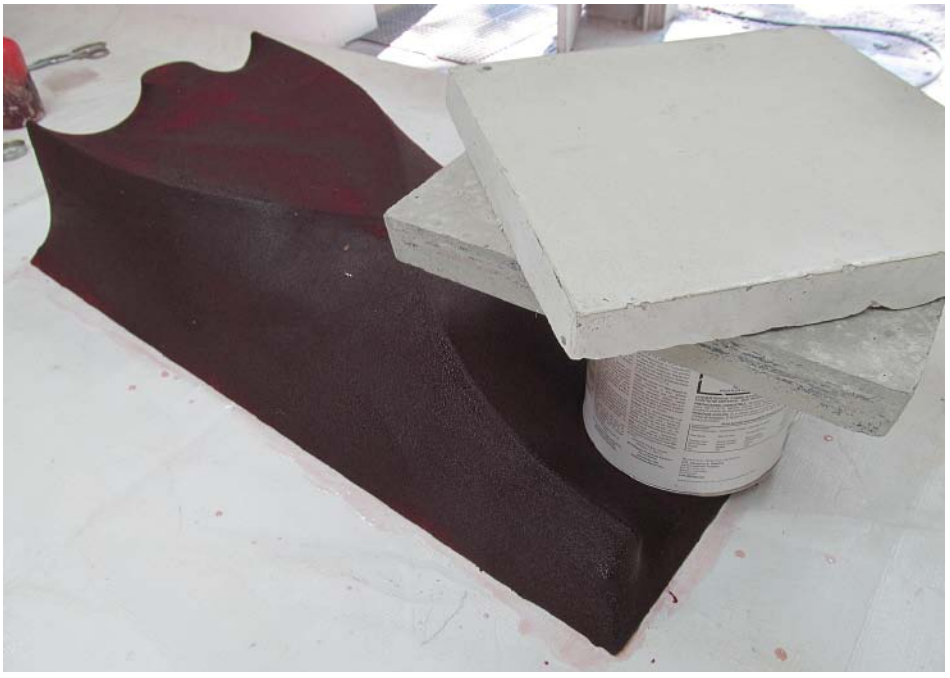
Note: Typically, it will take 15 to 30 minutes for the resin to kick off. For quicker setting times you can apply heat to the surface to get it to kick quicker. Or, set it in the sun if this is an option.

Note: You can also use a cup gun to apply your resin, but be aware that you will need a well-ventilated area to do this as the gun will create a cloud of resin that will get on everything. Best to do it outside if you can. This method is not always quicker, and you want to make sure that the resin is applied evenly or you will run the risk of wrinkling the material.

Note: When your resin starts to gel on you but is still brushable, you have only a few minutes left to work with it. Once it turns to jelly, you are done — throw it away. It is much harder to sand and touch up an area of jellied resin than it is to just apply another coat.

For our sink, we decided to add another curved element. This is the reason we decided to use a fabric that stretches in two directions. Once the first coat of resin was applied, we created a soap shelf area by using a can with some weight on it to pull the fabric down to a circle. By using material that stretches in both directions we are able to tweak the design a little more than if we were using a one-way stretchable material like fleece.

The weighted can was allowed to sit on the fabric for the next three coats so that it would hold its shape. We waxed the bottom of the can with a mold wax and set it right into the wet resin during each coat. We used concrete blocks we had lying around to give weight to the can until the material was hard enough to keep its shape.



❹ MIXING AND APPLYING THE SANDING COATS

After the first coats of resin are on and hardened, you can apply your Bondo-resin mix to get a sandable and workable surface.

Here's a recipe for making the mix:

Add one part resin to one part Bondo. Always add the Bondo to the resin — this will allow you to get an accurate measurement and will make mixing easier.

Mix thoroughly until the consistency is creamy. Make sure you scrape the sides and bottom to ensure all elements are thoroughly mixed. If you are worried about it all being mixed thoroughly, you can mix, then pour the mixed material into a separate container and mix again.

You can use a drill and a small mixing paddle to stir the two parts together, though doing it by hand with a stir stick works just fine.

Once the two parts are mixed together, add your resin hardener (MEKP, or methyl ethyl ketone peroxide) and mix it in good.

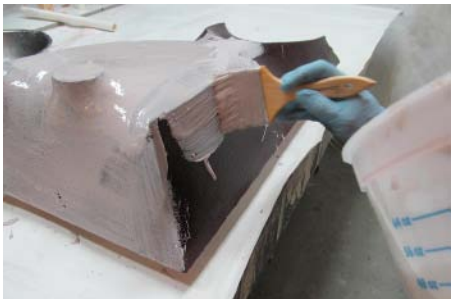
Once the resin hardener is in and mixed, add the Bondo hardener and finish mixing. Be sure that it is mixed in thoroughly or you can get soft uncured areas on your mold.

Adding the resin hardener first will give you a little more working time. The Bondo in the mix will firm up more quickly than the resin, which is why we mix its hardener in second.

Also, be careful with the amount of hardeners you use. This mix will kick off MUCH more quickly than the resin mix. Still, be sure to use enough, or it will not kick off and you will have a gooey mess. The resin mix will still be 1 percent to 2 percent hardener by measure, and the Bondo is also at 1 percent to 2 percent, but you have to eyeball this one. This may take a little practice.

Note: A surfacing agent (wax) can be used in some of your coats to help aid in sanding. The surface is designed to stay tacky so as to stick to subsequent coats. This can be hard to sand. You can add the wax to your sanding coats to help them dry — polyester resin is air-inhibited, and the wax seals off that air so the resin will cure tack-free. If you use wax, you will need to sand between each coat or use acetone to remove the wax, or else the subsequent coats can delaminate.

Once you have mixed that material, you can apply it to the mold. This can be done with a 3-inch chip brush. You want to build up the material on the mold, but be aware that it may run off of your vertical areas. If this happens, just wait a little bit and brush the material back up on the sides. As it cures it will begin to stiffen and hold to the vertical areas.



Note: You can also do a mix with less resin and more Bondo. This will give you a stiffer mix and allow the mixture to stay vertical better. However, building up several thin coats is the better option, though it may take you more time to get to the desired thickness. You can also add a fumed silica such as CAB-O-SIL to the mix for its thixotropic properties. This will also help the resin to hang on verticals.

Note: You can use a putty knife to spread the mix around. If you are getting brush marks, apply by brush and run a putty knife over the surface to smooth it out.

Allow the first coat to cure fully, then do a light sanding. The material underneath will have created a texture on the surface and we want to knock that down before we proceed. It is not necessary to sand all the way to a smooth surface as we will be building up more layers of the Bondo-resin mix and will sand each coat as we go. You can sand with 60-grit sandpaper to knock the surface down quickly.

After sanding the first coat, repeat the process and apply several more coats of the mix, sanding in between, until the mold is rigid, with minimal or no flex and enough material applied that you can sand without going through into the fabric.

Sanding, sanding, sanding and done

Once all your coats are on, do a final sand to 120 grit. Then apply a layer of regular Bondo. This will allow you to fill in any low points or any possible wrinkling that may have occurred. When this coat hardens, you can sand to 120 again and work the surface into the final shape. Apply more Bondo if necessary to build up any area that is still too low or contains any imperfections.

Once you've sanded, apply one to two more coats of Bondo-resin mix and do a final sand to a minimum of 220 grit and preferably to 320 or 400. This is your final surface that you will cast against.

Concrete will mimic the casting surface. It will show any imperfections that are not fully sanded out. This includes sanding marks, dimples, run lines and so forth. Inspect the surface well before you think you're done sanding.

Tweaking the mold with additions

For our project we added "cross sections" at the drain area and Bondoed them in to keep the curve that we wanted for the design. This was only achievable this way. If the cross sections were put in under the fabric, we would have lost some of the curve that we wanted at the drain area.

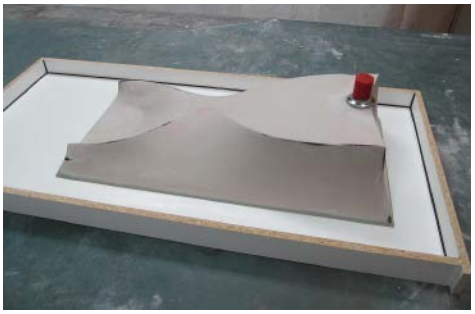
We hot-glued the cross sections in, spread Bondo to transition the area, and sanded it to the desired form. This was done in several applications, building up the area each time until the desired shape was achieved. We then coated the cross-section installation with the Bondo-resin mix and finished it along with the rest of the surface.

Not all armatures you make for your sink need to be under the fabric. You can create a basic shape with fabric-forming and then add to that shape using other tricks like shaping Bondo.

Note: We applied the Bondo filler at the drain after our first coat of Bondo-resin mix. We applied about 80 percent of the total amount of Bondo we wanted to use, then applied another Bondo-resin coat over it. This allowed us to see where we needed more Bondo to even out the surface.

5 WAX

If you feel the surface is what you want for a final result, then you are finished. You can place the sink mold into the countertop mold and attach it.



Then apply a layer of caulk or a bead of plasticine to the perimeter to seal the gap between the two molds. Apply your drain knockout, weather slit, and whatever else your design dictates and wax the full surface. You will apply two coats minimum of mold-release wax to assure that the mold will not stick. Be sure to buff the wax after it dries.

Note: If you do not have mold release wax, a 100 percent carnauba wax will work. Some waxes can melt under the heat of the curing concrete, so do a test first if the wax is not 100 percent carnauba.

In the next issue of *Concrete Decor*, we will go over the tricks of free-flow forming, allowing you to create those one-of-a-kind designs that previously you may have considered too difficult.

