

Concrete

The Journal of Decorative Concrete

VOL. 3 No. 5 • OCTOBER/NOVEMBER 2003 • \$6.95

Decor

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Snow Melt Systems

Bonding Agents

Decorative Impressions
for Concrete



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WEEKLY TIME SHEET

WORKER: Roy WEEK: _____

DATE	DAY	START TIME	LUNCH	END TIME	WORK DONE	JOB	TOTAL HOURS
	Monday	7 1/2	3:30		Entrance	Brentwood	8
	Tuesday	7 1/2	3:30		"	"	8
	Wednesday	7 1/2	3:30		"	"	8
	Thursday	7 1/2	3:30		"	"	8
	Friday	7 1/2	3:30		"	"	8
	Saturday						8
	Sunday						8

SIGNATURE RS TOTAL HOURS: 40

REALITY?

Created 12/12/2003 5:14 PM

Employee Report

Raymond Stinson

Jobclock Name: **Brentwood Lodge** Date Range: 12/8/2003 through 12/12/2003

Start	End	Activity
12/8/2003 7:13 AM	12/8/2003 12:02 PM	Surface Prep 4:49 hours
12/8/2003 12:50 PM	12/8/2003 3:17 PM	Surface Prep 2:27 hours 7:16 hours
12/9/2003 7:20 AM	12/9/2003 12:06 PM	Surface Prep 4:46 hours
12/9/2003 12:57 PM	12/9/2003 3:31 PM	Surface Prep 2:34 hours 7:20 hours
12/10/2003 7:08 AM	12/10/2003 12:01 PM	Surface Prep 4:53 hours
12/10/2003 12:41 PM	12/10/2003 3:07 PM	Surface Prep 2:26 hours 7:19 hours
12/11/2003 7:16 AM	12/11/2003 12:15 PM	Pour/Stamp 4:59 hours
12/11/2003 1:05 PM	12/11/2003 3:16 PM	Pour/Stamp 2:11 hours 7:10 hours
12/12/2003 7:21 AM	12/12/2003 11:50 AM	Seal/Coat 4:29 hours
12/12/2003 12:40 PM	12/12/2003 3:19 PM	Seal Coat 2:39 hours 7:08 hours

Signature RS Employee subtotal **36:13 hours**

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Take a refreshing perspective on work

A busy season with long hours, lack of proper nourishment and rest, and not enough time for friends and family can lead to difficult and oftentimes discouraging circumstances. Though our devotion to hard work may bring financial rewards, our health often suffers as a result. And when we starve ourselves of proper nutrition and rest, our attitude toward our relationships with others is affected. I've seen it happen more than once in my life.

Work and the financial benefits we derive from it are important to all of us. That goes without saying. However, I've learned to identify various indicators that tell me that work is getting the best of me. One indicator is this: I can go for weeks or months where my relationship with my wife and children is just great. Then suddenly, without notice, everything changes. It's not suddenly bad — it's just not as good as it was. Slowly, things get worse. I get irritable, and so does everyone else in the house. When this pattern starts, things at work become less cheerful and less productive as well.

When I don't take care of myself, other symptoms become apparent too. I'm not as willing to listen to other people's ideas. I may even think that others don't understand how hard I work, or worse yet, that they don't work as hard as me. Though we may be right about some of these thoughts, they never lend themselves to stronger working relationships. I won't necessarily hear it at work, but at home, my wife will suddenly say, "You're being a jerk." That's when I know things are out of whack.

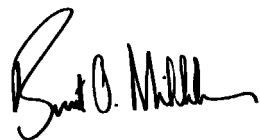
I used to think that being a real man was showing everyone how hard I can work or how much faster or better I can perform various tasks. Today, I realize that the hardest thing a guy can do is be humble enough to recognize his shortcomings and then do something about it. Ugh! That's hard. Why? Because it means more work on our part. It means working hard at something, like relationships, when we may not have that much experience. It can even mean taking some attention away from important projects currently underway.

However young you are, believe this, success is measured by the number of friends you have. Nothing more. And if you can agree with me on this, you can also agree that the best help in life comes from those who believe in your good character because you demonstrate a strong belief in them.

When I had only myself and a few others to help with the magazine, it seemed like a slow and tiresome road to failure. But when I did something about my precarious and unhealthy situation, I found ways to take control by focusing less energy on the work at hand and more on the things that could create a healthier and happier me. A changed perspective helped me regain a healthy attitude. And the essential help I needed came rushing in.

When we ignore our mental and physical wellness, we have a tendency to also stop thinking in a healthy manner about work. We lose productivity and our ability to think creatively. In this industry, where quality workmanship is the cornerstone to our long-term success and where innovation is what others have come to expect, a healthy, happy and successful life with our family, friends and coworkers is essential.

