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Dear Readers,

I am often captivated by a sense of honor when considering the job I have in serving tradesmen like yourself with a magazine. I feel honored because of the opportunity I was once given to learn a trade from individuals who were both passionate and driven to be the best at their profession. Working closely with these kinds of people gave me great respect and appreciation for their craftsmanship and the serious attitude they had about doing things right, or not at all.

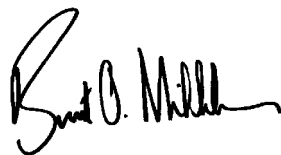
Reflecting on these experiences, I am convinced that this so-called mentality is a cornerstone to such noble terms as "craftsmanship" or "quality-standards." Seldom do I recall such terms being spoken but I often recall the scolding for work that was not consistent with their expectations. As I matured, those apparent expectations soon became recognized as the standards by which I would try to serve others. For tradesmen and women alike, the standards we choose to uphold and continually build upon are usually evidenced by others in our workmanship. Knowing this, we have a tremendous opportunity for personal success in business simply by way of the appreciation and respect we earn from others.

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Bent Mikkelsen
Publisher



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ON THE COVER: The water cascading over concrete rock features was constructed by Cemrock.

News! *Concrete Decor* to launch Web site for subscribers.
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Decorative Concrete Tips

Decorative Concrete Tips is a forum for readers to exchange information about methods, tools, and tricks they've devised. We'll pay for any we publish. Send details to CD Tips, Concrete Decor, P.O. Box 25210, Eugene, OR 97402. We look forward to hearing from you!

Creating Leaf Impressions

Prepare your canvas by floating the slab smooth using a finishing trowel with rounded ends. While the concrete is still wet soak the leaves you intend to use in a bucket of water for ten minutes to make them pliable. Choose leaves with high definition, veined and grainy in texture. Once they are soaked lay them flat and trowel them into the wet slab. You can also paint the back of the leaves. Choose your pallet of powdered cement/mortar colors for the leaves beforehand. We use Davis Colors, pure oxides, preferably autumn tones; orange, red, yellow or brown give a natural look to the finished work. Again begin by soaking the leaves in water. Dip an inexpensive two inch



paint brush into clean water then dip the brush into the concrete color and paint the back side of a wet leaf with the color now clinging to the bristles of the wet brush. You can use several colors on one leaf or keep it monotone. Press the colored side into the slab with the trowel. You can also use the tip of a groover to connect the leaves thus creating a vine/branch effect. Wait one day, two days are best,

for the concrete to set then wash out the dried leaves with a hose or easily pull them free by hand. If you use oxides to color the leaf impressions it's a must to seal the slab. This can be done with Davis' Cure & Seal product soon afterwards. Viola! Your client will have a concrete work of art.



—Debra Tash, Somis, California

To preserve leaves that you would like to use during the winter months pick your favorite leaves now and store them submerged in olive (vegetable) oil for use during winter months. This will help preserve the distinguishing details and flexibility of the leaves in order to achieve the best results.

—Lee Levig, Fairfield, California

Reducing Random Cracking Through Preparation

The creation of a high quality concrete job starts with proper sub-base compaction. Generally speaking, a minimum of 4-inch rock sub-base is required to support the concrete slab cast on grade. The rock sub-base should provide uniform support to the slab without any soft spots. Soft spots in the sub-base will likely settle at sometime in the future with the weight of the hardened concrete on top of it. If soft spots are allowed, this could cause the concrete to settle unevenly and crack. An uneven sub-base will not provide a uniform slab thickness and this can also be a cause of random cracking.

When extensive back-filling is needed, compact the rock in lifts, if necessary, to provide a suitable sub-base, as illustrated in (photo 1). Here the worker compacts a deep fill trench in multiple lifts to obtain good compaction after underground utility lines are installed. In (photo 2), the worker compacts the sub-base of a porch deck. By first grading the 2B crushed rock in a uniform manner, graded rock was compacted uniformly using a plate tamper. (Note: the isolation material is mounted to the building. Prior to the pour,





shingles were laid over the block work to provide a bond breaker so the concrete would not stick to the block work. Steel reinforcement was then installed.)

Preplanning your Jointing technique will also be a factor for success. There are three basic types of joints in slabs on grade: 1.) Construction joints, 2.) Contraction Joints and 3.) Isolation Joints.

A **Construction Joint** is the point where one pour ends and another pour begins. If you pre-plan the layout, you could bulkhead at re-entrant corners or layout the job to provide adequate size panels within the slabs after your contraction joints are installed.

A **Contraction Joint** is placed in the slab at a location that permits a straight-line plane of weakness. This joint placement, in feet, is usually no more than 2 to 3 times the slab thickness in inches. The resulting panels should be as nearly square as possible. In walkways never make the long side more than 1½ times as long as the short side. Driveways and patios wider than 10 to 12 feet should be divided down the middle so the contraction joint makes a panel that is relatively square. The contraction joint may be installed while the slab is still wet by using a groover tool or it may be cut-in after the pour, while the concrete is still green using a diamond blade saw, as seen in (photo 3). This type of joint should compensate for the slab shrinkage rate of the concrete while it dries, which is approximately ⅛" every 20', providing the concrete is placed at the proper slump. Concrete placed at a higher slump will result in excessive shrinking leading to a higher shrinkage rate and possible random cracking.

An **Isolation Joint** permits the slab to move horizontally or vertically. This movement will take place with respect

to the adjacent walls, columns or footings. In many applications the isolation joint material is fitted with a removable cap to create a void that will be present after the concrete has hardened. Later the cap is removed and the void is then filled with a suitable caulking material to provide a weather-tight seal.

— Bart Sacco, *Concrete Texturing Tools & Supply, Throop, Pennsylvania*



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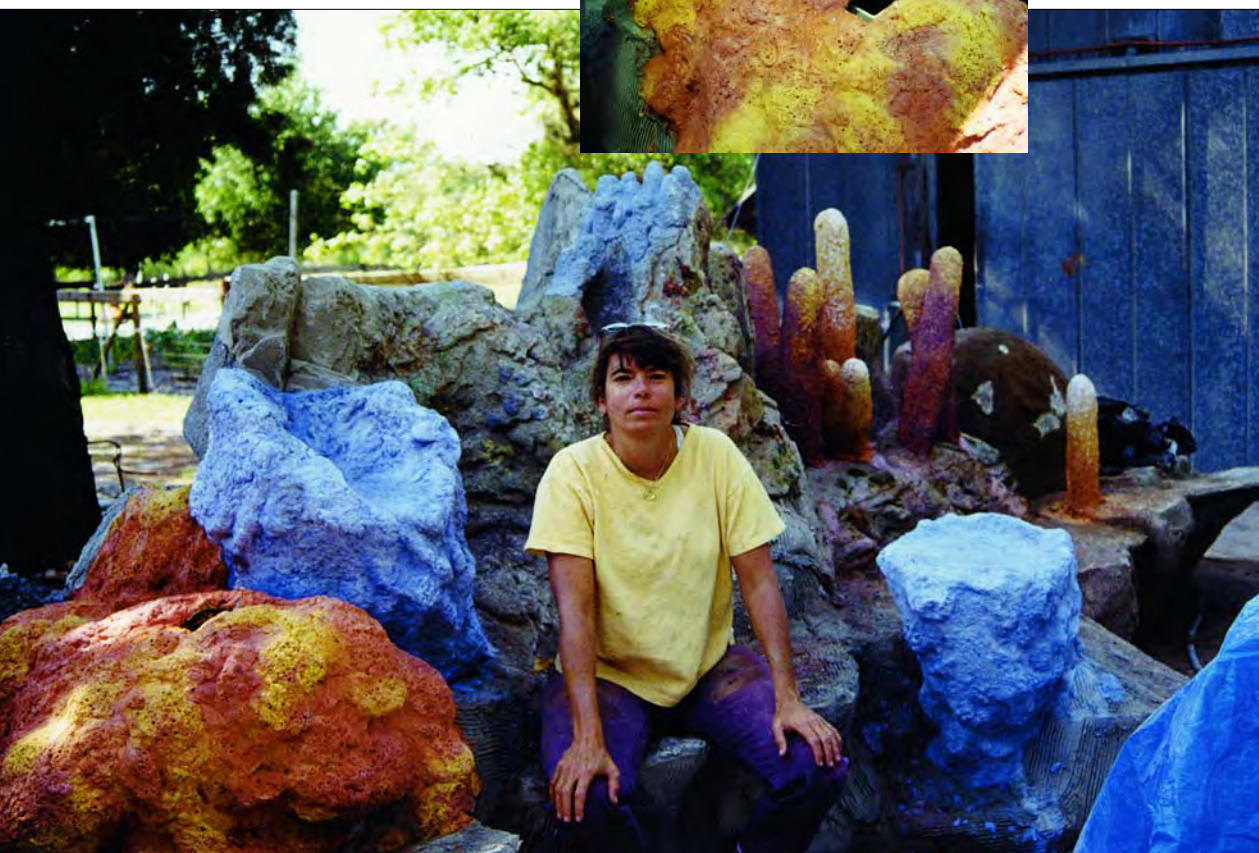
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Concrete Plays an Important Role in Public Works of Art

Artist uses concrete to create works that imitate nature and fanciful icons

by Ester Brody



Once just thought of as a basic medium for sidewalks, utility flooring and parking lots, concrete has become the modeling clay for a new group of artists. These artists take concrete beyond the realm of simple slabs and block used for seating in public settings. Rather, these artists envision large-scale, abstract and naturalistic sculpture that have become the focal points in many of today's commercial office centers, universities, public parks and recreation sites.

While using concrete as a backdrop to create imitation bricks and stone formations is nothing new, especially in hotel and amusement park settings, using concrete to create public art is. "Because it's so easy to work with and durable, more designers and architects are giving concrete a spotlight when they make plans for public spaces," says artist Kia Ricchi of Centerline Production in St. Cloud, Florida. "I work in concrete because it is a structural medium that can be artistically manipulated. Concrete also has great durability and lends itself



perfectly to the outdoors and heavy pedestrian use.”

Art finds a home in diverse settings

Ricchi's work has been displayed at the Orlando Museum of Art and the Ann Norton Sculpture Garden in Palm Beach. She has also designed art for urban environments. In one recent example of urban art, Ricchi created a sculpture called “Euclidean Fancy,” an angular structure that stands about 8' tall and measures 6' deep and 6' across. The work features geometric angles and shapes that are meant to complement the surrounding architecture. To keep the piece from becoming too cold or austere, Ricchi incorporated round river rock, natural textures and acid washes to soften the overall appearance. According to Ricchi, her goal in this project and others she constructs is to build a piece that will harmonize with its surroundings while generating visual interest.

After receiving her bachelor's degree in New York, Ricchi spent ten years working as a sculptor and painter for Walt Disney World, Universal Studios

and Sea World. As one might expect, these high profile theme parks proved to be an excellent training ground for creating large scale works of art that push the envelope of creativity on a daily basis. Her work at these parks provided Ricchi with a background in using concrete to sculpt large-scale props used throughout the properties. “Working at places like Disney and Universal Studios gives an artist a fantastic opportunity to work in all types of media to create textures that truly look like the real thing,” Ricchi observes.