Tommy T. Cook is the founder of Gnomeadic Arts and Cook's Custom Creations. He is a full-time trainer and consultant in the precast industry. Reach him at tommy@tommytcook.com.

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TROWEL & ERROR

The Challenges of Applying High-Performance Sealers

by Chris Sullivan

As high-performance coatings become more commonplace in decorative applications, so do the problems associated with using them. Unlike acrylic sealers, high-performance coatings (polyurethane, epoxy, polyaspartic and polyurea) are not as forgiving when it comes to application, or more specifically, reapplication. My April 2012 Trowel and Error column, "Maintaining and Resealing Stamped Concrete," dealt primarily with one-part acrylic sealers on exterior stamped concrete. In this issue I am going to talk about application and reapplication (with a second coat) of high-performance two-part coatings often used on interior decorative concrete flooring.

Before we can talk about the actual process of application, we need to take a closer look at what makes these high-performance coatings so different from their single-component acrylic cousins. In the simplest of terms it comes down to "cross-linking." This is a term you may have heard before, but do you really know what it means and how it impacts the performance of a coating? When long chains of polymers chemically bond to each other to form a single mass of polymers, this is called cross-linking.

All sealers used in decorative concrete exhibit some form of cross-linking, but high-performance coatings take it to a new level. The cross-linking density found in these coatings is what gives them their superior properties.

For years I have used the analogy of a bowl of noodles to explain what cross-linking in a high-performance coating looks like. Imagine a big bowl of cooked noodles. Imagine that everywhere those noodles touch each other a chemical bond forms. These many cross-linking bonds are what make these coatings so strong, so durable, and more important, so chemical-resistant. With such a dense network of polymers, nothing can get through and nothing can react with them. That dense "mesh" network makes for a tough coating.

The other important factors we need to understand before getting to the actual process of application are the forces of cohesion and adhesion. Adhesion is the force of attraction between different substances, while cohesion is the force of attraction between the same substances. So, when you consider reapplication of any coating used in decorative concrete, it would stand to reason that we would want a material that has both excellent adhesion properties (sticking to the substrate) and cohesion properties (sticking to itself).

I find that most people think that if you apply a second coat of sealer on top of the

Photo courtesy of Chris Sullivan

Missing the recoat window with your second coat of high-performance sealer can lead to poor adhesion and premature sealer failure.

same kind of sealer, it should have great cohesive properties. Well, I hate to break it to you, but not all high-performance coatings exhibit these properties, and in fact some have really poor adhesion and cohesion, depending on where in their life cycle you catch them. Think about it. This is why we spend the extra money on high-performance coatings — nothing sticks to them once they are cured! If they had great adhesive properties, everything would stick to them, and they would look terrible in no time at all.

Hopefully you see where this is going. High-performance coatings have tighter requirements for application success compared to acrylic sealers, and you can't just roll or spray them down and expect them to stick to concrete or themselves.

Now that we have a better understanding of the chemistry behind these products, let's connect the dots and bring it all together in regard to application. We now

know that high-performance coatings boast high cross-linking density that makes them tough, durable and, for the most part, impermeable to most types of contamination. At the same time, and for the same reasons, they do not have great adhesion properties because of that dense network of cross-linked polymers. (Remember the bowl of noodles.)

This is why most high-performance coatings require a primer. A primer is nothing more than an adhesion promoter, acting as an intermediary to strengthen the bond between the substrate and the coating. A primer will have excellent adhesion properties with both the substrate and the coating. While not all high-performance coatings will require a primer, I highly recommend using one for all interior floors where high-performance coatings will be applied. Water-based epoxies are the most common type of primer and are readily available and cost-effective. The added cost is usually well worth the return in performance.

The second piece of the puzzle has to do with how cohesion impacts the reapplication (second coat) of high-performance coatings. When these coatings are first mixed and applied, we have to imagine all those noodles swimming around looking for a partner. During this stage the coating is very reactive and will form excellent cohesive bonds — to itself. This reactive time frame is called the "recoat window," and depending on the coating can range from a few minutes to 24 hours. Temperature, humidity, and other environmental factors also play a part in how long that recoat window will stay open.

It's critical to be within that recoat window when applying a second coat of a high-performance coating. You need that second coat to go down on the first coat when both are still reactive and strong cohesive bonds can form.

Keep in mind that as more time goes by, the first coat continues to cure, becomes stronger, and will have less ability to form cohesive bonds with the second coat. This is why I can't stress enough that applying the second coat within the recoat window should be mandatory.

If for some reason the recoat window is missed, standard industry practice has been to let the coating cure for 24 hours, then lightly sand and reapply. The problems with this method is that lightly sanding often is not enough to give the second coat something to grab onto. The result is a weak bond between first and second coats.

Instead, I have found good success with using a thin primer coat between coats when the recoat window is missed. The thin primer coat, in conjunction with a light sanding, greatly increases the chance for success. This procedure should be also considered if and when a second coat is being applied as a maintenance coat in the future.

Chris Sullivan is vice president of sales and marketing with ChemSystems Inc. He has led seminars and product demonstrations throughout North America. Contact him at trowelanderror@protradepub.com.

Chris Sullivan will teach "Solving the 10 Most Common Decorative Installation Problems" at the 2013 Concrete Decor Show. For more information, go to ConcreteDecorShow.com.

PRODUCT NEWS

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Tarbender from Smooth-On is a UV-resistant clear liquid epoxy that can be poured over a variety of surfaces to provide a strong, high-gloss coating. It is an excellent wood bar-top coating and can also be poured over plaster, concrete, foam and fabrics. You can use Tarbender to encapsulate 3-D objects or coat flat objects, paper and more.

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Ardex Americas introduces new grouts

Ardex Americas recently launched two new grouts: Ardex FL Rapid Set, Flexible, Sanded Grout and Ardex FG-C Mictrotec Unsanded Floor and Wall Grout.

Ardex FL Rapid Set, Flexible, Sanded Grout's advanced formulation makes it ideal for use in difficult environments such as swimming pools, bathrooms, kitchens and high-traffic commercial installations. It can be opened to traffic in just 90 minutes, and it is freeze/thaw stable, stain-resistant, water-repellent and naturally resistant to mold and mildew formation.

Ardex FG-C Microtec Unsanded Wall and Floor Grout is enhanced with Microtec Technology, high-performance microfibers that are blended with Ardex specialty polymer cements to improve performance and strength. Its creamy consistency can be worked easily into even the narrowest grout joints, providing an ultrasmooth finish. It is very strong, resisting cracks in up to 1/4-inch joints, and it can be open to traffic in only four hours. It is freeze/thaw stable, resistant to mold and mildew and antimicrobial.

Both Ardex FL and Ardex FG-C are available in 35 colors.

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SUCCESS WITH CONCRETE COUNTERTOPS

Why Penetrating Sealers Are Sometimes Your Best Choice

by Jeffrey Girard

One of the most common questions I get asked is, "What is the best sealer?" My answer to this is, "It depends." While this may seem like I'm dodging the question, it really gets to the heart of the issue. Selecting a finish solely based on how good it is said to be can often lead to undesirable results.

Most decorative concrete projects involve selecting a sealer, and with concrete countertops this has been and continues to be a challenge for many. I believe what makes the task difficult for some is that they're looking for an answer before they ask the right questions.

Finding the right sealer involves first figuring out what you want and what environment it will be used in. Not every sealer looks or performs the same, so the path to selecting the right finish begins with setting criteria by which each different sealer choice is evaluated. Common criteria include: look, feel, sheen, protection, abrasion resistance, color enhancement, durability, maintenance, cost, application difficulty and environmental effects.

There are two paths that can be taken when it comes to sealing concrete. The term "sealing" is used loosely in our industry and it's often meant to describe the process as well as the product used to protect concrete. Sealing in this sense includes both penetrating treatments and topical coatings. This article will delve into one of those two options, penetrating treatments, and how they work.

For those who want a "natural" concrete finish, one that looks and feels like bare concrete, the choices are limited to those products and methods that preserve or imitate bare concrete's character. Penetrating treatments do that.

Penetrating treatments include repellants and hardeners. Both are products that penetrate into the concrete and change it, either making it less porous or altering its surface tension characteristics.

Repellants, which include products that "seal" stone and tile, include silanes, siloxanes and other fluoropolymers. These products effectively change the surface tension characteristics of the concrete, causing liquids to bead up on the surface rather than wetting out the concrete and being drawn down into the capillary pores. Most repellants cause water and other aqueous liquids to bead — these are called hydrophobic. Others work on oils and are called oleophobic.

Silane is a very tiny molecule that penetrates deeply. It repels both water and oil. Siloxane, on the other hand, is a very large molecule that stays near the surface — it repels only water. Fluoropolymers also cause beading action by using different chemistry.

Repellants come in two varieties: the natural or invisible version, which does not change the appearance of the dry concrete surface, and the color-enhancing version, which wets out the surface to pop the color of the concrete.

Many repellants used as stone and tile sealers are persistent but not permanent, meaning they must be periodically reapplied. Either they wear off, are washed off or

migrate deeper into the concrete. The interval before reapplication varies and can range from three months to a year or more.

Hardeners, on the other hand, are permanent. These are silicate-based materials that react with and change the concrete. Their primary purpose is to plug the open pores and capillaries in the concrete. Common hardeners include sodium, potassium and lithium silicates, potassium siliconates, and newer colloidal silicates. Of these, lithium silicate offers the greatest reactivity and control over efflorescence and alkali-silica reaction. Hardeners are often referred to as "reactive sealers" in the concrete countertop industry.