Sincerely,



Bent Mikkelsen
Publisher



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ON THE COVER: This "Nemo" pre-cast concrete countertop model of Cheng Design Product's Geocrete line is a sculptural food prep island with attached birch dining table. The island's circular, tapered walls are also concrete, which creates a continuous, monolithic feel. A perforated stainless steel door allows access to the waste container, plumbing and garbage disposal. Photograph by Matthew Millman.

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GREAT TIPS FROM 2000

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

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

We look forward to hearing from you!

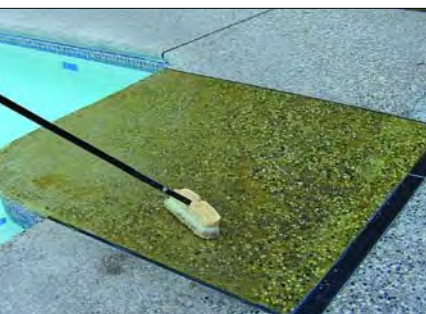
Cleaning and Resealing Exposed Aggregate

Exposed aggregate, common around many backyard swimming pools, is often a gorgeous accent that adds to poolside appeal. But when these surfaces are heavily used, they begin to lose their luster. We here at *Concrete Decor* have found a couple of great products that clean off hard water/mineral deposits, algae, rust and other substances that make exposed aggregate look less than appealing.

Tek Gel for Profiling, from Surface Gel Tek, is an outstanding method for cleaning these surfaces. Because Tek Gel (a muriatic acid in a gel form) lays on the surface of the concrete without absorbing into the cement, it removes hard mineral deposits from the surface without deteriorating the cement. This helps keep the exposed aggregate in place. Tek Gel actually needs to sit on the surface for only 5 to 15 minutes before it can be pressure-washed away to the sewer. That's right, Tek Gel is also safe for the environment. After 24 to 48 hours of drying time, we apply two coats of clear Ultra Surface Sealcoat 1000 by Concrete Solutions. These

products offer a great solution for most of your customers' stained or tarnished concrete surfaces.

Note: the second coat also included a slip-resistant additive called Shark-grip. This product is a powder that mixes into the sealer and applies per manufacturer's specifications.



The "Torpedo Groover," from Slip Industries, is an invaluable tool for contractors that know its advantages in placing control joints. But it also has some slick advantages as a decorative hand tool.

As the name implies, the Torpedo Groover is long and straight. Once it is placed into the concrete, it will guide you straight from point A to point B. It separates the aggregate up to 1½" inches deep, so it also helps control cracking.

Where jointers have difficulty cutting a straight path, the Groover has absolutely no problem giving the jointer a straight path to follow.

Have fun cutting new lines in your flatwork with the Torpedo Groover. Now the time it takes to place joints has just become the least of your worries — and design possibilities can be your greatest passion.



— Slip Industries, Livitz, PA



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Sonneborn marks 100 years

ChemRex Inc./Degussa is celebrating the 100-year anniversary of its Sonneborn product line. The company is sponsoring a Hummer H2 sweepstakes drawing and a year-long recognition and rewards program to say thank you to its customers. The line began in 1903 when the Sonneborn brothers began importing petroleum jelly to the United States from their native Germany. Over the next 100 years, the family name evolved into one of the best known brands in the construction industry as a provider of specialty chemical products. Today, Sonneborn is renowned for its high-quality and dependable joint sealants, waterproofing membranes, elastomeric wall coatings and concrete repair products for both new construction and renovation. For more information on the rewards program and the Hummer sweepstakes, visit www.chemrex.com or call (800) 433-9517.

ISPC acquires Surface Preparation Group

International Surface Preparation Corp. (ISPC), a newly formed company, has completed its acquisition of United States Filter Corp.'s Surface Preparation Group. The Surface Preparation Group is a leading provider of surface preparation equipment, parts and consumables.

ISPC has manufacturing and distribution facilities in 15 countries, primarily in Europe and North America. The company, which employs 1,900 people worldwide, is privately owned by an investment group led by Bard & Co. Inc. of Evergreen, Colo.

The Surface Preparation Group has roots reaching back some 100

years with leading brand names in the global surface preparation industry, including Wheelabrator, Blastrac, Schmidt, Sawtec, and others.

Robert E. Joyce, a former executive vice president of US Filter who is currently serving as the Surface Preparation Group's president and chief operating officer, will be joining ISPC as its new president and COO. Also joining the Denver-based ISPC team, as CFO, is Mark Iwan, former audit practice head of Arthur Andersen's Denver offices, and Marsha Williams, formerly of Graphic Packaging Corp. Williams will be HR senior manager.

For more information, call Richard Bard at (303) 674-3910.