Ricchi was so intrigued with working in carved concrete that she started her own business, Centerline Production. Her company focuses on developing works of public art for clients like the Miami Zoo, the Florida Marlins and Blockbuster Video. Ricchi says that the whole concept of public art is a growing trend among corporations and local governments who want to support the arts by commissioning or acquiring works that provide direct access to the public. Art in public spaces has other benefits; property managers believe it boosts curb appeal and establishes a distinctive,

upscale atmosphere. Ricchi adds that public art brings people together as they observe the work, or simply use it as a landmark or photo opportunity.

Public art can also serve as a theme for a whole community. One of Ricchi's most dramatic pieces entitled “This Forest Primeval” was recently purchased by a new, upscale development whose builders are adapting to more environmentally friendly building methods to maintain wetland and wooded areas. The 14' long by 10' deep by 6' high piece represents large fallen timbers set against stone formations that look very much like a scene in a forest. “I have always admired the twisted shapes of the southern live oak trees,” Ricchi says. “The shapes seem to reflect the competition and struggle for rain and sun among the dense plant life in the deep woods.”

In some cases, entire counties have made a commitment to supporting public art. In Hillsborough County, Florida, for example, the Board of County Commissioners adopted a Public Art Ordinance, which established the county's Percent for Art





(Above) Is one of Ricchi's most dramatic works of art known as "The Forest Primeval." (Right) "Euclidean Fancy" is an example of Kia's use of concrete for abstract art creations.

Public Art Program. The program allows the board to acquire works of art for county sites and facilities. The board hired Ricchi to design and fabricate a unique structure for the entrance of the Ed Radice Park, the largest sports complex for youth sports in Hillsborough County.

Commitment to the artistic process assures success

This project, like all the commissioned pieces Ricchi creates, was a collaborative effort between the client and artist. The process begins with a meeting to determine specific goals. For the project with Hillsborough County, Ricchi worked closely with the customer throughout the entire process to assure accuracy in artistic direction. The concept in this case was to create a large 14' sports-themed montage featuring a baseball glove, bat and ball, and soccer ball sitting on top of a scoreboard styled platform. Working from drawings based on the ideas discussed, Ricchi developed a small-

scaled model of the piece so that the client could have a preview of the finished art. According to Ricchi, providing a model is always a critical step; making changes at this stage is far easier than trying to alter direction much later in the process.

In many of her works, Ricchi employs structural engineers to create the steel armature, or frame work for the sculpture. To assure structural integrity, certified welders make critical welds at load bearing points. Rebar is attached to the primary steel and is used to create the general shape. All internal steel is treated with a 3-part marine paint system to prevent rust. The next step is the application of galvanized lathe followed by a concrete "scratch coat." Once dry, a second, thicker 1-3" coat of concrete is applied and Ricchi begins the carving process by using many hand made tools and trowels.

Ricchi ensures the longevity of her work by mixing integral color pigment into the concrete so that chips and scratches are minimized. "I like dry

pigments for their great durability, UV resistance, and solid color throughout," Ricchi says. Depending on the type of project, Ricchi also uses acid stains to create dimension and shading. "Acid stains are ideal for creating natural looking surfaces," she says. When the job calls for paint, Ricchi is careful to apply specialty coatings made for concrete that will give the work a matte finish. Ricchi notes that solid painted surfaces typically have an unrealistic shine. All of Ricchi's work from beginning concepts to finished art takes place at her studio, and depending on the scope of the job, can take several months to complete. When the work is done, flatbed trucks are used to transport the sculpture due to the large and extremely heavy scale of these projects (some as heavy as six tons). Once on location, the sculpture is maneuvered into place by a series of cranes and forklifts.

Maintenance for her sculpture is minimal due to the durability of the concrete and the coloring methods used. The exception is painted surfaces that may require retouching every three to five years due to fading.

According to Ricchi, the future looks bright for more public art projects like the ones she has created. "Public art is really taking off as more people learn to appreciate this type of artistic venue," Ricchi notes.





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Exploding Demand for Concrete Countertops

By Jim Peterson, President, The Concrete Network

Concrete countertops have become the rage in areas ranging from Malibu and Beverly Hills in California, to Omaha, Nebraska, and Boston, Massachusetts. From coast-to-coast these fabulous countertops are growing rapidly in popularity.

Why the interest in concrete as a countertop material?

There are many reasons buyers choose concrete countertops. But most of these reasons fall into two central categories. First, each concrete countertop produced is an original, a craft product. "Many buyers are tired of cookie-cutter mold countertops that you see at the home improvement warehouses, and in their friends' and neighbors' homes," according to Bill Guthro of Distinctive Concrete.

Concrete's creative possibilities are endless. Each concrete artisan approaches his or her craft personally, achieving a distinct look by building custom forms, developing special casting techniques, and using proprietary materials and

coloring methods. "Where natural stone limits the customers to the patterns left by nature, concrete allows for a variety of custom finishes," notes Craig Smith, owner of DEX studios in Atlanta, Georgia. Adds Rod Woods of Patina Studios in Nebraska, "With concrete you have flexibility and an ability to be creative with design. You aren't tied to color, shape, or style — your creativity is not limited."

The ability to be creative with the design means the design process is an interactive one between the buyer and the artisan — and this interactivity is the second great attraction of concrete countertops. In the computer-pushing world, there are not a lot of creative outlets; concrete countertops gives buyers something they can put their name on, something in their house that they helped create. Buyers can pick from an endless array of colors and edge options. Some buyers want metals, glass, tiles, seashells, broken bottles, or other items embedded into the concrete. Drain boards and hot pads are popular options. Surface finishes are offered ranging from high gloss, smooth as glass, or with various texturing or veining.

According to Kaldari owner Gary Simpson, who works out of Laguna Beach in California, interior designers in Southern California say that granite and other stone has become common — even passé — in high-end homes. Concrete countertops are catching on because of the mushrooming trend toward building with natural materials: stone, rock, and concrete. With modern methods of staining and treating these materials, there is no sacrifice in beauty in selecting these products.

"People are after a different look. Something that has more character and craftsmanship, and is more of a natural component," said Simpson in a *Los Angeles Times* article.

Many residents in California's Santa Cruz, Monterey, and San Francisco Bay Areas have always been known for putting their own unique spin on things — whether it's the way they dress, the way they design their home, or the way they express their love of the nearby seaside.

So it's no surprise that concrete is quickly emerging as the



Kaldari, Laguna Beach, California

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"After 20-plus years of doing concrete, I know what the material can do — it's open to the imagination, it's limitless," says Dave Pettigrew of Diamond D Concrete in Capitola, California.

Homeowners throughout the Chicago area are

striving for more creativity in the design and makeup of their kitchens and bathrooms like never before. One of the places they go to bring that innovative edge to life is Soupcan Inc., the area's leading concrete countertop manufacturer.

Popular colors seem to change from year to year, says owner Gerry Santora. But Chicago homeowners frequently

request dijon, charcoal, slate, and bone. Others go for bolder hues. "We've had a lot of requests for blue... People usually react when they see a color like that somewhere and want it for themselves," he said.

Concrete

Countertops: an original, craft product with an interactive design process. This is a combination that is sure to keep growing in popularity.



About The Concrete Network (www.concretenetwork.com): Founded in 1999, The Concrete Network serves architects, builders, designers, consumers, and remodelers with over 1,500 pages of concrete information and local service providers for concrete countertops, stamped concrete, acid-etch staining, concrete resurfacing, and 43 other types of concrete work. Jim Peterson is Founder and President.



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CIRCLE #54 ON READER SERVICE CARD

Rock on!

By Susan Brimo-Cox



Photograph courtesy of Custom Rock

Photograph courtesy of Custom Rock

On one hand, fashioning synthetic rock can be an engineering challenge. On the other, from back yard to theme park, creating geologic reproductions and making them look — naturally — like the real McCoy is definitely an art.

Synthetic rock features are not new. Turn of the century examples exist in the United States and elsewhere around the world. But it is probably Walt Disney, and his Disneyland in Anaheim, California, that gave faux rock a real boost. Now, synthetic rock is commonplace at theme parks, zoos, aquariums, museums, resorts, hotels and many other places — and there's a growing demand for residential applications. Swimming pools, ponds, waterfalls, fire pits, outdoor seating areas, retaining walls and exterior veneers are just a few of the ways synthetic concrete rocks are finding their way into our back yards.

There are many ways to build a rock

Concrete is an ideal material for synthetic rock. Cement hasn't changed much over the years, but the equipment and techniques have all gotten better. Compared to the cost and engineering problems associated with real rock, concrete is quite affordable and easy to use. Whereas fiberglass — another material often used to create faux rock — is a highly regulated technique. Acrylics, urethane and plastics are also used to simulate rock, but they are expensive and typically don't give the same realistic appearance. For longevity, concrete rocks are hard to beat (no pun intended). In fact, concrete rocks can achieve such a high degree of concrete strength they could last longer than some real rock types.

There are various techniques used to create synthetic rock out of concrete, reports Jacob Stoddard, operations manager for JPJ Technologies L.L.C., a synthetic rock training school in Wickenburg, Arizona. Synthetic rocks can be molded or cast, sculpted over a support structure, made from fiber



This concrete retaining wall not only adds additional width to a golfer's fairway, the faux rock facade blends perfectly with natural rocks rising out of the sandy beach below.



Photographs courtesy of Centrock

reinforced synthetic concrete (often in panels) or created with hand-manipulated construction. "Re-bar and lathe is traditional" when it comes to the support structure, he says, but synthetic rocks can be built with hollow or solid fills. In some applications shotcrete or gunnite is used. In others, the faux rock can be constructed over a brick wall or built onto a house.

Sometimes, part of the construction occurs off-site. Glass fiber reinforced concrete, the classic replacement for fiberglass, can be used to construct 360-degree complete items or used to build panels that are assembled on-site. "GFRC is treated and worked the same as fiberglass," Stoddard explains.

Making a faux rock look like the real thing involves the shaping and texturing of the rock and then coloring it. Typically, synthetic rocks are molded or free-formed. "A mold is the best replication possible. There is no better way to do it in realism. You copy



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Mother Nature,” Stoddard explains. But free-forming, “that’s where it gets fun,” he says.

Free-forming is very common in large-scale projects and various texturing techniques can be used to create unique results. Mats and other objects might be used to imprint a texture. Tools can be used to carve or sculpt a design. Or material might be added on — “reverse carving” — to achieve the desired effects.

Coloring synthetic rock, also, generally falls into several categories, according to Stoddard. Dying, or integral color, is one category, but

many contractors consider it unnecessary. However, if the overlay is thin or you want to expose special aggregate, such as mica or pebbles, integral color may be appropriate. The most common coloring technique is use of a penetrating stain. Painting, using latex paints, is another popular technique.

Synthetic rocks that will be immersed in water need to be waterproof. It’s critical to prevent problems down the road. Sealing synthetic rocks, on the other hand, depends on the application and the contractor — some do, some don’t.