All hardeners do basically the same thing. How they do it, and the degree and the speed at which it happens, varies depending upon the chemistry. Essentially hardeners react with the calcium hydroxide in the concrete to form more calcium silicate hydrate (CSH) crystals, the desirable products of cement hydration. The CSH helps plug open pores and makes the cement paste harder. This last point is what makes hardeners an integral part of concrete polishing. Aggregates in concrete are generally much harder than the surrounding cement paste, so densifying helps make the softer cement paste harder so it too can be polished to a shine.

Hardeners take time to react, and the degree of reaction and the resulting effectiveness depends not only on the chemistry of the hardener but also upon the concrete's age and makeup. If a hardener is applied to very young concrete or no time is given for the reaction to occur, then the hardener won't do very much to improve the concrete. On the other hand, densifying older concrete and giving it enough time to work can yield good results.

The benefits of penetrating treatments are as follows: Because these products soak into the concrete, application is very simple and requires little skill or practice. Since they don't sit on the concrete surface, the "natural" look is preserved. Also, resistance to abrasion, wear and scratches is high, provided the concrete is sound.

Penetrating treatments do have downsides, and those choosing them solely for how they preserve the look and feel of concrete have learned the hard way that just because they will make water bead up doesn't mean they protect against staining and etching. Because the surface of the concrete is still bare concrete, and any spilled liquid is still touching the concrete, the Achilles heel for all penetrating treatments is acid. Splash lemon juice, vinegar or another acidic liquid onto treated concrete and inevitably etching will occur. Repellants and hardener don't stop acid attack, and it's my experience this is one of the most overlooked downsides that cost many concrete countertop makers a lot of money, time and headaches.

Does this make penetrating sealers a poor choice overall? No, but in my opinion they are a poor choice for a kitchen countertop, where food stains, acids, oil and water are commonly left to dwell on the countertop surface. However, for other situations where such an aggressive environment doesn't exist, penetrating treatments may be a great choice.

Ultimately the sealer's characteristics, both positive and negative, must be weighed against the concrete, its environment, the rigors it will undergo and the aesthetic standards to which it will be held.

The other path to protection lies in topical coatings. Unlike penetrating treatments, topical sealers rely on the coating's properties to provide all of the protection. The concrete is never exposed to stains or acid attack because nothing actually touches the concrete. Topicals offer more choices and considerations than there are with penetrating treatments, and I believe it's because of this that so many people are confused, frustrated and bewildered. In my next article, I will clear up the confusion.

Jeffrey Girard is founder and president of The Concrete Countertop Institute and a pioneer of engineered concrete countertops. He can be reached at info@concretecountertopinstitute.com.

Jeffrey Girard will teach "Step-By-Step Instructions for Creating GFRC Countertops" at the 2013 Concrete Decor Show. For more information, go to ConcreteDecorShow.com.

PRODUCT NEWS

Floor-to-counter supports

Federal Brace has released Kitchen Metal Leg Supports. These new supports extend from floor to counter height.

The supports come in two different styles, the Anteris and the Stela. These two leg supports are styled to represent the strength and beauty of ancient Greek architecture.

The Anteris is a double post with a crossbar in between, creating double support. The Stela is more for decorative use and is available made from stainless and raw steel. It is also available coated in flat black-powder paint. Both models come in two heights.

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Lighted support brackets for tops

Federal Brace has introduced Lighted Support Brackets. This new line is comprised of three new styles: Lumiere lighted bracket supports, Luminati lighted-glass insert brackets, and Lux lighted countertop brackets.

Federal Brace has married under-cabinet lighting with decorative support brackets to provide the support market with a new option. LED lighting is used to focus the light downward in a previously ignored area, providing ambient lighting for a variety of settings. The use of light, stainless steel, and glass in the Luminati style adds interest and decorative appeal.

The three styles provide a variety of options, such as a low profile for maximum knee room and a decorative profile with lighted support. All three styles offer maximum strength capacity for the weighty countertops being used today.

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PRODUCT SHOWCASE

New countertop forms from Z-Counterform makers

Concrete Countertop Solutions, maker of the Z-Counterform edge form, has developed four new countertop forms.

The Sink Form is an 8-foot self-adhering flexible sink form that will conform to most under-mount sinks.

The Quarter Bullnose form comes as a package set and includes 64 linear feet of the form and 48 linear feet of a back-wall piece.

The Pre-Cast Package contains a dozen 8-foot reusable precast-form pieces, approximately 4 millimeters thick by 2 inches by 1 1/2 inches. These forms can be used to create a 1 1/2-inch or 2-inch mold to cast your countertop off-site.

Finally, the Commercial Bar Square Edge package is designed for heavy-duty commercial bar tops and islands. This form helps create the appearance of a top 3 1/2 inches thick. The package includes 64 linear feet of the edge form.

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PROJECT PROFILE

A Faux Stone Circle for a Wedding Ceremony

Cape Horn Landing Ceremony Circle, Skamania, Wash.

by Natasha Chilingerian

Seeing a finished construction project put to good use is something any contractor welcomes. That's exactly what Mike Brown, owner of MikeCo Concrete in Camas, Wash., experienced when he completed the design and construction of a poured-in-place concrete ceremony circle just in time for an August 2012 wedding, then watched his work serve as the backdrop for the much-anticipated event.

Inspiration for the project came from the top of Cape Horn, a large basalt cliff formation located along the Columbia River Gorge in Washington State, where a circular stone wall and bench structure serves as a viewpoint and rest area for hikers. Brown's clients Darren Gillette and Shawn Croteau, whose home is located at the base of Cape Horn, wanted a concrete replica of that stone structure built on their property along a cliff's edge. They wanted to use the site for their upcoming nuptials.

The two-level ceremony circle Brown built for them consists of a circular wall, a short set of stairs that connects the two levels, a half moon-shaped seating structure inside the circular wall and a lone bench next to the seating structure. Two retaining walls separate the structure from the cliff edge.

Photos by Mike Brown

Gillette, a doctor and welder Brown met through friends in Washington, played an integral role in the project's planning and even took part in its construction. Gillette formed four letters — N, S, E and W — out of stainless steel sheets for Brown to place at the corresponding compass points on the top ledge of the circular wall. The stainless steel characters are now somewhat of a trend on Gillette's property. In a concrete staircase near his house, letters he crafted in the same font and from the same material spell out "Cape Horn Landing."

Another personal touch Brown and his clients wanted were light features, but they knew generic-looking lights wouldn't be sufficient. They agreed on creating rectangular-shaped insets in the concrete along the bases of the circular wall and bench structure. Light boxes were installed into the insets. The lights themselves are hidden, but the beams that exit the insets shine bright.

"We wanted to add lights, but we didn't

Project at a Glance

Decorative Concrete Contractor/Designer: Mike Brown, MikeCo Concrete, Camas, Wash.

Client: Homeowners Darren Gillette and Shawn Croteau

Project Specs: A poured-in-place, colored, stamped concrete ceremony circle 24 feet in diameter, plus two retaining walls

Timeline: Three and a half weeks

Key Materials Used: 3,500-psi concrete from CalPortland Concrete, Portland, Ore., Chameleon Mix-Ready dye system in Pewter from Davis Colors, Rock Texture Mats from Brickform

want to do surface lights because you see those a lot," Brown says. "So we decided to do inset lights that no one can see."

A third unique addition to the project is a nod to Gillette's workplace. On the two retaining walls, Brown added 2-inch-deep insets using rigid foam to create rows of 3- and 5-inch-wide vertical slots that match the insets found on a wall at the hospital where Gillette works.

The installation

Given less than a month to complete the project in time for the wedding, Brown and one crew member began construction in July 2012. The first phase of the project entailed building the two 8-inch-thick lower retaining walls, which stabilized the site for the circle itself. Then, working off a point in the center of the circle, he laid out the entire design, ensuring the edge of the circle lined up with the edge of the footing on which the circle would stand.

Next, Brown built the circular wall's form using two layers of 3/8-inch-thick plywood, a task that came with some difficulty. To bend the plywood into curves, stacks of them had to be soaked in water, placed in a bending jig, forced down with a track-hoe bucket and held in place overnight. This was no easy feat, as the hot summer sun dried the plywood quickly, Brown says. "The smaller the circle got, the more difficult it was to bend the plywood. We had to keep soaking it with water to get it to bend. One day it was just too hot to work altogether."

Brown poured the 10-inch-thick circular wall using a 3,500-psi concrete mix colored with Davis Colors' Chameleon Mix-Ready dye system in Pewter, then moved on to constructing and pouring the half-moon seating structure, again using 3/8-inch-thick plywood pieces for the frame. Brown applied the stainless-steel compass point emblems by simply placing them onto the wet concrete.

He used Brickform's Stone Texture Mats on all the flat, horizontal concrete surfaces. For the tops of the retaining and circular walls, he made a custom stamping tool by cutting out a rectangular piece of a Stone Texture Mat and screwing it onto a hand trowel.

The clients were after a plain concrete look, so they chose not to apply any kind of topcoat or sealant to the ceremony circle, Brown says. "They wanted a natural, raw look, so we gave it as little color as possible."

To finish the job, Brown covered the ground surfaces inside the ceremony circle with gravel and added two large rocks to frame the circle's entrance. He didn't look far to find them. "We went to the top of the hill on the property, found a rock slide and rolled a few boulders down the hill," he says. "So those rocks actually came from a quarry on the property."

He says his clients are ecstatically happy, and he proudly admired

To bend plywood into curves for the form, stack of the material were soaked in water, forced down with a track-hoe bucket and held in place overnight.