Bomanite hires new COO

Nick Walpert has assumed the role of chief operating officer at Bomanite Corporation, a company specializing in architectural concrete flooring and paving.

Walpert is responsible for all aspects of day-to-day operations and reports directly to CEO/President Russ Ingersoll. He brings more than 12 years executive business experience and capacity in leadership, team building, business management and business development, including his most recent eight-year tenure as president of Injection Molding America, a \$150 million injection molding company headquartered in San Francisco. Prior to that he was senior vice president at Cal-Care Medical Group, where his operational and strategic direction for the company generated \$300 million in annualized revenues. Walpert attended Northwestern University, where he earned an MBA.

New face at Sto Corp.

Sto Corp., a leader in cladding, coating and restoration systems, is

proud to announce the addition of James Lucas, of JKL Sales and Associates, as the latest member of the Sto professional selling team. Lucas will represent Sto Corp. products in the Carolinas and be responsible for selling concrete façade, exterior repair, and coatings products. He was most recently a territory manager for Master Builders in the southeast. Lucas has been the Carolina's Chapter President of the ICRI and is an active member of the ACI and the Construction Specifications Institute.

Grace adds research manager

Dr. Arnon Bentur has joined Grace Construction Products as research manager for its global Specialty Construction Chemicals business. In this newly created position, Dr. Bentur becomes responsible for all materials research projects and the concrete fabrication laboratory.

An internationally recognized expert on the chemical and mechanical properties of concrete, Dr. Bentur joins Grace from Technion, the Israel Institute of Technology, where he is Professor of Civil Engineering and holder of the Edwards Chair in Engineering. His primary research areas at Technion included composite construction materials, interfaces in cementitious composites, high strength concrete, supplementary building material, and durability of building materials and structures.

Dr. Bentur also served as Chairman of the board of directors of Dimotech, Technion's technology transfer company. He is the chairman of the technical activities committee of RILEM (Réunion Internationale des Laboratoires et Experts des Matériaux, systèmes de construction et ouvrages — International Union of Laboratories and Experts in Construction



Materials, Systems and Structures), whose mission is to stimulate progress in the research, design, manufacture, testing and use of building materials by bringing together specialists from research and industry in more than 70 countries.

Dr. Bentur has published more than 100 scientific papers and co-authored several important books on concrete technology, including "Fibre Reinforced Cementitious Composites," "The Science and Technology of Civil Engineering Materials," and "Steel Corrosion in Concrete."

Headquartered in Cambridge, Mass., Grace Construction Products is a leading manufacturer of concrete admixtures and fiber reinforcement. The company also manufactures products for architectural concrete, cement processing additives, fire protection, firestops, and waterproofing and masonry products. For more information, visit www.graceconstruction.com.

Lafarge renews focus on customers

Lafarge North America's cement division has added a new marketing executive and promoted another as part of an initiative to refocus its business on customers.

Manuel L. Miranda has joined the division as vice president of strategic marketing. He is charged with promoting management systems that will lead the company from a traditional production-oriented business model to a flexible and customer-responsive operating model fulfilling customer requirements. Formerly the general manager for Shell Aviation in North and West Africa, he was responsible for integrating business from 15 countries into a single regional

business unit with sales in excess of \$200 million.

Lafarge Cement's former vice president of strategic marketing, Al Zolla, has been named vice president of sales and marketing for the southeast region, based in Alpharetta, Ga. He joined Lafarge in 2001 during the

integration of his former company, Blue Circle Cement.

Lafarge North America is the largest producer of cement and concrete in the U.S. and Canada, and a top supplier of construction aggregate. For more information, visit www.lafargenorthamerica.com.



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CIRCLE #88 ON READER SERVICE CARD

Industry Spotlight

Association News

ASCC News

Position statements target key issues

The American Society of Concrete Contractors (ASCC) has published the second three in a series of 12 position statements on key issues of interest to concrete contractors. The papers are written by Bruce Suprenant, vice president, engineering and technical services, Baker Concrete Construction, and reviewed by the ASCC technical committee.

"Trowel Marks on Concrete Floors" (#4) defines and illustrates the difference between trowel marks and a trowel pattern. "Specifications for Crack Repair" (#5) discusses the widely varying specifications for crack repair and the difficulty of contractor compliance. "Division 3 versus Division 9 Floor Flatness Tolerances" (#6) deals with the differences in specifications for floor flatness between Divisions 3 and 9.

"The position papers deal with issues that constantly cause concern for concrete contractors," says D. Thomas Ruttura, president of the ASCC. "The better we can explain to designers and specifiers what can and cannot be expected from a concrete structure, the more likely we are to have a successful project."

Copies of the papers may be ordered by calling (866) 788-2722 or by e-mail at ascc@asconline.org.