Everyone does it differently

Talk to a dozen synthetic rock contractors and you’ll learn that every one makes their rocks a little differently. Considering the huge number of variables in this work — location, site factors, materials, construction techniques, method of texturing, method of coloring and

sealing, etc. — it’s easy to understand. Stoddard calls it the “X-Y-Z” factor. “Everything has its time and place. It’s not hard; it’s just knowing when to do what.” And every job may have several methods and building processes, so it’s not just one X-Y-Z.

David Long, CEO of Lakeland Co. Inc. of Coeur D’Alene, Idaho, has been doing synthetic rock work for some 30 years and uses either GFRC panels or positive carved rock work techniques. With the GFRC panels “all the ingredients of the mix are critical,” he says. “Indoor applications are typically left hollow; exterior applications can be filled solid.” He uses shotcrete as the base foundation for his positive carved rocks, layering a brown coat on top of that and texturing a cement/plaster coat with texture mats.

GFRC panels have a more realistic look, but it “costs more because of the extra labor and equipment costs. Assembly time is not necessarily excessive,” observes Bob Wallace,



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Director of Sales at Custom Rock International in St. Paul, Minnesota. Shotcrete, he remarks, is less expensive, can be applied faster and is a good choice if the final look is not as critical or the viewing distance is farther.

For its panels-only projects, Custom Rock pre-makes panels off-site. The panels average seven feet by seven feet and weigh about 600 pounds. “We produce a sample panel for approval and to have on site [for reference],” Wallace says. A forklift or crane is used to set the GFRP panels in place on-site. Wallace says they seam their panels with metal lath and hand-applied concrete, using textured skins to blend them in. “When several panels are tied together the composite strength is increased [and] when done right you can’t detect the seams.”

Large-scale projects require different degrees of natural

“The amount of detail needed depends on the viewing distance,” Long explains. “Take zoos for example. The viewing public is a distance away, so a shotcrete backdrop might be all that’s needed. In a museum, if they wanted a mine shaft for people to walk through, a molding process and GFRP is a better technique because you will have the detail of the rock,” he says.

If hand-carving is required, you should keep that in mind when you design your mix — and it’s all a bit of a balancing act, says David Taplin, vice president of CemRock in Tucson, Arizona. “It’s easier to carve with smaller aggregate, but with smaller aggregate you need more cement. Cement makes the mix slipperier, but sets up quicker. But you can put in retarders so it doesn’t set so fast.” One thing Taplin is firm on is having a low slump for less shrinkage.

That the rock looks natural is very important to Long. “We’ve shied away from too much rock work [in order] to balance the project with other elements, such as plants and architectural elements. [We want to] make it appear that the rock work is part of the environment instead of an

Additional “tools” for the faux rock trade

In general, if you work with concrete now, you likely have the tools you’ll need to create synthetic rocks, but here are a few items that might make the job a little easier.

Start with some proper training, especially if creating synthetic rock is new for you, or you’re moving up in the scale of your projects. JPJ Technologies L.L.C. has a wide range of training videos — from beginner to intermediate — to get you started. JPJ Technologies also offers advanced hands-on training classes in a variety of techniques, applications and business operation methods at its Arizona facility. You can learn about re-bar and lath construction, molded panels, faux rock retaining walls, landscape installation for water features and more. Advanced training classes include free technical support and field consultation for one year.

Texture mats for creating synthetic rocks are available from a variety of sources, but why stop at just emulating rocks? Breck Viley, co-owner of The Rock Garden in Santa Ana, California, a company that designs and fabricates a variety of rock texture mats, reports a new line has just been released that features fossil texture and tree bark, ideal for synthetic fallen trees — or upright ones. Do any creative interior and exterior applications come to mind?

Many synthetic rock contractors don’t use admixes. However, using a mix water conditioner to help make concrete consistent is becoming more popular in faux rock applications across the country, reports David Johnson, owner of Applied Concrete Technology Inc. in Grayslake, Illinois. The maker of Protecrete says the conditioner uses more of the cement in the mix and stops segregation and cracking problems. “The biggest thing with mix water conditioner is it makes the mix homogenous, with no segregation of aggregates, so it cures evenly from top to bottom with no crusting.”

Use of a densifier can also be beneficial, Johnson says. “It becomes a permanent part of the concrete, hydrating unused cement inside the concrete. [It] helps make the porosity of the concrete consistent across pours.”

Instead of hand coloring, Duraspeck, an exterior grade product designed for use on the exterior of buildings for creating stone and marble finishes, might do the trick more quickly in some synthetic rock applications. Tim Kearney, vice president and national sales manager at Multicolor Specialties Inc. in Cicero, Illinois, says the product was not designed for use in an abusive environment or where it will be submerged, but in a landscape environment, with occasional water (from rain or sprinkler system), it would probably work well. The company can make virtually any kind of color combination using 18 stock fleck colors. “It’s typically designed as a larger particle material so as to be seen at a greater distance,” he explains. It can be applied with standard air spray equipment: pressure pot, conventional spray gun or compressor.

add-on.” To do that, he often includes plant pockets.

Knowing a bit about geology is important to achieving realism, says Wallace. And, for coloring, it helps to be an artist, he adds. Custom Rock, he explains, favors topical color, with light colors serving as a base, then using darker colors and different shades to create shadows and variations in the surface colors.

Taplin says CemRock uses water-based latex paints thinned down, “almost like a stain,” to color its synthetic rocks. Application techniques, he adds, include spray, spatter, pouring, sponging and ragging.

Home-size projects offer a lot of variety

Residential work is a growing market for synthetic rock. Mike Davis, president of

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Rock Pools by Mike Davis in Quartz Hill, California, has created complete pools with waterfalls and rock slides, koi ponds, retaining walls and has rock-veneered homes — he even rocked a picnic table. “It’s very creative; not two jobs alike,” he reports. When working with customers, he asks, “What do you visualize?” Then he creates a pencil sketch, but “it always changes from the paper to the back yard, because you get creative.”

Davis gets his customers involved in the process. “I hand them a trowel and have them help sculpt the rock — the kids, parents, dad.” Doing so gives his customers additional pride in the project, because they helped create it, he explains.

Breck Viley, owner of Breckenridge Rock Works in Santa Ana, California, does a lot of exterior applications — pools, waterfalls, water features and the like — but has also created synthetic rocks for a wine cellar that now looks like a cave. “Anything you can think of, we can do.”

Viley makes a point of educating customers how to take care of their synthetic rocks and how to maintain them. He advocates sealing once every two years.

“Smaller projects — like pools, ponds, waterfalls, retaining walls — are a good niche for pool contractors and concrete contractors,” Taplin advises. These projects might require a week-and-a-half to two-week timeframe, but adding them to a standard project can increase the profitability of a job. For example, “If someone spends \$25,000 to \$35,000 on a pool, they may pay an extra \$10,000 to \$12,000 for rock work so they have something special, something different.”

But remember to not go overboard. “I’ve seen people get carried away and everything is out of scale,” reports Paul Horton, manager of Roseburrough Tool Co. in Orange, California. “In a small back yard, an eight-foot high rock looks like a volcano.”

Getting it all together

The growth in this market means there’s lots of opportunity to go around.

“A lot of the really big guys are booked out two to three years, so commercial facilities are looking for smaller companies,” observes Long. And, while it’s not cost effective for a large company

to do a smaller job, the “big guys” sometimes look for local talent on some of the big jobs they tackle. “We’ll utilize local personnel. The benefit is we have professionals to work with... They know concrete; we show them a new application. Everyone gets compensated and the customers are happy.”

Faux rock tricks-of-the-trade

- Many of the concrete tools you have right now will serve you well in constructing synthetic rocks. Use them creatively.
- Talk with your customers. Find out what they are thinking with regard to the project. Once you find out what they want, talk with them about the budget. You need to know both sides of the equation before you begin the design stage.
- Sorry, there is no one-size-fits-all concrete mix or construction technique. The mix and method you use will depend on your geographic location and the application.
- Positive rock work over re-bar and lath can remain hollow or be solid-filled. Some contractors recommend leaving the structure hollow in interior applications and filling it solid in exterior applications.
- Be sure to include architectural elements and plants in your rock feature for a more natural-looking result. Plant pockets are a common design feature.
- All work that will be submerged or is part of a water feature should be waterproof and/or grouted solid.
- Molds or texture mats taken right from Mother Nature offer the best reproduction.
- Texture mats or skins that are pliable are easier to use in many applications. The flexibility will allow you to wrap them around your rock shapes and curves without creasing.
- Texture can be imprinted, carved or sculpted, or created by adding material on.
- When working with veneers, there is a delicate balance to achieve with regard to curing without shrinking and cracking and not wetting the rock so much as to erase the texture.
- Coloring can be achieved by a variety of techniques, including dying or integral color, staining and painting. Some contractors use a combination of coloring methods, such as using a thick latex paint to create specks after staining.
- When applying color by hand, helpful tools can include sprayers, sponges, rags and whisk brooms (for splattering).
- Some synthetic rock contractors recommend sealing; others don’t, saying sealer makes it more difficult to repaint.
- Re-coloring and resealing intervals vary, depending on your geographic location, the materials used and the environmental/use factors.
- Synthetic rock features in freeze/thaw climates or in locations with unstable ground need to be constructed differently. Some possible solutions include: air entrainment, using an admix or building on footers. Determine what will work best for each project before you start.
- Synthetic rock features created from concrete can last indefinitely if cared for properly. Nonetheless, in the event something does happen, experienced contractors assert that most repairs are fairly simple.
- Water leaks, on the other hand, can be a nightmare. Be sure to include test time in your construction time frame.

Smaller companies that want to do larger projects can, in turn, look to the larger companies for what they can provide. "Molds and creating panels can be expensive and require special equipment, but small contractors can purchase these from large commercial installers," Taplin says.

If learning how to create synthetic rocks out of concrete appeals to you, the timing is right. Around the country there is more demand than supply in both residential and commercial applications. Luckily, if you work in concrete already, you'll probably use all the same tools, materials and stains. And like on your other jobs, it's good to keep construction notes. You never know when you'll be called back to add on.



For more information, or inspiration, check out the following:

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Concrete Surface Preparation

It looks clean, but is it?

by Joan C. Stanus



Industry experts agree: Knowing what you're working with — both internally and externally — is a key to successfully preparing a concrete surface for accepting cementitious toppings.

A slab may look clean and sound, but that doesn't necessarily mean it is.

If unfamiliar with the original pour, contractors almost have to be concrete detectives before they can begin a job that involves applying toppings. Even if the surface looks good, what lurks beneath, if left alone, can break the bond between the concrete and toppings and, eventually, cause long-term headaches for contractors. The solution is to prepare well and eliminate surprises.

"Your system will only be as good as the surface underneath," notes Dean Owen, president of Arizona Polymer Flooring. "As with all specialty coating applications, proper surface preparation is a crucial element of success."

"It doesn't matter how pretty the finished job is, if the topping doesn't stick, who cares?" adds Charles Leland, vice president of SureCrete Design Products. "If you don't do the best prep work you can, you risk losing the job or having lots of callbacks."

Start with a walk

Depending on its condition, every concrete surface requires some preparation to create a proper texture, or profile, for applying coatings. A visual evaluation is the first step in determining any problems or concerns with the existing slab and determining the profiling method to use.