The circular wall was poured 10 inches thick, using 3,500-psi concrete mix colored with Davis Colors' Chameleon Mix-Ready dye system in Pewter.

his finished product at their wedding, which drew about 200 guests. In the near future, the couple plans to add fire pits to the ceremony circle, which they'll use frequently for entertaining, Brown says.

"When I get the opportunity to design something myself, I get a lot more satisfaction than I do when I'm following someone else's plan," he says. "Darren was very hands-on during the project and got to put his stamp on it. But the most satisfying part was being able to stand there and watch the couple get married in something that I created."

mikecoconcrete.com

PRODUCT NEWS

Heating blankets help in cold weather

Powerblanket's Extra-Hot (EH) heating blankets provide added levels of heat for rapid thawing capability as well as equipment protection. Featuring GreenHeat Technology, the EH blankets create a barrier of insulated heat for effective temperature control and freeze prevention.

GreenHeat Technology is designed to provide efficient and uniform distribution of heat while consuming low levels of energy, thus saving money by not subjecting projects to costly cold weather delays. Lightweight and portable, each blanket is powered by 120-volt electricity — with custom options available — and built with a durable outer shell that is winter-proof and water resistant.

The EH blankets are ideally suited to accelerate the thawing of frozen ground (up

to 24 inches deep) for concrete preparation, footings, excavation and other cold-weather applications. In extreme weather environments, the blankets have proven effective for curing concrete within strict boundary parameters. Service trucks, fuel tanks and heavy equipment can be preheated with the blankets.

Powerblanket EH blankets are offered in standard sizes as small as 2-by-2 and as large as 6-by-12 or 3-by-25, and custom sizes are also available. Standard models are rated to minus 10 F, while Roughneck Gray versions are rated to perform in temperatures as low as minus 40 F.

(877) 398-7407

www.powerblanket.com

Proceq introduces new Resipod model

Proceq has enhanced the versatility of their Resipod with the introduction of the new Resipod Bulk Resistivity Model. In this method, the resistance of a concrete cylinder is evaluated by using plate electrodes on each end of the sample. The Resipod Bulk Resistivity Model provides all of the standard Resipod functionality.

www.proceq.com

Multiquip expands power trowel line

Multiquip has expanded its Whiteman power trowel line. The company will now offer 36-inch J-Series and 46-inch B-Series MQ Whiteman walk-behind trowels powered by Subaru engines.

MQ Whiteman walk-behind trowels are designed to minimize maintenance costs and increase return on investment. The trowels are equipped with replaceable bronze trowel arms and thrust collar bushings, as well as replaceable wear plates. Models are available with either QuickPitch or Standard handle options.

The Subaru EX-Series engine features a chain-driven OHC design for reliable performance. Contractors will appreciate the built-in automatic decompression, which reduces engine pulling force by 30 to 40 percent and ensures starting on the first pull.

www.multiquip.com

Updated batch controller from Badger Meter

Badger Meter recently replaced its Batch Controller Model CB-20 with Model CB-30, which includes new features that boost accuracy and durability. The CB-30 batch controller is ideal for use in concrete plants to batch water into the concrete mix.

The CB-30's four-digit display, an improvement from the previous three-digit display, now offers measurements in liters and gallons. In addition, its front panel scaling allows for fast recalibration of the meter and/or counting in any unit of measure.

In addition to an updated display panel and more durable keypad, the CB-30 features terms that inform the operator of the batch condition.

www.badgermeter.com

A Detailed Guide to the Features of Diamond Tooling

by Jennifer A. Faller

The time has come to start asking detailed and educated questions when buying diamond tooling. While some features can be seen when looking at the segment, some things are not so obvious. However, purchasing diamond tooling can be simple when you become educated.

There are as many variables in manufacturing diamond tooling as there are diamond manufacturers. So which specific variables should you concern yourself with and why?

With this information and your experience, we can take a bit of the mystery out of buying diamonds.

Cometing

Cometing refers to the comet trails that are visible on the face of the diamond bond. You can glean from a visual inspection that the diamond bond has been opened at the factory.

The amount of cometing shows how rich or full the diamond bond is with diamonds. Manufacturers can lower the cost of a diamond bond segment by reducing the amount of diamonds. Less diamond grit means less cometing.

Photo by Ron Yagur

Cometing refers to the comet trails visible on a diamond bond, as seen here. It shows how rich the bond is with diamonds.

Cometing also signifies that the diamond bond has not glazed over, or closed, to a point where no grinding will be realized. Glazing occurs when diamonds get too hot and rub across the concrete instead of cutting or scratching. If you suspect your diamonds may not be cutting, stop and take a look at the surface of the diamonds. If you see very little cometing, chances are you are glazing. Change bonds, reverse the direction, or take them off and open them up by abrading the surface with sandpaper or a rough piece of unrefined concrete until the dark burn has been removed. Once the job is complete, clean that set of diamonds and evaluate. It just might be that there were not very many diamonds in that matrix to start with.

Diamond mesh size

Premium diamond manufacturers go to great lengths to filter their mesh or diamond grit size so only the desired grit is used. Filtering several times to ensure strict guidelines is time-consuming, but proper mesh or filtration ensures that a larger-grit diamond, better known as a "hangar diamond," will not contaminate the bond matrix that could potentially produce a deep random scratch.

Concentration

With consistent grit throughout the bond matrix, as the diamond bond matrix wears, an even concentration of diamonds is exposed. This manufacturing process requires mixing or tumbling the diamonds with the bond matrix. Many manufacturers cut this process short to "save you money."

Diamond ratio

Diamond ratio determines how effectively a diamond bond matrix will last and cut. For example, 30/40 grit will have a certain ratio of 30-grit to 40-grit diamonds. Mixing the grits keeps the diamond bond matrix open, allowing for a continuous and effective cut.

Quality diamonds

Diamonds used in metal-bond matrixes are either geologically mined or synthetically manufactured. The advantage of synthetic-made diamonds is their obvious lower cost. But more importantly, synthetic diamonds are manufactured to have a multitude of angles, giving the diamond a constant sharp edge, which helps to provide for a continuous cut into the substrate.

Historically, geologically mined diamonds were all we had. These diamond bits were remnants from cuts of retail diamonds. Taking additional time to cut angles into

these diamonds would be cost-prohibitive. Hence, the solution of synthetic diamonds.

Bond matrix

Bond matrix is what determines if the floor will eat your diamonds or just be cut. So pay attention here. Developing just one bond matrix to handle every level of hardness is impossible. To process the floor efficiently, a soft bond should be used on hard concrete and a hard bond on soft concrete. When polishing is done right, maximum refinement will be achieved with the fewest rotations over the surface.

Each diamond tooling manufacturer designs and engineers their matrix using unique blends of elements: metal, resin, ceramics, etc. Wear and cut are dependent upon these recipes. The "very soft" bond is distinct from a "soft" bond matrix, and so on for each bond level.

The soft bond matrix will provide just enough wear to continuously expose new diamond points and angles, allowing continuous cutting. This becomes important when grinding very hard concrete, as high-quality premium diamonds that are solid and angular will be sharper and cut better. On the other hand, with soft concrete, a lower-grade diamond is preferred because it will continuously fracture and expose new sharp edges that will continue to cut the concrete. The manufacturer's blend is correct when the tool life is sufficiently longer and it is still cutting and not glazing. Remember, comets are good!

Sintering

Sintering is creating objects from powders, and whether to do hot or cold sintering is an engineering decision. When done correctly, it creates a diamond bond that is solid and will not fracture nor fall apart.

I used to try to break a resin puck if I saw air holes, because that meant it might not have been sintered correctly. Heat and pressure during hot sintering is an exact science. Cold sintering uses pressure without heat and has its advantages and disadvantages like any other process.

I am sure you are getting the point by now that much goes into manufacturing a highly effective, long-lasting diamond segment. Knowing what to look for and what to ask makes you an informed consumer.

I would like to thank Ron Yagur of Dynamic Diamond Tooling for his technical help in writing this article.

Jennifer A. Faller is vice president of operations for The Professionals, a polished concrete contracting company located in Greensboro, N.C. Contact her at jfaller@pcpa.biz.

Jennifer Faller will teach "The Science Behind Polishing" at the 2013 Concrete Decor Show. For more information, go to ConcreteDecorShow.com.

PRODUCT NEWS

Shot-blasting unit with dust collector

The newly designed BP-10/BP-5-54 combination from BlastPro Manufacturing Inc. is designed for surface preparation on medium to large jobs including industrial plant and warehouse floors, parking garages, and bridge or ship decks. The pair operates on 460-volt, three-phase power.

(877) 495-6464

www.blastpromfg.com

Edge polisher from Applied Diamond

Applied Diamond Tools is now offering the Klindex Minielle Edge Polisher.

This polisher is the ideal solution for grinding and polishing stairs, small bathrooms, edges, corners and narrow spaces. The multidirectional wheels are adjustable in height, so they will easily adjust to any stair height.

(800) 980-7808

www.toolocity.com

ZipWall dust-tight seal tool

ZipWall has introduced its new ZipRail Dual Seal accessory, which lets you create a dust-tight seal along the floor and ceiling without tape. Based on ZipWall's spring-loaded telescopic pole and Foam Rail crossbar, it resembles an I-beam when assembled.

Setup of the ZipWall accessory requires only seconds. The tool is placed on the plastic on the floor and then raised and twist-locked into position. The pole's internal spring loading pushes the crossbars against the plastic at the floor and the ceiling at the same time.

The ZipRail accessory is used with the ZipWall barrier system for the highest level of dust containment.

Each ZipRail Dual Seal includes a 10-foot telescopic spring-loaded pole and two 4-foot Foam Rail crossbars. The product is available in single and triple packs.

(800) 718-2255

www.zipwall.com

WerkMaster's new propane burnisher

The new WerkMaster Stealth propane burnisher with the ClearSky Accu-Sense Emissions Monitoring System offers technology that automatically shuts off the propane engine before emissions reach dangerous levels.

The Stealth will shut down if the machine's air intake is restricted by a dirty filter, if the air-to-fuel ratio is improperly set, if the machine is running unattended, or if the operator attempts to run cold.

The Stealth series also features a built-in DustMizer, a centrifugal dust-collection system that traps minute particles of debris generated during high-speed burnishing operations, maintaining dust control in sensitive environments.

ClearSky buffers and burnishers are available in 21-inch and 28-inch models.

(866) 373-9375

www.werkmaster.com

MK Diamond announces mobile website

MK Diamond has launched a mobile website with access to MK Diamond's entire catalog, including product specifications, manuals and online buying links, all in a mobile-device-friendly format. MK Diamond is also implementing a smartphone-compatible QR code on all saws in the product line.

m.mkdiamond.com

Tips for Polishing Preexisting Floors Profitably

by David Padgett

If I were still a contractor I would take "preexisting" projects over new projects every day of the week and twice on Sunday.

We have seen more new unfinished surfaces totaled beyond the budget's ability to recover than we have seen hopeless pre-used slabs. I have witnessed schools and other complexes that spec polished concrete fail to understand the need to manage the slab up to the point that the polisher begins work. They find that there is more repair needed on the new slab than they can possibly absorb in the project budget.

Many times, these challenges get put on the polishing contractor with threats or promises from the GC. The polisher then has to weigh a huge risk factor — that he or she was not considering when the original bid was submitted — to keep the job to which they have dedicated the near future of their business.

Older slabs, in contrast, are normally better understood by the design team even when damages are present. The customer is also more willing to pay a fair price for the project due to the condition of the slab.

With that in mind, let's look into what makes for profitable preexisting projects. You may pick up on the theme that communication is the key to ensuring profitable and happy outcomes on preexisting floors. If this simple process is followed, I believe that you will find as I have in my 15 years of polishing experience that preexisting floors can be the best business your company can do.

Pre-bid evaluation

This function is paramount to setting up the preexisting project for success, as everything else will derive from the discovery process completed and communicated during this function.

Take the time to evaluate the entire surface, never assuming that an evaluation of 50 percent of the surface will be representative of the other 50 percent.

Make sure you are in the right frame of mind to be looking for the details. If you need to have conversations with the building management prior to or after the evaluation to have your full mind involved in the discovery process, politely excuse yourself from the customer to complete this function. I have seen people travel hundreds of miles to meet a customer and evaluate a preexisting floor surface, only to come back with glowing reports about a great meeting with the customer, but no idea of the scope or what repairs were necessary and no pictures or site maps or filled-out evaluation forms. They spent all their time talking to the customer about opportunities and no time doing the discovery. This is a recipe for disaster.

Make sure you can see the floor. If it is too dark for you to read something lying on the floor, it is too dark for you to be certain that you are seeing everything you need to be seeing. Get light.

Get good project software that has the capability built in for doing these types of evaluations, including detailed floor-plan templates that can be easily populated with dimensions and locations of specific concrete repairs, embedded drains, slab variations, joint pattern layouts and dimensions of joints. If you are a smaller operation or are just starting out, make your own evaluation form or send your sales reps to training institutes that provide boilerplate forms. Either way, a floor drawing should be included in each evaluation packet, at least with manual drawings on engineering paper.

Count the holes and damaged spots. If there are too many for you to count, imagine how much work it is going to take for your team to correct them. If it is a huge area and you determine that a uniform solution such as grout-coating the area is the fix, make sure to get the dimensions of the areas to be grout-coated and the approximate depth and width of the surface spalls and holes to be filled with the grout material.

Take the time after your evaluation to show the customer the areas of concern. Don't be afraid to scare off the sale. If the introduction of the areas of concern to the customer — areas that are still going to show some signs of repair after completion or areas that are going to cost more than the base bid — scares the customer away, you will save a lot of time and money getting that out of the way at this stage in the game instead of waiting until you are already vested in the project to have that conversation.

The demo and setting expectations

Setting expectations is an equally important function in the preexisting-slab evaluation process. It is natural for sales reps to try to avoid this seemingly confrontational step due to the optimistic and relaxed environment of the relationship with the prospective customer up to that point. It is much easier to leave the customer on a high note, having avoided any negative conversations, and then pass the buck to the project manager who shows up on-site and tries to clean up the mess by attempting to

set the customers' expectations after the fact of the signed contract. I recommend that you replace any sales reps that you find creating this kind of problem, as the damage to the reputation of your company can be irreparable.

Look the customer in the eyes and explain the limitations of your product. It can help to have multiple offerings available from your company or to give comparisons to other options on the market so the customer doesn't feel like he or she needs to shop around.

Sell a demo first. If you have a serious customer who has money allotted to make improvements to their slab, it should not be a difficult thing to sell a paid demo to them. Yes, I said a paid demo. If you give the demo away, you have set an unrealistic expectation that can begin an unhealthy relationship right from the start. If you would like to credit some of the cost back to the customer for the demo once the contract is signed for the entire project, that is fine, as the cost of the demo can be recovered in the price of the job.

Pick a place for the demo that is representative of the poorer areas of the slab. If you put a great-looking demo in the best area of the slab, the expectations of the customer will be that the entire slab will be equal to that demo. This can also be held against you in court if there is a claim that your company intended to purposely mislead the customer into believing that your services could make the entire floor look like that spot.

Show the customers the imperfections in the demo. This will also show you the customers' expectations better than anything else would.

Leave the demo untouched until the end of the entire project.

The quote and the job

Clearly define the intended scope of work in both your quote, your pre-construction meeting agenda and in your contract proposal.

Being clear with the customer about what you are bidding on is essential, as it documents the level of understanding at a point in time. This can be very important later in the project if unexpected circumstances arise. If you are uncertain about the condition of the slab under a material that you are contracted to remove as part of the process, make that clear in the bid and the contract, and include contingency prices for additional steps or time and materials rates that include your hourly rate in the event that unforeseen challenges arise.

Bring the customer in early on any unforeseen challenges you encounter, and try to let them see for themselves what you are capable of doing to improve or rectify the challenges, as well as how much labor and materials it is requiring from your company to do so. A customer that is left in the dark and then hit with a change order is not as understanding as a customer that meets you on-site to examine a challenge and works through it with you in a small area with your crew.

Get progressive signoffs from the customer as you turn sections of the slab over to be put into use or to other trades. This will help eliminate any disputes that may arise over damages that may occur after your floor system has been installed but before the entire building is complete.

Get the customer to meet you the day you plan to finish the project to walk the entire slab and sign off for acceptance. This is the time to push the customer a little, as this is essential to getting payment in a timely manner and freeing your company from responsibility for future damage to the polished surface.

After you're done

Give your customer an ongoing maintenance plan. If you want the customer to stay happy and bring you more business in the future, don't just walk away and hope for the best.

Leave the customer with a care package. This will include an instruction sheet with material order forms attached for the manufacturer that you are recommending for floor-cleaning materials and support.

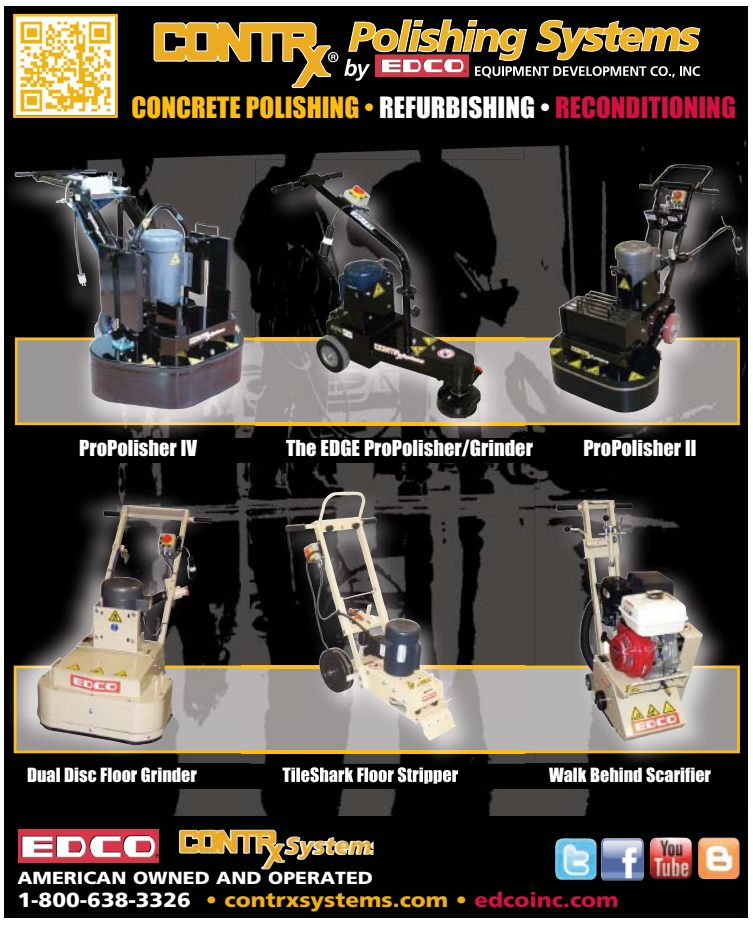
Leave the customer a starter kit. This can include a sample kit of soap, degreaser, sweeping compound, and a new set of brushes for their scrubber to replace the stiff, ragged ones they have been using up to that point.

Replace any stiff-bristle brushes or coarse pads before you leave with the proper maintenance pads for the polished surface.