"Usually a visual examination will tell you a great deal about the slab," says Bill Glynn Jr. with Sawtec. "But the most important elements of inspecting a slab are common sense."

"Walking the floor" to carefully note differences in surface cleanliness, grade and condition is a must. Look for any existing sealers, grease, oil, effervescence, curing materials and dirt that need to be removed. If you find

excessive laitance or a weak layer of cement on the surface, the material must be removed down to solid concrete. Coatings and overlays will simply not bond properly to weak concrete.

A few easy tests can help gauge the slab's structural integrity. Take a tool, such as a screwdriver or nail, and pry up test areas of the surface that appear loose or soft. Strike a ball peen hammer against the concrete surface to indicate hardness. Hollow spots can be determined by sweeping a surface with a metal chain or golf club and listening for pitch changes.

"They will perfectly mirror what's below," contends Leland.

"Invisible problems" below the concrete can be especially perplexing. Some indications do exist. "Cow patches," black and white patterns in the slab, can be a signal that moisture problems are present.

Evaluating moisture and vapor transmission

Determining the moisture content and vapor transmission is critical to maintaining the structural integrity of the slab before any toppings or coatings can be applied.

"Moisture is a huge problem when it comes to surface preparation," notes Matt Casto, vice president of technical services for Bomanite Corp. "It is extremely misunderstood and must be understood to ensure a long-term mechanical adhesion. Moisture can destroy that concrete stability."

Moisture can basically do three things to concrete. It can hurt the concrete itself when the alkalinity reacts with the aggregate. It can destroy certain polymers, and it can expand to remove toppings from the surface.

Excessive vapor transmission occurs when a water source under the slab is combined with concrete that is unusually permeable. That source could be a high water table, broken water pipe, landscape sprinkler or rain. Overly permeable concrete usually

results from a water-to-cement ratio that is too high. The excess water leaves the slab during the curing process and creates capillaries that serve as a pathway for water vapor to be drawn up through the slab.

This vapor collects condensation at the bond line, and that condensation attracts salt and dirt. Eventually, it leads to lessening of the bond.

Notes Casto: "Moisture really isn't the problem. It's the alkaline salts that it carries. They react adversely to coatings and toppings and can expand or blow them off, no matter how good the mechanical bond."

The most cost-effective method of determining if moisture vapor is passing through the slab is the calcium chloride test. The test gives a measurement of the pounds of vapor passing through a 1,000 square foot area in 24 hours. Three or less is considered safe. Other methods exist, but they are often cost prohibitive.

In recent years, manufacturers have begun to introduce products onto the market that can help with solving moisture problems. Applied Concrete Technology Inc., for example, now sells its Protecrete Densifier that penetrates into the concrete to form a permanent gel-like barrier which can never be worn away. In one application, the product holds the hydrates in, thus waterproofing the concrete internally as well as externally.

"Basically it's a do-all product," notes David Johnson, president of Applied Concrete. "It's essentially fixing the concrete."

Honor the cracks

It's a fact of the business: All concrete surfaces crack. Improper sub-base compaction, jointing practices, poor finishing and unsuitable curing can contribute to unsightly random cracks. It is important to repair cracks because, if left, they will spread and cause concrete to become unstable. Coatings, too, will fracture along joints or cracks that are not properly addressed.

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The key in making repairs is to determine the kind of crack you're dealing with. A cosmetic crack, which does not go all the way through the slab, will be addressed differently than a structural one.

Cosmetic cracks are usually easiest to handle. The contractor should "v" cut the crack and seal it with a hard filler material. Structural cracks are more difficult. Contractors often square cut the crack, and then apply a flexible epoxy resin or sealer. Because there are so many variables to a structural crack, these should be diagnosed on a case-by-case basis, as those in the industry recommend.

Most cracks that occur on slabs are not moving cracks, but some do move or vary in size because of seasonal differences in temperature, moisture levels, stress loads and other factors. Contractors should "honor" those moving cracks by designing their system around them.

"You should let the floor move," says Sawtec's Glynn. "Fighting a live crack, attempting to prohibit its movement or, worse, ignoring the fact that it will move, is a losing battle."

Be a clean machine

Once you've got a handle on the slab's character and condition, and have repaired and solved any problems, the next step is to clean and condition it thoroughly. To ensure a bond between the topping and the concrete, the slab must be absolutely free of dust, dirt, oil, grease, paint, curing components, coatings and all other contaminants.

To determine if a surface is clean, use the "water drop test" by applying a small amount of water onto the floor. If the water doesn't penetrate into the pores, neither will a coating.



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Sometimes cleaning a slab may be as simple as scrubbing the surface with an aggressive nylogrit brush and then applying a commercial cleaner. The surface can then be rinsed with a pressure washer and allowed to dry.

Pressure washing works well for chemicals and oils. Degreasers worked in with a floor scrubber/polishing machine can adequately remove dirt and grime. Detergents and cleansers can also be effective as long as the grease and contaminants are water soluble or emulsifiable by the detergent or cleanser. They work best for removing superficial grease, although more than one treatment is often necessary. High levels of contamination may require grinding.

The use of water in cleaning concrete should be kept to a minimum. Using excessive amounts of water will generally cause unacceptable time delays on a project because of the extended drying time needed before any coating application can begin.

Get a handle on what you're removing

Removing previous coatings and flooring products depends on the type and nature of the material to be removed. Sometimes a mix of different methods can be especially effective. For thin sealers, concrete grinders or brush blasting with a shot blaster are appropriate. For epoxy, mastic and thick coatings, concrete grinders with aggressive cup wheels or scarifiers can be used.

Machines with carbide-tipped slicers can quickly remove thick coatings. Hand-held or ride-on floor scarpers can effectively remove such materials as carpet, parquet flooring and other thick materials. If the surface has delaminated, shot blasting, scarifying or other chipping methods must be used.

Shot blasting works well as long as the material is not rubbery. If it's too elastic, the shot will bounce instead of fracture the coating. A boon to using shot blasting to clean the slab is that it

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also provides a profile to receive the bond coat.

Muriatic acid also can be used to clean and profile concrete surfaces. When using acid, it's safest to start with a minor dilution of about 20 parts water to one part acid, then work up to more concentrated solutions depending on the type of concrete surface you're washing. Through advancements in technology muriatic acid is now offered in a gel. This gel keeps the acid on top of the slab where the profiling is obviously needed. Remember, when concrete is acid washed, it must be properly neutralized before putting a topping on. (See sidebar for tips)

Create a profile that meets the grade

By most standards, creating a proper "profile" is an essential ingredient in the job's eventual outcome. It basically creates more surface area for the topping to adhere to.

"Profiling is real important in our book," notes Leland of SureCrete. "It's one of the keys to getting the cementitious topping to bond."

To secure that bond, the concrete surface should be rough enough so that a "tooth," or series of peaks and valleys, feels similar to a 120 grit piece of sandpaper.

A deeper profile than that, however, does not necessarily mean a better bond, cautions Al Slater, product specialist with Blastrac.

"The bonding process can in some ways be considered a microscopic event," he says. "A deep, coarse profile can contain micro-fractures that can weaken the integrity of a slab, depending on the preparation process used. Some deeper profiles also have the potential to bleed air as the overlay is being applied, causing fish eyes and pin holes that are ugly and difficult to fix."

Although many in the industry are split between the benefits of roughing the surface mechanically or chemically, Casto, says each has its place.

Acid Etching Concrete

When treating exterior surfaces with an acid etch begin by pouring one part muriatic acid into five parts water. (Always wear suitable protective rubber gloves and eye wear when working with acid) Start by applying mixture with Hudson Sprayer to a 10' by 10' square. (Contractors often make the mistake of biting off too big of an area and not treating the complete surface adequately.) If treated surface begins to turn yellow your acid mixture is being applied too heavily. It is best if your mixture produces more of a white foam as this will lead to the best surface profile. It is also important to scrub the treated surface with a suitable nylon brush prior to rinsing. Acid should be allowed to remain on the surface for 3-5 minutes then rinse thoroughly. When treating the next 10' by 10' square be sure not to allow acid onto the treated areas. When pressure washing exterior, surfaces use a minimum of 1500 psi (hot or cold), a 15° tip, cleaning a maximum distance of 3" to 6" from the surface with a 3" pattern and a 50 percent overlap.

The basic procedure for acid etching is to mix the acid using a 30-70 dilution rate (30 percent muriatic, phosphoric, or other acid solution to 70 percent water), and to use a garden sprayer can to sprinkle it on the surface. A floor-scrubbing machine can work the solution into the concrete and break free what the acid is etching. After this process is completed, contractors should neutralize the acid and rinse the surface thoroughly. The most important part of etching is to apply the acid uniformly. Some experts recommend wetting the surface before applying the acid to create a damp but not wet, area. The object of etching is to get floors or any other surface to a texture of 120-grit sandpaper.

It's best to work in small areas to allow the solution to be removed by vacuum before the acid dries and leaves a residue. Never allow the acid solution to dry on the floor. That's where you get residue and then you have to re-etch. If a residue remains, the coating bonds to it instead of the concrete.

Important Safety Tip

Remember to always pour the acid into the water and never the water into the acid.

Profiling the surface mechanically includes grinding, sandblasting, shot blasting and using other tools. Chemical profiling includes acid washing, chlorine washing and other chemical methods to remove surface imperfections.

The preferred method for large or difficult surfaces is mechanical profiling, however. Shot blasting is one of the most popular and cost-effective methods of creating a profile, and is most suitable for ½-inch or thicker toppings. Scarifying can resurface horizontal surfaces and smooth faulted joints, and cut deep groves into the concrete to create non-slip surfaces. Grinding creates less of a profile but is often used for edges.

Not surprisingly, costs depend on the job

Although a critical component of the job, concrete preparation can cost widely depending on the job type, size and geographic location. On average, however, when the expense of equipment is excluded, the cost in preparing concrete for cementitious toppings can cost anywhere from 5 cents to 30 cents per square foot.

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A burning question

To burnish or not to burnish? It all depends on the look you're after

by Stacey Enesey Klemenc



For many years, burnishing has been commonly used to make commercial floors harder, more durable and easier to clean. But these floors had no aesthetic value. They didn't need to; they were an underlayment.

"In the old days, they burnished concrete for structural value," agrees Tom Ralston, president of Tom Ralston Concrete, a third-generation concrete company in Santa Cruz, California. "The more you trowel concrete, the harder and the more abrasive-resistant it becomes."

But in addition to this incredible hardness, something else happens to the surface's appearance, says Ralston, a frequent speaker and trainer of decorative concrete techniques at industry gatherings. "We found that burnishing really mimics acid staining in that it creates a kind of patina-like variegation that people are looking for these days." He recalls one client who wanted a variegated-looking countertop some years back. With the help of a spray bottle, "We found we got a nice variegation with gray natural concrete just by adding water." The more they burnished — with a burn trowel

Artist James Howell of New York, whose work captures the graduation of gray, chose to go with a burnished gray floor in his studio to complement his artwork. The floor, with all of its subtleties, was created by Alan Bouknight Contracting in Minneola, New York. The loft's architectural design was by Deborah Berke & Partners Architects LLP and won the AIA award for 1999.

Photographs courtesy of James Howell (Artist)

typically three inches wide — the more variation of color they got.

Ralston, who is always scouting for new products and techniques to help him with his one-of-a-kind creations, was definitely onto something that went beyond the basic burnishing of yore.

The highs and the lows

When you trowel over and over again—which is what burnishing is—it makes for a shiny, smooth and hard surface, a look that people today want for their interior floors and countertops.

Rather than for the shine, Ralston says he burnishes to get the “highlights and lowlights” of naturally colored concrete or color applied to the concrete via a hardener. “If you extend the concept of burnishing to include color hardeners that allows you to open up a whole array of visual possibilities. Your trowel then becomes similar to that of an artist’s brush. You could make colored concrete look like an oil painting.”

And cutting-edge contractors like Ralston are finding out that if you flash in color as you employ these burnishing techniques you can create masterpieces.

It’s all in the blend

When you hard trowel colors together, you’re actually blending them for a more natural look, Ralston says. “Look at a piece of natural slate, stone or bark and you’ll see a subtle blending of colors. That’s what you’re trying to accomplish with your trowel. You’re burnishing for the visual effect, not to create a scratch-resistant surface or a surface that cleans easier.”

The more you trowel, the more mottled the coloring appears — which isn’t always a good thing. When you over-trowel integrally colored concrete you may end up giving clients a mottled effect rather than the color-consistent surface they wanted. And if you really over-trowel hard concrete — and this is especially true with power trowels — the aluminum in the mix and the steel in the blades can get so hot it will burn and blacken.

Going through the steps

Alan Bouknight, owner of Azzarone Contracting in Minneola, New York, has been burnishing concrete for nearly 10 years. In the last year, he says, his company has made a “quantum leap” in perfecting the process, thanks in part to new tools, new techniques and being smart enough to learn from mistakes. “We’re willing to see how far we can push the limits of concrete,” he says. “It

has an inherent beauty if you know how to coax it out.”

For a burnished finish — “The right terminology is a hard-steel-trowel burnished finish” — first strike the surface with a straightedge to make sure it’s fairly level, pass with a bull float and, when the concrete is ready, come in with a machine and hit it once or twice with shoes or pans to flatten it, says Bouknight. The drag from the oversized

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shoes works the fines and the cream to the surface while the vibration of the machine shakes the mixture and the heavier aggregates sink. The oversized shoes help to distribute the material and fill in the hills and valleys.

Next, remove the shoes and go over the surface with your stainless steel finish blades to help create a polished finish. During each stage, the concrete keeps getting harder and harder and you

must determine when — and if — to get on it again. Each time you machine trowel, you need to increase the speed and pitch of the blade, Bouknight says, because you're building up friction and heat with the drag and that can help burn the floor.

A pattern is also important. "You need to go in different directions so you won't get waves in the floor; you want it to stay flat. Typically, you make passes

like north to south and then east to west to give you nice coverage between coats. It's a lot like painting," says the seasoned contractor.

The method he just described, he says, will produce a burnished — almost marbled metallic-look to the floor.

Burn, baby, burn

Bouknight remembers when the standard for finishing concrete floors was to give the client a burnt floor. During his boyhood, he recalls accompanying his father or grandfather to jobsites in New York City some evenings and "You could see sparks fly off the blades. That's how many times they'd trowel it." Burnt floors are hard as steel, he explains, and it didn't matter if they were blackened. "The floors were going to be covered up with carpet or linoleum anyway."

Today, "We don't have to burn the floor as much because we have plenty of additives to make it strong. We can avoid the burn and get a beautiful opulence. Each time you make a pass, you're layering the burnish marks, which gives a sense of depth to the floor. It may look rough or coarse, but it feels like hard silk."

Slight of hand

Bob Harris, director of product training for the Scofield Institute, the educational arm of L.M. Scofield Co. in Douglasville, Georgia, explains that when burnishing involves a hand trowel: "With each successive pass, you use a smaller tool. The smaller the trowel the more weight you can apply to densify the surface. You'd start with, say, a 20-inch trowel then a 12 then an 8-inch burnishing trowel. That's probably as small as you'd typically go. Obviously, this method wouldn't be practical for large jobs."

When you burnish, you're making the surface slick and very smooth, as well as altering the color. "Burnishing creates a very nonuniform look, kind of a marbled appearance where the color darkens in certain areas," Harris says. "Some people call it a ghosting effect."

If you're selling this look, it can be very attractive, but if someone wants a

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monochromatic surface it's not the way to go.

Bob Ware, president of the Decorative Concrete Store in Cincinnati, agrees with Harris' advice and cautions contractors to be careful with integral colors. "The term burnishing, in essence, means burning the finish. Trowel machining colored concrete is a careful process. It may only require one to two passes."

If you do more, instead of a high gloss, "you'll end up with streaks marks — or worse, black marks — from the trowel machine, tinting the true color you really want." So the final pass of many colored concrete floors is hand troweled by a crew on kneeboards.

To be on the safe side, a preconstruction meeting should be arranged between the finisher and the architect to decide on the look of the floor. If the job is large enough, Ware urges, pour an 8-by-8 foot mock up for the architect's approval.

Take care

To be successful time and time again, Bouknight — whose mantra is "perfection, not production" — notes it's very important to find a ready mix supplier who's cognizant of what you want to achieve and is involved in helping you achieve it. "When we create a floor that's stunning, I call the supplier and tell them they must see for themselves what we can do with these materials," he says.

"The color chosen limits the degree of how much you can burnish the floor," Bouknight says. Each trowel pass darkens the floor so if the floor is, for instance, a really light beige color you can burnish it in a subtle way. However, you'll have to sacrifice a really tight and smooth finish or you may wind up burning the cement in places. "The more you trowel, the more radical the background color becomes. You really have to pay attention and make sure you don't overtrowel. Typically, light integral colors don't work well," he says. "Reds work well if you're careful."

Bouknight says he always uses a machine to burnish floors. Depending on

the application, these machines can weigh anywhere from 50 to 200 pounds and can be fitted with different shoes and blades. "A guy with a hand trowel can get a smooth surface but it will look monochromatic," he says. "You won't get the subtle, variegated, marbled look that you get with a machine."

Sound concrete finishing practices and using the right tools make all the difference, says Bouknight. He

recommends having your machines serviced at least three times a year and to make sure everything is balanced. "Maintenance and cleanliness of equipment is very important to a successful job," he stresses.

Machinery on the horizon

Matt Casto, vice president of technical services for Bomanite Corp. in California, says the mottled look has



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become more prevalent with the introduction of polymer-modified micro-toppings. "The thinness of the material has made it very cost effective to blend colors together," he says. "You can put down two to three colors quickly and mottle them together by dragging them on, brushing them on or spraying them on." And now there's another option: you can "HoverTrowel" them.

Makers of HoverTrowel, a pneumatic-driven power trowel initially developed to finish decorative aggregate epoxy floors, are working with a number of manufacturers to establish a niche in this market with accessories and modifications designed specifically for overlayments. Industry experts are experimenting with various RPM and torque-load motors with weights to determine the optimum method and timing for these polymer-modified applications.

According to Drew Fagley, president of HoverTrowel Inc., this power trowel



Photograph courtesy of James Howell (Artist)

Beyond the visual effects burnishing can create with gray concrete, such graduations of color can also make topical staining applications more visually stimulating.

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can be used in lieu of hand troweling or on occasion in place of conventional trowels. "The resulting finish is consistently uniform and flat," he says.

Fagley sees the machine as a big plus when hard troweling multiple colors into a surface. Conventional power trowels are too heavy for some surfaces or don't achieve the desired effect, he says, so crews currently finish the job by hand. It's in these instances that the lightweight HoverTrowel is finding success. The machine can be used effectively to hard trowel in colors, thus reducing manpower and finishing time. "Instead of six guys going out with kneeboards, we can outfit an operator and a support man with float shoes we call slides — which are basically kneeboards for your feet."

Various types of motors are available to supply different torque loads for the more resin rich systems as well as today's newer polymer toppings. Additional weight, in 2 pound increments up to 22 pounds, can be added to further fine tune the trowel's performance.

In addition to the standard tool — steel blades, stainless-steel and composite blades are available — as well as various float blades made of mahogany, magnesium, aluminum or laminated resin to eliminate unsightly burnishing marks and to produce various finishes.

"About the only thing you can't change about the HoverTrowel are the results," Fagley says with a laugh. It has an extension handle that doubles its length in six-inch increments. Two different diameter guards are available to complement the multiple blade and float sizes. And soon a four-cycle retrofit motor will be on the market.

"We've played around with the HoverTrowel and I believe that it's going to be a good tool to burnish micro toppings with," says Bomanite's Casto. "It's lightweight and has the ability to get onto that material quickly."



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Product Profiles



Sparkle Grain System

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A good method for placement is to use the Sparkle Grain (16 mesh) and mix it in with a topical color hardener and broadcast by hand.

Immediately after the surface has been leveled and wood floated, and before the bleed water has appeared the Sparkle Grain should be applied evenly while there is sufficient moisture in the slab to saturate at least two dust on coats.

After the color hardener and Sparkle Grain have been troweled in another topping coat of the Sparkle Grain, by itself, can be dusted on and troweled in. The following day a 5% to 10% muriatic solution is then applied to the surface exposing the Sparkle Grain finish. The grain is brilliant in the sunlight and the Sparkle Grain will twinkle and dance with the sunlight.

For more information on purchasing Sparkle Grain please contact Pacific Palette Concrete Products at (831) 457-4566

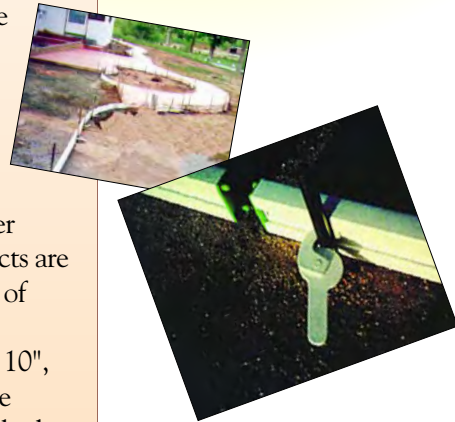
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Forming requirements for decorative concrete often involve radius and curved sections. Plastiform™ concrete forms can be used to set up curves as small as a 3-foot bend radius. The forms are very quick to setup using a cam-lock clamp that fastens the forms to stakes. The clamp can be twisted in anywhere along the slot on the back side of the form in a few seconds. And the forms have end connectors to link the forms together in long sections.

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Plastiform™ forms come in a variety of sizes (3.5", 4", 6", 8", 10", and 12" face height) and lengths (12" and 15" long). The stake spacing for the forms is every 2.5 to 3 feet and they can be stacked as well

For information, contact The Plastiform Co. at (800) 358-3007 or www.plastiform.com. See ad on page 30.