Follow up with your customer periodically to support them in their maintenance process and insure that their floor is staying healthy.

David Padgett is president of Concrete Polishing Solutions, a manufacturer of equipment for grinding and polishing concrete. He can be reached at david.padgett@go2cps.com.

David Padgett will teach "The Keys for Preparing Your Company for Success" at the 2013 Concrete Decor Show. For more information, go to ConcreteDecorShow.com.



How to Keep Punch Lists from Pulverizing Your Profits

by David Stephenson

A "punch list" is the final review of a project. It is usually completed by the project architect and is most often completed after the project has reached a milestone called "substantial completion."

For a decorative concrete contractor, the punch list is probably the single largest money-losing piece of a project. In general, punch-list work is time-consuming and difficult to master. The needed repairs are usually small areas that have to be reworked and then blended to match the larger body of the project. On projects with color this can be extremely difficult.

I was once involved with a polished concrete project in a school where vandals came in after we had finished and, using an acid gel, added their particular version of graffiti to the polished concrete floors. Sections of the floor had to be reground to remove the etched writing. When these small sections (that totaled about 10 percent of the floor area) were recolored, they were slightly darker and had a little bit more clarity than the rest of the floor. As contractors we know that any time we regrind a floor, the clarity goes up.

The rest of the floor looked great and had already been approved by the architect and the customer, in this case the school district. But after the customer looked at the touched-up areas, the question they had was, "Why doesn't the rest of the floor look as good as the repaired areas?"

In the end we had to regrind and color about 75 percent of the school in order to make the owner happy.

Now this is an extreme case, but it demonstrates the major problem with punch-list touch-ups.

As a consultant for retailers, I perform punch lists almost every week. The single largest recommendation that I can make to you contractors out there is to review your projects before you apply stain protection or sealer. Deal with any potential punch-list items at that time. After stain protection or sealer has been applied, it is extremely difficult to color or touch up floors.

Every contractor's goal should be

to attempt, on every job, to address all potential punch-list items before the owner or architect has an opportunity to walk the project. I suggest that this is a good way to encourage your crew leadership to raise the overall quality of your work.

Also, when it comes to punch-list projects, the review at the beginning of the project is just as important as the completion at the end. As the decorative concrete contractor, the responsibility for the look of the floor at its completion ultimately falls on you. The only problem with this is that you are working on a surface where someone else controls the quality. Routinely, contractors are held accountable for issues such as rough or sandy finishes, hand-troweled edges that slope or have chatter marks, poor work at column block-outs, significant elevation changes that result in areas where the grind looks different, scars from the power trowel, footprints, cracks, chips, pitting, delaminated surfaces, and on and on. These issues were not caused by the decorative concrete work, but as the finish contractor, you are expected to make them disappear. This is not an easy task. Most of the time repairing these types of issues is actually impossible. So how do you deal with them?

My suggestion is to walk the floor before the project is started. Actually take the time — or have your foremen or crew leaders take the time — to review the concrete before any work is started. Identify all of the potential issues that you can find. I know that some issues may not be exposed until you start work, but most are visible and relatively easy to find. Then get your customer or general contractor, walk the floor again and point out every one of these problems to them. Email the list of problems or deficiencies to the contractor or customer as soon as possible after the walk-through.

A lot of the issues that you find will go away with your regular scope of work, but if they do not, you will now have the grounds to get paid (via change orders) for the repairs instead of having the customer hold your feet to the fire and force you to repair someone else's work.

To sum up, first, walk the project on the front end, recording any and all potential issues, and review them with your customer or general contractor before you start any work. Second, walk the project in its entirety before you apply stain protection or sealer and repair anything that you think might hit a punch-list review. If you will do these two things I believe that you will see your profitability go up and your project headaches go down.

David Stephenson is the owner of Polished Concrete Consultants, located in Dallas, Texas. As a consultant, he specializes in decorative concrete programs for retailers and troubleshooting for a wide range of clients in the United States and internationally. Contact him at david@polishedconsultants.com.

How We Installed Overlay Over a Wood Deck

by Todd Fisher

A couple of homeowners in West Milford, N.J., were looking to enhance the curb appeal of their house by enhancing the front entryway. They initially contacted us about the possibility of resurfacing concrete steps leading to the front door and pouring a new sidewalk from the driveway to the steps.

During the conversation, they mentioned their desire to have a covered front porch, but were worried about the possible costs associated with such a dramatic change.

We saw an opportunity. We could use our custom overlay product to create the illusion of a masonry front porch, which would get faced with cultured stone on all of the vertical areas. Our idea was to go in the direction of deck construction rather than block construction, then put one of our cast-in-place overlay systems over the wood deck.

Choosing a deck over block eliminated the need for large-scale excavation to pour footings. This was a major cost savings, since we are in a freeze-thaw environment and excavation would have to go down nearly 4 feet. Our way, all the deck contractor would need is a post-hole digger to remove enough earth to pour what would be considered typical deck footings.

This also eliminated the need to get another mason on-site to run up block and then fill in behind the block wall. Since we are able to do our cast-in-place stone over wooden structures, we were able to use the same product on the elevated area, the steps, and the sidewalk leading to the driveway. This creates a continuous look over all horizontal areas, which typically can only be offered over masonry substrates. With our deck construction process, we were able to save the homeowners thousands of dollars.

Photos courtesy of Unique Concrete

This West Milford, N.J., home has more curb appeal thanks to a cast-in-place overlay system over a wood deck.

The process

The project began with a deck contractor removing the existing concrete steps, landing and bluestone sidewalk. He then determined the footprint of the new deck as well as the amount and placement of the footings that would be required to support it. The footings were dug, poured and inspected.

Once the footings were poured and the deck construction started, we came in to install a vapor barrier and pour a slab underneath where the deck and steps would go. When this was completed, he was then able to finish the construction of the deck, stairs, and the roof over the deck. This deck was built with 2-by-10s 12 inches on center, then wrapped with 3⁄4-inch pressure-treated plywood.

All wood substrates were then wrapped with tar paper in order to avoid direct contact with the wood and concrete, and galvanized wire lath was nailed into place on both the vertical and horizontal areas.

The next step was to pour our structural layer, which is heavily reinforced with PVA fibers and polypropylene fibers. This mix also utilizes several admixtures that increase the hydration of the cement and minimize the amount of water needed to make this high-fiber mix workable. After this mix is placed, it is scarified to ensure an excellent bond with our concrete overlay. This mix is applied to the deck and the steps

Benefits of Installing an Overlay Over Wood

- It offers custom handmade concrete in an elevated setting. It's a more expensive and impressive look than the plastic look and feel of many of the composites on the market.
- It's heat-resistant (much more than any composite and to a degree that rivals stone), which is great for areas that may have fire pits or grills. The concrete is rot-proof and insect-proof.
- This process provides a waterproof area underneath the deck which can then be used during inclement weather (if the deck is on the second story) or just for storage. And there is no need for expensive gutter systems that are prone to clogging.
- It offers the potential for a continuous look across all horizontal surfaces — which could include the deck, steps, patio, sidewalk and pool surround, and even the driveway.
- We can control the water flow. When installing surface drainage, we can direct the water to drain to gutters, scuppers, or just over the edge.
- Even though we are in a pretty severe freeze-thaw environment, we guarantee that the decorative layer will not delaminate from the structural layer. We have seen people try to place tile or stone outside in a method similar to how it would be installed on the second floor of a home inside. When those surfaces are done this way outside, it is only a matter of time before water gets in and freezes, causing delamination.
- It holds up much better in severe weather environments, such as freeze-thaw environments and near oceans, than exotic woods and other decking alternatives do.
- This product has been designed to not need resealing. While sealers offer better stain resistance and a sheen, they are not necessary.
- Overlays never have problems with fasteners or nails popping. Also, no splinters.
- We offer a wide selection of patterns and colors — many more design options compared to composite deck materials.
- Construction costs can be much more affordable compared to building a traditional masonry or steel structure of a comparable size.

Drawbacks to Installing an Overlay Over Wood

- It is very difficult to introduce a new idea to the marketplace — especially when the idea is placing concrete on a wood deck.
- Our process requires special chemicals to be added to create a high-performance mix that will create a very water-resistant concrete. These chemicals can be expensive.
- Our mix need high dosages of fiber to work properly. It's the fibers that allow us to work at a much thinner thickness, which means less weight on the deck.
- Decks need to be designed to handle the weight of the concrete. Even though we are going relatively thin, they still need to be designed for the excess weight involved.
- This work requires a highly specialized crew.
- Getting material to the elevated surface is a task, and it needs to be done in a very efficient way since the concrete offers limited working time.

PRODUCT NEWS

Miracote's new restoration topping

Miracote RT (RenewTop) is a new single-component, polymer-modified, spray-applied cementitious coating designed for application over existing conventional and decorative concrete, cementitious overlays, microtoppings, and many other suitable substrates.

Engineered for use with specialized texture-spraying equipment and spray guns, Miracote RT provides an ultrathin skin to renew, restore, and beautify the finish of aged, worn or discolored concrete surfaces while preserving the original texture of the substrate.

Miracote RT is available in a standard white powder that can be stained or integrally colored.

www.miracote.com

at a thickness of 1 inch as long as there is pitch built into the deck. (If it is not, we must establish pitch in some way.) With the chemicals added to this mix, it is extremely moisture-resistant, which is a necessity when pouring over a wooden substrate.