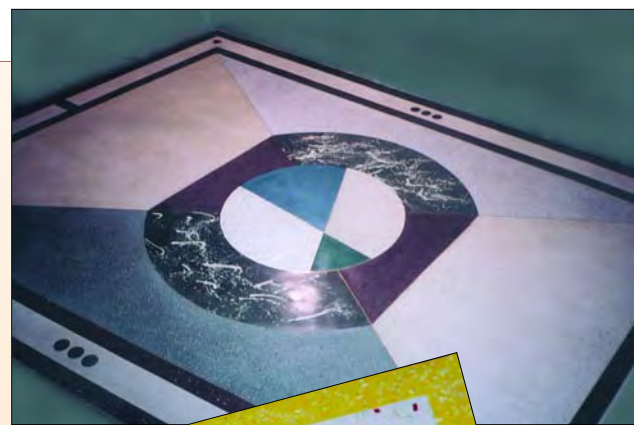
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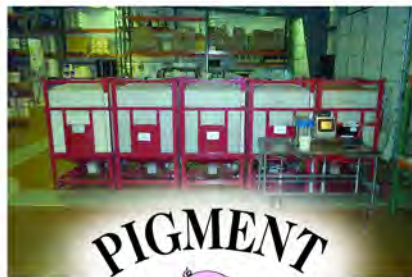
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Manufacturer Profile:

By Bruce Hackett

Custom Rock International

Broadening the Decorative Concrete Market



When decorative concrete is mentioned, typically we're referring to the booming market in flat concrete — floors, driveways, pool decks, even countertops. However, there are additional, more specialized niches in the decorative concrete arena: simulated rock formations, typically found in zoos, theme parks and resorts; and textured and colored concrete walls, bridges, tunnel portals and other vertical surfaces, found in dozens of applications.

Custom Rock International, a 31-year-old company based in St. Paul, Minnesota, is involved in all these kinds of applications and more. From humble beginnings in 1971 as a purveyor of colored and imprinted concrete designed to simulate stone or brick, Custom Rock has done projects throughout the US as well as the Caribbean Islands, Saudi Arabia, and Asia. The company is now recognized as an industry leader in such areas as the manufacture of quality, high-definition rockwork castings.

In the late 1970s, Custom Rock was given the opportunity to create an artificial rockwork project at the then-new Minnesota Zoo, recalls Paul Mooty, President of Custom Rock. "We were already in the business of creating simulated rock in flatwork, so this venture into creating simulated rock was a natural progression for us." By the late 1980s, Custom Rock was asked to produce a stone texture mold for a poured-in-place concrete wall. "Given the company's molding talents and expertise, this was, again, a logical progression for our business," Mooty said. That project led to the development of a number of unique, patented methods of creating high-quality authentic stone textures on vertical surfaces in a seamless and non-repetitive fashion, he said.

Durable Form Liners

A particularly successful part of Custom Rock's business is the production and marketing of a broad line of form liners, including solid urethane DuraForm reusable liners. More than 30 different patterns, from weathered limestone and rustic barn wood to random cut stone and rustic ashlar, are available. In addition, in keeping with the company name, Custom Rock accepts the challenge to provide custom patterns as well.

"When you combine our quality products with many years of experience in the custom molding of rock textures as well as other types of form liners including wood and brick, every job becomes a new experience that we as a company can grow and learn from," said Jim Bohrer, Custom Rock's Director of Wall Systems.





A recent successful project involved the production of wood grain form liners for the rebuilding of the damaged portion of The Pentagon in Washington D.C. The Department of Defense imposed very tight and challenging deadlines in order for the project to be completed by the one-year anniversary of the September 11th terrorist attacks. Although Custom Rock usually requires 3-6 weeks to create a custom form liner, the company worked extensively to manufacture 9,800 square feet of custom form liner in four weeks.

"Our strengths in custom molding and the ability to produce samples quickly make projects like the Pentagon stay on schedule with the highest quality results," said Bohrer.

Custom Rock has an impressive list of projects on which form liners were successfully used to duplicate natural stone structures: retaining walls and abutments in many park area throughout country; numerous wall projects at golf and country clubs; the killer whale exhibit at Sea World in California; a dam project in New Jersey; tunnel portals in Duluth, Minnesota; and many bridges across the United States.

In addition to the high quality results made possible through the use of Custom Rock form liners, they are cost effective for contractors as well, according to Bohrer. "Contractors recognize the cost savings in our form liners," he noted. "Increasing labor costs, coupled with the costs associated with real stone, have increased the cost effectiveness of form liners, especially when the contractor chooses a standard pattern or uses a DuraForm highly

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Concrete Rock Formations

Custom Rock is a major player in the creation and installation of unique rock formations used in both indoor and outdoor artificial landscapes. Zoos, theme parks, museums, aquariums, casinos, resorts and even upscale residential property across the country have all been enhanced by Custom Rock products. At the Mall of America in Minnesota, the nation's largest indoor amusement park called Camp Snoopy features 65,000 square feet of GFRC castings and 35,000 square feet of cast-in-place rockwork. One of the company's most striking achievements can be seen at Grand Wailea Resort on the island of Maui in Hawaii, where a simulated 50-foot volcano and other volcanic rock formations adorn the complex of pools, grottos, caves and water slides.

Custom Rock creates its rock formations using glass fiber reinforced concrete (GFRC). Once product has been delivered to the project site, individual rock panels are attached to a structural element. The panels are attached together with metal lath and a structural layer of concrete. Then a second and even a third layer of concrete (the textural coats) are placed over the structural layer. Finally, the newly installed rock feature receives a couple of coats of paint to match the actual color of the rock type being replicated.

Installation involves several trades and a keen artistic eye, according to Bob Wallace, Director of Sales. "Typically, we



use a number of trades for each rock installation. A couple members of each crew on every project must have a real artistic eye and hand to perform these specialized tasks, especially when embossing or coloring."

Contractors who might be new to this type of decorative concrete application can rest assured that Custom Rock personnel can offer assistance throughout the duration of the project. "As a specialty concrete contractor, Custom Rock is able to take on the difficult, often near-impossible task of coordinating the manufacturing with the installation to assure the project's quality and timetable aren't compromised," said Wallace. "Because we are a contractor ourselves, we understand the difficulties of the construction process and can help coordinate several issues within a

Photograph courtesy of Custom Rock International

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Custom Rock is still heavily involved in flatwork and architectural paving projects as well, offering a wide variety of colors, textures, stamps, stains, or the very latest in

digital template imagery. Successful applications range from an elaborate pool deck at The Sahara in Las Vegas to a chemically stained retail showroom floor and a colored and stamped upscale residential driveway in Minnesota. Perhaps most notable is a unique plaza space outside the Cat House building at the Como Zoo in St. Paul. Silhouettes of various zoo animals were designed, digitized, enlarged and electronically cut out, and the end result looks like a huge animal jigsaw puzzle, which has proven to be a big hit with zoo visitors.

The Future Looks Bright

The Custom Rock team sees nothing but good things ahead for the specialty concrete business. "I believe the demand for high quality form liners will continue to grow as architects, engineers contractors and the general public discover the difference between a quality project and one that doesn't have the natural look of materials like stone or brick," said Bohrer.

Concludes Wallace, "With new products being developed each year, a greater appreciation by design professionals of the many uses, and increased acceptance by contractors, the future looks bright for the specialty concrete business in general, and Custom Rock in particular."



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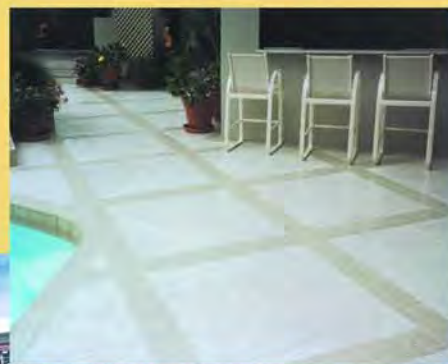
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CIRCLE #36 ON READER SERVICE CARD

Henry Mercer's concrete castles instruct, inspire and amaze

By Susan Brimo-Cox



Photographs courtesy of the Bucks County Historical Society



(Top) Fonthill, Henry C. Mercer's home in Doylestown, Pennsylvania. (Above) Mercer with one of his dogs. (Right) The Spruance Library at the Mercer Museum.



Photograph by Scott E. Mabry

Describing Henry Chapman Mercer's home, Fonthill, as a castle may be a misnomer.

There is no surrounding wall or moat to keep out the unruly peasants or faraway invaders. Nonetheless, Fonthill is so full of treasures — of every conceivable kind — that anything less than “castle” seems inappropriate.

When Mercer began planning his home in Doylestown, Pennsylvania, in 1907, he was 51 years old. This Pennsylvania native had attended Harvard, had traveled the world pursuing his life-long interests in archeology and history, and had accumulated significant collections of artifacts. He was a leading Arts and Crafts movement tile maker. And he was an avid fan of concrete.

Concrete was Mercer's building material of choice because it was easily formed, fireproof and inexpensive. It also combined well with his famous mosaic tiles.

The concrete castle is formed

Mercer's design began with the rooms. After he imagined them, sketched them and made clay representations of them, he laid the clay blocks out on a table, set



Work in progress at Fonthill. Note the form marks on the exterior walls. Forms at Fonthill were made from whatever old lumber and boards were convenient to acquire.

them together and, only then, finally considered the exterior of the home. A plaster of Paris model and his sketches served for blueprints throughout the construction 1908-1912.

Fonthill was built on top of an existing stone farmhouse — you can still see some of its walls — which was strategically situated on bedrock. Eight to 10 laborers, with little or no concrete experience, and a work-horse named Lucy (that was also paid a daily wage) completed the basic construction by October 1910.

No machinery was used in the construction — even the water was pumped and concrete mixed by hand.

Frank Swain, Mercer's archaeological assistant and manager of Mercer's tile works, reports concrete was carried in boxes, which were carried to a lift operated by Lucy, “who knew just how far to go for the box to reach the platform... The horse just knew the timing necessary to release the full box and for the return of the empty one. Then she would back up to the point of starting, waiting for another trip without any command except for the start of the up trip.”

Arched ceilings were formed by erecting platforms of recycled lumber and boards, heaped with grass, weeds or hay. Earth was layered on top, then empty boxes, more earth and a layer of sand. If inlaid tiles were part of the design, they were placed face down in the sand, embedded just a bit. Wire mesh and pipes for reinforcement were then put in place and the concrete poured. When the platforms were dislodged and the earth and sand fell, the tiles remained in the ceilings.

Mercer's goal was to decorate the construction, not construct decoration. His tiles are educational embellishments throughout the house — they tell stories. Varnish was brushed on the concrete between ceiling tiles to create a golden glow. He added dry paint pigments to dry cement before mixing to color concrete. Tar paper was burned to create a thin film of soot, which gave a patina of “age” to the new concrete. And aggregate and form molds also left their characteristics. Mercer was not ashamed of the “mark of the mold.” In fact, he relished them.

On May 29, 1912 — after the plumbing contractors, tile setters, carpenters and blacksmiths completed their work — Mercer moved into his home.

Fonthill is a showcase home

Fonthill's 44 rooms, 32 stairways, numerous hallways and 18 fireplaces all serve as canvases to display and teach about history, architecture, archaeology,



As this in-progress photograph of the gallery in the library shows, numerous vaulted ceilings at Fonthill were decorated with tiles that were embedded, face-down in the sand, before the concrete was poured.

anthropology and art. Its 200 windows pierce the structure like holes in a tin lantern, while towers, turrets and chimneys dance on the rooftop. The house isn't a medieval building, it combines Greek columns, Roman arches, Gothic vaulted-ceilings, and styles from other countries and periods of history.

Concrete furniture, from desks to bookcases and dressers to a key cupboard for 66 keys, illustrates the "form follows function" philosophy. Colors from nature were used to create harmony between the home's furnishings and the decoration.

Every room and space in Fonthill is unique. After entering through a cave-like passage, you see the saloon (living room) ceiling soaring two-stories high. In the room no two columns are alike, nor are they evenly spaced. They were located randomly, like trees in the woods. And they reach up to beams that spread out like branches. Moravian stove plates, which inspired Mercer's decorative tiles, are on display. Delft tiles, from about 1600 to the late 18th century, are mounted in chronological order to decorate walls near the windows. Babylonian tablets amid decorative tiles line columns.

In other rooms and passageways you'll find Persian tiles, Chinese roof tiles, historical prints and some 6,000 books. The history of pottery is displayed in a frieze behind chicken wire in the study; artifacts include prehistoric, Etruscan, Roman, Native American, African, medieval, German and American. The paw prints of one of his beloved dogs, Rollo, ascend the concrete stairs to the terrace. Alcoves, nooks and interesting spaces abound.

Mercer's tiles, however, steal the show. In the Columbus Room the discovery of the New World is illustrated. In the West Room, tiles illustrate Charles Dickens' *Pickwick Papers*. Ceiling tiles in the Yellow Room are designed after a Spanish monastery and tiles telling the legend of Bluebeard are used as wall decoration. The Mexican Room's decoration



(Above) The Columbus Room at Fonthill.

(Right) Vaulted ceilings at Fonthill were formed over temporary scaffolds that were heaped with weeds, grass or hay, topped with boxes, earth and sand; then concrete was poured on top.



Photograph by Scott E. Mabry

Photographs courtesy of the Bucks County Historical Society

pertains to that country, including a map of Mexico City and the coat of arms of Cortez and Spain.

Even in the staff side of the house, decorative tile was used and the names of everyone on the construction team are immortalized in tile.

As Lou Fleck, a Bucks County Historical Society volunteer and Mercer expert, explains, "The whole house was a new concept in construction, shape and form... Mercer was very unconventional in his methods, but very successful in the results."

Why stop at one castle?

Mercer's goal to make a home that was art form and museum was achieved in his lifetime. But he didn't stop there.

He built his next all-concrete project, the Moravian Pottery & Tile Works, on property adjacent to Fonthill. The Spanish mission-style building was constructed between 1911 and 1912, while Fonthill was being completed. Lucy the horse helped on this project, too.

Mercer's third concrete castle was the Mercer Museum, built to house and display his collection of pre-industrial tools and implements — more than 15,000 items representing more than 60 early American crafts and trades. The museum also houses the Spruance Library. Again, Mercer worked from sketches to create a mammoth building. The museum was completed in 1916.

Truly a Renaissance man, Mercer lived at Fonthill until he died in March 1930.

Now, nearly 100 years after they were begun, Mercer's home, pottery and museum are treasure chests of inspiration and wonder that illustrate the extraordinary genius and accomplishments of this fan of concrete. If you are in the neighborhood—or even if you're not—it's worth a trip to Doylestown to see Mercer's masterpieces. All three "castles" are now National Historic Landmarks and open to the public.



For more information:

A regular contributor to *Cement Age* magazine after it was founded in 1904, Henry Mercer has a lot to offer the concrete industry and its professionals, even today. If you are planning to visit any or all of Mercer's Doylestown, Pennsylvania, "castles," check first for hours, tour schedules and admission fees.

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CIRCLE #10 ON READER SERVICE CARD

Slip resistance for concrete flooring

By Gareth Fenley

Contractors and building owners alike are at risk when they install flooring that can contribute to an accident in which someone slips and falls. These accidents account for thousands of deaths and far more injuries each year. To prevent them, government and industry have developed codes and guidelines designed to make floors safer to walk on.

In the interest of developing a scientific way to determine how slippery a surface is, measurements of slip resistance have been developed. In the United States, slip resistance is determined by measuring the static coefficient of friction (SCOF) of a

surface. SCOF is defined as the force required to start relative motion between an object and the surface it is resting on. Europe and Australia have used measurements of the dynamic coefficient of friction — the force required to keep a sliding object in motion once sliding has begun — but these measurements have not gained acceptance in this country.

SCOF can be measured using a variety of instruments, each of which may cost thousands of dollars, and no single one is universally accepted among experts. This controversy poses a difficulty for the flooring contractor that just wants to lay safe flooring.

Each contractor is well advised to research the methods before choosing an instrument to invest in or a test lab to use.

In the United States, the most widely accepted and best-known evaluator of slip resistance measurement methods is the American Society for Testing and Materials (ASTM). The society publishes standards describing each instrument for determining SCOF, how it is to be used, and the results of scientific testing to determine how valid it is. ASTM has indicated that most methods can be used only for dry surfaces because liquid sandwiched between two resting



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surfaces interferes with accurate measurement by opposing the force needed to initiate motion. This is unfortunate, because most slips occur on wet surfaces, which are usually more slippery than dry surfaces.

Some of the most widely used instruments to measure slip resistance are the horizontal pull slipmeter (HPS), described by ASTM standard F609; the James machine, ASTM D2047 and F489; the Brungraber Mark I slipmeter, ASTM F462; and the English XL variable incidence tribometer, ASTM F1679. Each of these instruments has its advocates and all are in active production today. Among the four, the James machine is too large and heavy to be portable, so samples for testing with it must be sent to a laboratory. Dozens of additional devices exist; these are simply four of the most popular.

Decades of testing have established an SCOF of 0.5 to be the generally accepted threshold of safety for flooring. A lower SCOF is too slippery to be considered safe. Building codes and OSHA regulations have incorporated the 0.5 standard. Regulations implementing the Americans with Disabilities Act, however, have established that people who use mobility aids such as wheelchairs, walkers and crutches need a more slip-resistant surface. Minimum SCOFs of 0.6 for flat surfaces and 0.8 for ramps are recommended under the ADA, although these are not legally binding codes.

The slip resistance of concrete flooring varies, but a typical dry unfinished concrete surface may have an SCOF of 0.8. Sealed concrete generally has a lower (more slippery) measurement. Wet surfaces will usually be more slippery still. Wet concrete has



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been measured by the government at as low as 0.16. It is advisable for contractors installing sealed concrete to have their slip resistance tested. It's also important to consider slip resistance when preparing a floor for an area that will frequently get wet, such as a restaurant floor, pool deck, or entranceway.

When it's desirable to enhance a concrete surface by making it more slip resistant, a variety of sealer additives can be used. In order to be effective, the gritty additive must poke above the level of the sealer and through any standing water or contamination to engage with the sole of the shoe or a crutch tip. The tiny projections of the grit are known as asperities. Jagged asperities can be more effective at keeping a shoe from slipping, but round particles can be embedded more firmly in the sealer, so additive manufacturers have put considerable effort into

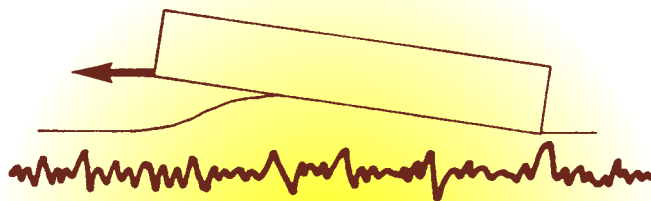


Figure 1.
The dangerous heel-slide that produces the most common disabling fall on smooth surfaces is controlled by installing a walking surface having asperities sufficiently aggressive to penetrate the hydrodynamic squeeze-film and arrest the sliding tendency.

working toward an ideal compromise.

Additives can be broadly classified into polymer and mineral types. Acrylic polymer additives are synthetic granules that can be manufactured in round or flake shapes. Suitable for residential or light commercial

applications, they have a shorter lifespan of contributing slip resistance than the mineral types because they are softer and they wear down. Because they are lightweight, they are easy to apply — simply mix in the

recommended proportion of granules with the sealer and apply. The product will clog most sprayers, so the sealer will need to be rolled on. Polymer additives are clear to pale white in color so they offer minimum impact on the appearance of a surface.

Mineral additives include glass, quartz and silica sands, and bleached aluminum oxide. These materials are significantly harder than synthetics and will stand up to heavier traffic for more years. Aluminum oxide is considered the ultimate material for heavy duty slip resistance. Each type of additive is available in a variety of mesh sizes for a different fineness of grit, yielding a different texture and different SCOF

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on the finished floor. Most minerals are too heavy to be suspended in sealer by mixing in and must be broadcast on the floor. Most contractors recommend applying sealer, broadcasting the additive, and then applying a second layer of sealer. The additive is often applied with a roller, although experienced installers can sometimes achieve good results with a shaker can or even broadcasting by hand. Mineral additives are typically more opaque than polymers, so they affect the appearance of a surface more.

No matter what additive is chosen for the application, it is important to make sure that it is properly applied so that 30 percent to 50 percent of the particle is embedded in the resin matrix. If not enough of the particle is embedded, it may become dislodged over time. If too much resin is applied, not enough of the particle will form asperities to contribute to slip resistance. For example, 60 mesh

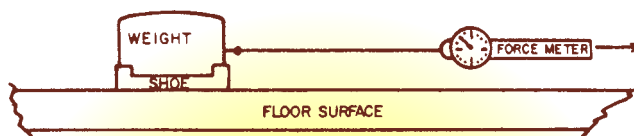


Figure 2.
Static coefficient of friction is the force required to initiate relative motion between an object and a surface it is resting on. According to NBS terminology, SCOF is the ration of the force required to move the object to its mass. That is, if it takes five pounds force to move a ten-pound block resting on a floor, the SCOF is .50.

aluminum oxide has a height of approximately 10 mils and needs to be embedded in 3 to 5 mils of resin.

The textured surface of a floor with slip-resistant additives should not be difficult to maintain. No special care is required. In food surface areas that become contaminated with grease, a

standard floor maintenance program should involve scrubbing with a floor machine using an aggressive black pad or nylogrit brush with a good commercial degreaser. Custodians should rinse the floor well to remove any detergent residue and either vacuum the rinse water or flush it down the drain.

Contractors that seal concrete floors need to become familiar with slip resistance issues for their own self protection as well as for the benefit of their customers. Investigate and choose an instrument or test lab service for measuring SCOF, develop competence at selecting and applying additives that enhance slip resistance, and keep up to date with new products and procedures in the industry. The result will be wisely managed liability and better safety for users who walk on the finished floors.



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Diamond Products

Diamond Products announces the introduction of its new Core Cut Saw Catalog. The illustrated full-color 68-page brochure contains detailed information about the company's complete line of concrete saws, masonry saws, tile saws, wall saws, specialty saws and sawing accessories.