Once the structural layer is set, we were able to begin our formwork for the cantilevered edges on the deck and the steps. We could then begin pouring our decorative layer, which becomes the cast-in-place concrete "tiles." This mix is very similar to the structural layer except for the fiber dosage and the integral color. The length and amount of fibers is reduced to allow for clean cuts from our stamping tools. We are able to use any one of our 25 different patterns as well as any integral color to achieve the final tile color and shape. Each one of the impressions made in the wet concrete is then grouted to ensure the realistic look of a custom handmade concrete tile. When the grouting process is completed, the entire surface is densified with a lithium siliconate, then sealed.

Thanks to the advanced mix and the densifying, moisture transmission is dramatically reduced.

All of the vertical areas of the deck, as well as portions of the house and garage, were then covered using cultured stone. By enclosing the area underneath the deck and covering it in stone, we were able to create the illusion of a masonry porch.

Todd Fisher works on installs, research and development and online marketing for Unique Concrete, based in West Milford, N.J. His father, Barry, established Unique in 1980, and his brothers Travis and Timothy Fisher also play key roles in operating the family business. Todd can be reached at todd@uniqueconcretenj.com.

Color Issues with Liquid and Powder Release Agents

by Bart Sacco

In pattern-stamped concrete work there is no alternative to using a release agent. Without one, your texture mats or texture skins will stick to the surface of the wet concrete.

The choice you have is between a liquid release agent and a dry-powder antique release. Both products are similar in function — however, the application technique is completely different for each. This results in a different final look as well.

Dry-powder antiquing release agents

The dry-powder release agent is part of the original process of pattern stamping that was done for decades. It results in more realistic-looking stone creations.

Dry-powder release provides secondary color for the project with the help of pressure. This pressure comes from the action of embedding the texture mats or skins into the surface of the semihardened concrete with the tamper.

There are a few factors you will need to be aware of while using a dry-powder antique release agent. First, it is very flighty in nature and can create one a heck of a mess.

Also, this material exhibits hydrophobic properties. Repelling water is one of the main functions of this product. It is primarily designed to provide a membrane between the surface of the wet concrete and the texture mat.

You will need to be aware of how the dry powder works with your base color. When this color is a darker shade than the base, you get the antiquing effect.

Also, be aware of what stage of set the concrete is at. When it's wetter, the powder will cling to every contact area of the texture mats. But when concrete is starting to set, you have to pound in the texture, and the release agent will be ground into the lower areas of the pattern, such as the joints, but not be as dominant at the high points of the pattern or texture. This can be a challenge for the inexperienced installer.

Bart Sacco applies a dry-powder antique release agent prior to stamping.

Photos courtesy of Concrete Kingdom Training Center

So after you remove the dry-powder release agent, you will need to balance the differences in color at the points where you started and finished stamping, or at places where a summer pour was in the shade.

You should normally allow the surface to build strength for several days prior to release-agent removal, so the surface is not damaged by release agents that are removed too soon.

Damage can occur if you allow an inexperienced worker on your crew to pressure-wash the release agent off the morning after you poured. Proper dry-

powder release removal is actually a major part of the final product your company will turn out. I would not recommend allowing just anyone on your crew to perform this function. The action of removing the excess release agent also leaves behind the secondary color and final look of the project.

The proper technique is to provide some agitation by mechanical means coupled with using the pressure washer. You could create score marks or a striping effect from the pressure washer alone, and usually these score marks are very hard to cover up, if not impossible.

A good way to think about the benefits of agitation is to consider the brush at the car wash. All the water pressure in the world will not clean the surface like the agitation provided by the brush. And your surface of the concrete is very porous and rough in comparison to your vehicle — there is no way the surface of your concrete will be clean without agitation to dislodge the debris.

Properly removing the excess release agent will help you reduce sealer failure. If release-agent residue is still on the surface and you seal over it, you're setting yourself up for problems and call-backs down the road. The word "release agent" should tip you off — it makes the mats not stick to the surface, and the same will happen to your sealer if excessive amounts of it are left behind.

Liquid release agent

The liquid release agent is a nice option where you cannot afford to make a mess or you are in a situation where the mess of pressure-washing off the dry-powder release is unacceptable. This is a common scenario at the entrance to a storefront, in a hospital or hotel, or if you plan on doing some stamping while installing indoor work.

The liquid release agent is basically a solvent that is designed to lubricate the texture mat, provide a parting membrane between the mats and the surface of the fresh concrete. High-quality liquid release agents are also pigment dispersants, so by adding pigment to this clear fluid, you can provide secondary color similar to what is provided by dry powder. Actually, most contractors add powder release agent to the clear liquid to get the secondary color.

The amount of color additions or dispersions should be figured using a combination of pigment weights and liquid release volume. For example, you would add 2 ounces of dry powder to each gallon of fluid. This combination is mixed in a clean container, then put into the sprayer.

Always remember to shake the sprayer continuously, as the pigments will settle in the fluid. The settling helps to bring on the antique effect but can be a problem when the sprayer sits for a while. It may cause you to apply too much color.

To avoid this problem altogether, we usually instruct contractors to use two sprayers simultaneously. Use one sprayer for pigmented liquid release agent and the other sprayer for clear liquid release agent. You should move the pigmented material around on the surface with the clear spray from the second sprayer. This will allow you to balance the color throughout the area you're working on. This should be done while you are in the process of stamping the fresh concrete, not the next day after the concrete is already hardened. With some practice you will be able to obtain just about the same look as you get using the dry-powder release agent.

When using the liquid release agent, you must wait until all the fluid has evaporated

completely before sealing the slab. Using solvent- or water-based sealers over unevaporated liquid release agent will only cause you problems.

One benefit you will get from using the liquid release is faster production. There will be no need to wait days before the dry powder can be removed. Once your liquid release agent is completely dry, you can then seal the slab.

Don't make your own

Over the years, I have seen many contractors try to make their own home-brewed concoctions of liquid release agent. Some methods work. However, the home-brewed concoctions can have some costly effects on your tools or the quality of your job.

A very experienced contractor we know once tried to save a few bucks on a large job by making their own liquid release agent. I think they used a mix of high-strength solvent and transmission fluid. Their texture skins all curled up on this project like potato chips. They ruined their tools and it cost them the entire tool set. This cost far outweighed the cost of the liquid release.

I have seen another guy use a different

PRODUCT SHOWCASE

PRODUCT NEWS

Proguard Duracover protects stained floors

Scofield Proguard Duracover is a multi-ply textured membrane laminated with a nonwoven polypropylene geotextile. The composite material is a tough, durable membrane that will protect interior flooring from harsh construction environments both before and after installation. Proguard Duracover can be easily removed at the completion of the project, requiring minimal cleanup. It is ideal for use with decorative concrete, terrazzo and other flooring surfaces.

Scofield Proguard Duracover is 18 mil thick and comes in a 6-foot by 150-foot roll. It may be cut to fit using scissors or a utility knife, and seams can be taped together with Scofield's Proguard Duracover Seaming Tape.

Proguard Duracover should be installed 72 hours after concrete is placed to protect the floor before the completion of decorative finishes. It can also be used after a decorative finish is completed to protect the final installation.

(800) 800-9900

www.scofield.com

Bart Sacco applies a clear liquid release agent during a session at the Concrete Kingdom Training Center in Pennsylvania.

home-brewed method. On that job the solvents used made the texture mats swell up and hindered how they interlocked. This was another costly learning curve. I watched this guy ruin approximately $2,750 worth of texture mats.

The cost of a good high-quality liquid release agent is minimal compared to the overall expense of doing a good high-quality pattern-stamped project.

Bart Sacco is the president of Kingdom Products and also owns and operates Concrete Texturing Tool & Supply and the Concrete Kingdom Training Center, both based in Throop, Pa. He can be reached at bart@kingdom-products.com.

Bart Sacco will teach "Color: It's Not Just a Pigment Decision" at the 2013 Concrete Decor Show. For more information, go to ConcreteDecorShow.com.

PROJECT PROFILE

A Stained Porch Graced with Engraved Dimes

Taylor Porch, Hamilton, Ala.

by Joe Maty

DEBORAH Taylor's late husband, Wade, professed his love for her in an unusual, though highly tangible way. Dimes at a time.

He would hold onto dimes that collected on countertops or desktops, and stash them away. Then, once a year on the couple's anniversary, he'd give Deborah what he'd gathered.

It was Wade's way of showing his love for Deborah. After all, he reasoned, he loved her so much, he would give his last dime to her.

Deborah's story about Wade and the dimes he saved for his annual anniversary gift provided the inspiration for a unique decorative concrete design conceived by Jason Thorn, owner of The Concrete Angel, Winfield, Ala.

"She wanted to do something with the porch," Thorn says in discussing the concept. "Originally it was just going to be colored. But she had seen a pool deck I did, and she decided she was ready for something else."

Thorn and Mrs. Taylor talked about other ideas, including a cross or perhaps three crosses, in an image evocative of Calvary. And Thorn's portfolio of work included similar designs.

Photos courtesy of The Concrete Angel

"I've done projects where I create a wood-grain look," Thorn says. "But she was concerned about people walking on a cross and her reluctance about that." Thorn and Mrs. Taylor also agreed that a cross perhaps wasn't the most original concept and maybe didn't make a uniquely personal statement.

Then she mentioned the idea of doing the likeness of a dime.

"She decided it would be a great honor for her husband," Thorn recalls.

"To everyone else, it just looks like a dime, but for her it was something personal, and I was proud of that part."