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CIRCLE #24 ON READER SERVICE CARD

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CIRCLE #104 ON READER SERVICE CARD

Consumers and PRO's Will Get Together at FindthePRO.com

The finishing touches are being added to a Web site that will not only inform consumers about coatings and decorative finishes, but, also, help connect the consumers to local professionals and store locations. The Web site — aptly named FindthePRO.com — is the creation of Ernst Mikkelsen and the staff at Professional Trade Publications, the Eugene, Oregon-based publisher of *Concrete Decor* and *PaintPRO* magazines.

"As far as we can determine, there is no other Web site like ours," explains Mikkelsen. "The site is designed to build awareness among consumers for the decorative concrete trade as we know it today."

The Web site will not tell consumers how to apply decorative finishes — it is not a do-it-yourself site — but consumers will gain a perspective about what products and techniques are available and what constitutes quality work. The consumers will become better educated; and that's a good thing for contractors!

"As contractors, we see the very best of the best in *Concrete Decor* magazine, but the rest of the world

doesn't see that. Consumers catch just glimpses that come and go before they're aware of what they missed. With FindthePRO.com, consumers can explore decorative finishes, gather information about how to find a contractor and learn how to build a higher level of communication with that professional," explains Mikkelsen. "They'll know what to ask and what to expect from their contractor."

Specific sections of the Web site will focus on decorative concrete, exterior coatings, interior painting, faux finishes, wallcoverings and design consultants. Project profiles will be featured and regional color ideas discussed. Visitors can sign up to receive a quarterly electronic newsletter, *Better Design*, which will be delivered via e-mail in a PDF format. And two separate search engines will allow consumers to find a local contractor or store location.

FindthePRO.com makes the connection

FindthePRO.com offers value-added benefits to subscribers of *Concrete Decor*, too. "We are making a connection, you might say, between FindthePRO.com and *Concrete Decor* in such a way that *Concrete Decor* subscribers can qualify to derive a free online presence on the new Web site," Mikkelsen says.

FindthePRO.com is scheduled to launch October 31, 2002

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The image shows two overlapping screenshots of the FindthePRO.com website. The left screenshot displays a 'Contractor Search' form with fields for State, City, and various service categories like Interior/Exterior, Residential/Commercial/Industrial, and Painting/Finishing/Design. The right screenshot shows the 'Decorative Concrete' page, which includes a description of decorative concrete, a list of services (Wallcovering, Exterior Coatings, Interior Painting, Faux Finishes, Design Consultants, Store Locations), and a section titled 'How to improve existing concrete' with tips like 'Seal and repair', 'Sandblast', 'Etch', 'Stain', 'Seal', and 'Paint'.

Most *Concrete Decor* subscribers — contractors, independent businesses and individual stores — are eligible to be automatically listed on FindthePRO.com and put into the appropriate site search engine that consumers can access to find a professional or store location. The free listing will be included as long as the *Concrete Decor* subscriber's subscription remains active.

Mikkelsen points out, "Getting involved in the Internet is a good thing because, through it, professionals gain additional exposure in a venue that consumers are accessing more and more for preliminary information gathering."

Interesting, innovative and outstanding projects by *Concrete Decor* subscribers can also find their way onto FindthePRO.com and in the *Better Design* e-newsletter. "Better Design will be issued in six regional versions, which means we will be looking for project profiles to feature," Mikkelsen says. "We want trade professionals to be involved and become more active in self-promotion. FindthePRO.com and the e-newsletter will help encourage that."

Fall debut is scheduled

"Today's concrete trade is changing and consumers are looking for better finishes and products to increase the value of their investments and quality of living," observes



Mikkelsen. In addressing the needs of this niche — from the nuts and bolts basics to the glamorous aspects of new finishes, faux finishes and advanced technologies — FindthePRO.com will serve as an ideal matchmaker for consumer and professional.

Fortunately, you won't have to wait too long for the Web site. It's scheduled to go live October 31.





Editor's note: For more information, see the ad on page 48.

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CIRCLE #58 ON READER SERVICE CARD

Why To Consider Using a Consultant

by Elise Crain

A decorative concrete consultant, according to *Concrete Decor*, can help with product and installation procedures, assist with selecting qualified installers, and provide preparation and enforcement of specifications.

Architectural Concrete Consultants' Jeff Potvin is an engineer who looks at a project with the technical eye of an engineer and the practical eye of a consultant with many years experience in development, education, and installation of decorative concrete. Alternative Finishes' Wes Vollmer brings the eye of the artist and the experience of a contractor with many years of teaching the development and installation of decorative concrete. Both radiate enthusiasm for the decorative industry and the desire to help the industry grow.

"We wanted it done right the first time!" reports Mike Allen of Drath & Allen, a decorative contractor in the Atlanta area. They employed Vollmer on a chemical stain restaurant project. Bret Henderson in Waterloo, Indiana, asked Potvin to be apart of his project in order to reduce the learning curve. "We saved several months in learning and learned more than we expected," says Henderson. Jose Bello, a multi-media artist in the Tampa area wanted the artist's-eye training from Vollmer. Vollmer says, "My love for stained concrete helps because I am always striving for perfection, I feel that I am able to convey the 'language' of decorative concrete easily, I am a contractor too and can understand the problems that occur on a daily basis."

As an architect, engineer, or property owner, hiring a consultant provides guidance in the early stages of design. A consultant can deliver ideas, define costs in time and money, establish and safeguard the sequence of construction events and assure proper preparation and protection of the concrete.

Making use of a consultant can expand the range of projects offered. In Potvin's words, "Contractors can receive advice on product selections, layout, and scheduling. On-site training and troubleshooting gives the contractor the



confidence they need to complete projects or just get started in the industry."

Sometimes a decorative project doesn't work out right... the color or finish is not acceptable—a consultant will provide solutions to these problems and insight on how to make necessary changes to the job. Potvin's combination of engineering and contracting "gives me a broader understanding of how products work, I continually educate myself on products and procedures to save my clients time and money." Vollmer states "I treat every project as if it were mine."

With decorative concrete, in particular, customers are often seeking the most unique finish imaginable. Discerning customers may often leave the contractor scrambling for ideas. In such cases, a consultant brings knowledge of both new and existing products and finishes, colors and patterns and can propose options compatible with a project's time-line and budget. Consultants should open doors and windows of creativity. They normally do not promote a particular line of products

but rather, variations of several. Their experience provides knowledge of the value and strength of many kinds of products.

Consultants can train workers and supervise daily operations, freeing other professionals to focus on what they do best. In the event that legal challenges occur, a consultant's credentials can facilitate a solution to conflicts.


Knowing that mistakes within concrete applications can be a costly affair, the value a consultant offers to a project's design and specifications, management, training, and/or application makes them a tremendous resource. Plan to properly compensate your consultant, paying for experience and knowledge as you expect to be paid for your experience and knowledge. Potvin says "Peace of mind" is the service provided by a consultant.



Editor's note: See Concrete Decor magazine's Classified section on page 52 for information on Consulting Services.

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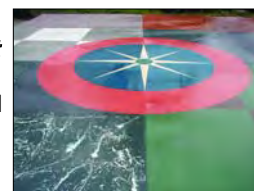
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Sherwin-Williams offers a concrete and driveway sealer that contains a siloxane water repellent that protects against salt, weather, and stains, and prevents spalling and premature deterioration.

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The product is designed to chemically bond to surfaces to create a lasting barrier that provides trouble-free protection to concrete, brick, slate, terrazzo, stucco, block, sandstone, clay tile, paved and unglazed, and exposed aggregate surfaces. Concrete and driveway sealer also protects against acid, household cleaners and oil. The concrete and driveway sealer exceeds federal waterproofing specifications and is ideal for residential, commercial, and institutional property maintenance.

For more information visit Sherwin-Williams at www.sherwin-williams.com



Sawtec CC-100 Crack Chaser Saw For Crack and joint repair

High productivity saw routs random cracks and joints at 6-8 feet/minute

The CC-100 is a walk-behind crack chasing saw designed to cut 1-inch depths in concrete or asphalt. Available from Sawtec, the device cuts 6 to 8 feet of crack per minute, or up to 3,000 linear feet in a day, depending on the material. The CC-100 features a swivel caster and a retractable control handle and uses a small diameter dry diamond blade (6") in 0.250", 0.375" or 0.500" widths. The saw is available in gasoline or electric models and operates virtually dust-free when connected to a separate Sawtec Maxi-Vac dust collector.

Applications include crack repair or expansion joint cleanout in parking garages, parking lots, airports runways, bridge decks, swimming pools, and other outdoor (or indoor) concrete surfaces.

Sawtec, a division of USF Surface Preparation Group, offers a full-line of portable virtually dust-free surface preparation equipment, including air-



powered saws; grinding equipment; tile cutting, tuckpointing, and crack-chasing equipment; joint cleanout equipment and dust collection systems. For more information, contact Sawtec at 800-624-7832.

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Abatron, founded in 1959, specializes in the research, development, and custom formulation of epoxy and polyurethane compounds. For more information, call 800-445-1754, or e-mail info@abatron.com.

NRMCA Short Course on Concrete Technology Training and Certification

The National Ready Mixed Concrete Association (NRMCA) has scheduled a five-day concrete technology training and certification course in Baltimore, Maryland, on November 3-8, 2002.

The short course is a comprehensive curriculum about concrete and aggregate technology designed to provide new employees with a basic foundation while also providing knowledge for more experienced employees.

The classroom lectures include topics such as specifications, testing, properties, uses of concrete and its

ingredients, mixture proportioning, quality control procedures, and production. Laboratory sessions about testing fresh concrete and aggregates will be available. Topic specific sessions are led by NRMCA Engineering Division staff and other industry experts. The course culminates with examinations that offer three levels of industry-wide recognized certification.

For registration or more information, call 1-888-84NRMCA, or visit www.nrmca.org



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Wacker expands ride-on trowel line

Wacker has recently introduced two new ride-on trowel models. The company offers a line of finishing machines that offer overlapping and non-overlapping operation on the same machine. A 36-inch model and a 48-inch model have been added to the CRT (Concrete Ride-On Trowel) line.



Both of these high-speed models feature a special clutch design, or torque converter, that allows the operator to change the trowel's blade speed to match the condition of the concrete without mechanical adjustments. All models feature standard heavy-duty gearboxes and the 48-inch models are fan cooled.

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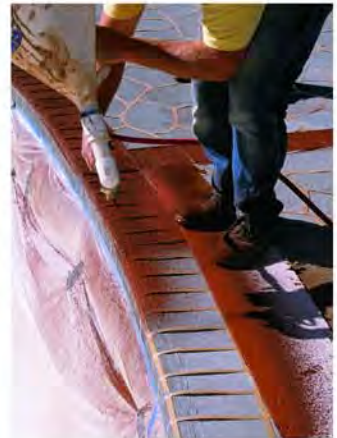
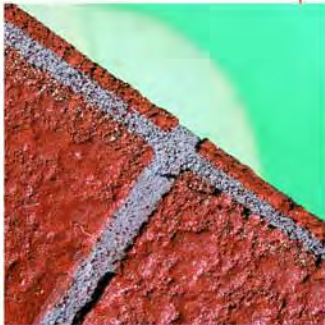
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