Minting the design

Thorn started work on the project by preparing the surface with a phosphoric

Project at a Glance

Decorative Concrete Contractor: The Concrete Angel, Winfield, Ala., Jason Thorn, owner

Apprentice: Skylor Smith

Client: Deborah Taylor

Materials Used: Engrave-A-Crete Concrete Resurrection acid stains in Black Walnut, Honey Oat and Mountain Road, Concrete Resurrection Metallic Stencil Spray in Silver, Kemiko Concrete Products Stone Tone acid stain in Cola, Kemiko Repels silane-siloxane emulsion

Tools Used: Engrave-A-Crete's custom steel template and Wasp Concrete Engraver

acid etch. Phosphoric chemistry was a better choice than a hydrochloric acid, which could adversely affect coloring of the substrate by attacking the mineral content of the concrete, he says.

Then, he and apprentice Skylor Smith neutralized the acid with an ammonia-and-water solution, followed by a 4,000-psi pressure wash with water. After vacuum and blow-dry, the surface was allowed to stand for 24 hours. Then came the coloring.

For a 10-inch border around the perimeter of the concrete porch surface, Thorn cut a grout line and applied a dark-colored acid stain outside of the grout, using

a color called Black Walnut from Concrete Resurrection, an Engrave-A-Crete company.

Inside the border, Thorn and Smith applied three stains — a Cola acid stain from Kemiko as a dark-toned undercoat, followed by the simultaneous application of two other stain colors from Concrete Resurrection, Honey Oat and Mountain Road.

With the simultaneous application, Thorn and Smith created a variegated color appearance.

"We wanted to see what it would do," Thorn says, adding that Mrs. Taylor liked the idea of subtle variation rather than a monolithic look. The colors delivered the neutral, earth-tone appearance she also wanted.

The coloring process was completed with the cleanup of residue using an ammonia solution, buffing and vacuuming.

The dimes are cast

To create two 18-inch-wide dime images on opposite ends of the porch, Thorn used Silver Stencil Spray from Concrete Resurrection and an Engrave-A-Crete Wasp engraving tool, which he calls a "tattoo gun for concrete."

For the dime pattern, he ordered a customized steel template from Engrave-A-Crete emblazoned with the year 1967, representing the year the Taylors were married.

Thorn applied a light spray coat of the solvent-based silver finish to get the metallic color of the dimes. He then engraved the

features using the template. He put his artisan skills to work for much of the engraving, following the stencil design but doing a good deal of the work freehand.

As a final touch, he applied a second coat of the silver finish, using a hand-application technique to render a hammered metal look.

Finally, Thorn applied a protective sealer, Kemiko's Repels waterborne silane-siloxane emulsion.

A meaningful memorial

Thorn views the project as a test as much of his conceptualization talent as his craftsmanship skills, citing the collaborative approach with the client and his novel approaches. "I guess you'd say I had to use that creative side of the brain," he says.

"It's perfect, absolutely perfect," Deborah Taylor says of the work done by Thorn. "It's really neat. I feel very blessed."

Since her husband's passing three years ago, Mrs. Taylor speaks without hesitation about her belief in the continued presence of his spirit — in a very literal way. She keeps finding dimes in odd places around the home. In one instance that struck home in a very powerful way, a dime fell from a cross she was hanging on a wall.

"Really, I think it's angels. Or it's a way of him saying, 'I'm OK, and I know you're OK.'"

Religion and spirituality figured prominently in their long and loving marriage, she says. "I was 15 and he was 20," she says, reminiscing on their youthful ages at which they began their four decades together. "He preached at a little country church for 20 years. He was a minister in United Church of Christ."

Both were longtime teachers, focusing on special education.

"We had some hard times, but it was a wonderful marriage. We were definitely soulmates."

Then, pondering the uniquely personal memorial Thorn had produced, she adds: "When I see the dimes out there, I think good thoughts."

theconcreteangel.weebly.com

PRODUCT SHOWCASE

PROJECT PROFILE

A Man Cave with Water Features and Carved Concrete

Baker Basement (and House), Spokane, Wash.

by Natasha Chilingerian

Photos courtesy of Roch Fautch

There are many types of "man caves," from basements built for watching football to music-filled office spaces. The cave of Spokane, Wash., homeowner Doug Baker holds an antique pinball machine, a wall-mounted screen for projecting movies, and features crafted from glass-fiber reinforced concrete by decorative concrete designer, builder and artist Roch Fautch.

Fautch, owner of Magicraftsman Co. in Spokane Valley, met Baker when the retired vice president of Spokane-based Baker Construction & Development asked Fautch to help him pour exterior concrete at his home. The two hit it off, and in July 2011, after Baker completed a 6,000-square-foot home expansion, he made Fautch an offer of more work. Their still-in-progress project includes a number of concrete features inside the home, the centerpiece being a cast-in-place, carved, stamped GFRC staircase that resembles rock and leads into the basement-level man cave, graced by a sun-and-clouds water feature on the wall next to the staircase.

"I really just wanted to make it into a fun room, like a playroom," Baker says of the man cave.

So far, Fautch has also installed several countertops and additional staircases, flooring, a deck, a steam room and a swim spa with removable parts — mostly using cast-in-place GFRC (some parts of the swim spa were cast off-site). Fautch painted murals of clouds and cartoon character images on the walls of the man cave, adding whimsy and nostalgia.

Fautch's background reflects a blend of science and art. He studied engineering in school but says he always knew he'd be an artist. "The difference between the two is this: Engineers solve real problems, and artists create their own problems to solve."

Fautch purposefully created "problems" throughout Baker's property, dreaming up designs that would keep himself challenged. He says he and Baker collaborated extensively on the project. "Working together, we came up with things I couldn't have come up with on my own."

The artist, engineer and self-described "mad scientist," who has 30 years of experience as a concrete finisher in residential and commercial markets, says knowing concrete inside and out has allowed him to enhance his artistic abilities and develop unique skills in the decorative concrete realm. For instance, he builds his own fiberglass concrete molds and has spent 15 years perfecting his own GFRC mixes.

"My experience has given me a better understanding of concrete," he says. "It allows me to do things with a hawk and trowel that I haven't seen anyone else do."

Sculpting concrete into intricate designs is one of Fautch's signature skills. A recent notable work of his (that isn't part of the man cave) is a 7-foot-tall sculpted concrete

Project at a Glance

Decorative Concrete Designer/Installer: Roch Fautch, Magicraftsman Co., Spokane Valley, Wash.

Client: Doug Baker, homeowner

Project Specs: A cast-in-place GFRC staircase and carved concrete water wall feature inside a basement-level "man cave," plus GFRC countertops, staircases, a deck, a swim spa, a sauna and flooring

Timeline: About one year so far. Fautch continues to add finishing touches to the home.

Decorative Concrete Materials Used: Cem-FIL alkali-resistant glass fibers from Owens Corning, Acryl 60 acrylic polymer emulsion from Chargar Corp. (as an admixture for the GFRC mix), Liquid Release from Brickform, acrylic paints from Liquitex Artist Materials, EC-95 Polyurethane Topcoat sealer from Westcoat Specialty Coating Systems

dragon, which he carved using a palette knife handed down to him by his cartoonist grandfather, he says.

Fautch's carving technique, which he employed while working on Doug's staircase and wall water feature, involves adding new layers of GFRC, each one within 48 hours of the last, and carving while the material is still wet.

Each layer builds on the last, and because he does not allow the material to cure in between layers, the multiple layers act as one strong, durable application of GFRC and won't delaminate, he explains. "Once you've waited 14 to 28 days, the last layer of concrete you've added will be cured. Then, the next layer will act as a separate application, and that's not what you want. The biggest concern associated with waiting to add new layers is delamination and having it come apart. This way, the material grows together."

For the staircase railing, he anchored 1-inch, square-shaped steel rods to the floor vertically, then installed PVC pipe — heated, then bent — to create the top rail. He used PEX tubing to build the snakelike downward-curving end of the top rail, and he wrapped everything with a GFRC mix that contained 2-inch-long

fibers, which are significantly longer than the typically used 3/4-inch fibers, to add strength. Long fibers tend to cause clumping in GFRC mixes, so Fautch says he mixed this concoction by hand to ensure a smooth result.

"The railing is amazing — you can put your whole weight on it, and it won't budge," he boasts.

Fautch added texture to every concrete surface besides the countertops with homemade stamps made from rocks native to the property. He simply picked out pieces of granite from Baker's front yard, cleaned them, sprayed them with polyvinyl alcohol, spread urethane rubber on them and peeled the cured urethane rubber off to create the stamps. He used diluted acrylic paint to color every GFRC surface he installed, applying it as he would a stain.

Over the next couple of years, Fautch will be expanding on his man-cave mural artwork, which currently includes images that help transport Baker and his wife back to their younger days, such as a Superman and a Flintstones scene. He also plans to add two balconies (one is currently in progress), outdoor water features, and possibly even a reproduction of a Renaissance statue in the front yard.

"It's been a lot of fun working with Roch," Baker says. "He's very innovative — and a typical artist. He'll come up and work all night long just to come up with a drawing, and he does some crazy stuff. He can make concrete into anything, and it doesn't crack. You won't see a single fracture."

For his part, Fautch says he had free rein to create as he pleased at Baker's home. "Doug gave me complete artistic freedom to do what I wanted," he says. "The reason why I've been an artist my whole life and attracted to concrete is because I thrive on challenges. If something doesn't challenge me, I'll invent something that will. And it's exciting when someone gives you their space and says, 'Go for it.'"

magicraftsman.com

PRODUCT NEWS

Parex USA expands color chart

Parex USA Inc., a stucco and EIFS product manufacturer, has introduced a new color collection, equipped with 75 standard colors for use in all acrylic finishes, elastomeric finishes, coatings and primers. The enhanced color chart represents the top-selling colors from the company's Parex, Teifs and El Rey brands plus 43 new colors.

To compliment the new color chart, Parex USA unveiled a new color fan deck designed for façade finishes, coatings and primers.

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