Newsletter offers solutions for contractors

Another ASCC publication, "Troubleshooting Newsletter #52," provides solutions to problems

encountered by ASCC contractor members on actual job sites.

Contractors call the Concrete Hotline, a service exclusively for ASCC members, to obtain answers to their questions. Selected questions are published in the newsletter. Included in this issue are questions about what constitutes a broom finish, cold-weather concrete protection and curing lightweight concrete on elevated slabs.

The Concrete Hotline provides a toll-free number where ASCC members can obtain prompt answers to concrete construction questions. Sets of troubleshooting newsletters are available to members and nonmembers and can be ordered with a credit card. For more information on the ASCC, visit www.asconline.org or call (866) 788-2722.

ICRI News

Fall Convention held in Tampa

The International Concrete Repair Institute (ICRI) held its 2003 Fall Convention at the Marriott Tampa Waterside Hotel, Tampa, Fla., Oct. 23-24. The convention theme was High-Rise Repair and consisted of a full slate of technical presentations covering all aspects of repair and restoration of commercial and residential concrete high-rise structures.

In addition to the technical presentations, the convention hosted technical and administrative committee meetings, exhibits, live product demonstrations, networking luncheons, the ICRI 11th Annual Project Awards Banquet and a golf

outing and special event hosted by the ICRI Florida West Coast Chapter.

The ICRI 2004 Spring Convention will take place April 1-2, 2004 at the Hotel Inter-Continental, Chicago, Ill. The convention theme is Facade Repair and will feature a special event hosted by the ICRI Chicago Tri-States Chapter.

For more information on ICRI events, visit www.icri.org or contact Chris Jorgensen, marketing/chapter relations coordinator, at 847-827-0830.

NRMCA News

More instructors to be approved

Responding to industry feedback, the National Ready Mixed Concrete Association has expanded training instructor options for its Certified Concrete Sales Professional program. Sponsoring bodies that are holding a CCSP class will now receive streamlined approval from NRMCA for use of their own qualified program instructor.

This policy change recognizes ready mixed concrete producers' expertise in the program's industry-specific material as well as their interest in linking NRMCA's national performance standards to specific proprietary sales approaches and initiatives.

Certification standards remain the same, and all new instructors must contact NRMCA's Education Department to review certification guidelines before they teach their next class. Companies must still purchase CCSP class materials and textbooks for each candidate prior to the start of a class. For more information, call the NRMCA at (301) 587-1400.

PCA News

CD offers life-cycle assessments, energy analyses

The latest CD-Rom from the Portland Cement Association, "Concrete: Sustainability and the Life Cycle," sets the record straight on the environmental characteristics of concrete and concrete materials and provides contextual results of concrete's impact on the environment.

First unveiled during the nationwide Environmental Council of Concrete Organizations (ECCO) Sustainability Road Show this summer, this convenient resource represents nearly a decade of research and analysis, the concept of sustainability and the methods of life cycle assessment. The CD contains life cycle inventories, life cycle assessments, energy analyses, and other related analyses and comparisons. All data is searchable through the CD's Table of Contents, Abstract, and Index.

Order online at www.cement.org/lifecycle or by phone at 1-800-868-6733. Price is \$75.

CSDA News

Annual convention to be held in February

The Concrete Sawing and Drilling Association will kick off its 32nd Annual Convention as the World of Concrete comes to a close. The CSDA Convention will be held Feb. 20-23 at the Portofino Bay Hotel in Orlando.

Attendees will benefit from an extensive convention program that features meetings, workshops, roundtables and social events. Bill Palmer, editor in chief of Concrete Construction magazine, will open the session with an overview entitled "Concrete Industry Outlook: 2004." Many other presentations tailored for concrete cutting contractors will also be offered. For more information, call (727) 577-5004 or visit www.csd.org.



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Contractor Arcon, Concrete Profile Las Vegas, Decor Nevada

These decorative concrete experts will leave you floored.



Arcon is an innovative industry leader of new technology in cementitious, decorative, architectural flooring. Using structural concrete and overlayment, the company has provided an alternate to tile, stone, asphalt, Kool Deck, terrazzo, marble and other hard-surface flooring materials on many different projects. The company's impressive portfolio includes projects at the Bellagio, the MGM Grand, Caesars Palace and New York, New York in Las Vegas, as well as projects in Seattle, Detroit, San Francisco and Tokyo.

Concrete Decor's Denise Wendt talked with principal Mark Balogh about the company.



How did you get into concrete work?

My father was a concrete contractor in Reno. I started working for him as a young man, then went to the University of Nevada, Reno, where I got my degree in business finance. I realized I had a knack for business combined with a vision of using concrete as an architectural medium.

When and how did the company get started?

We started off small in the Reno/Sacramento area, doing flower shops and wineries. Mostly integrally colored and stamped concrete. Thierry Dougall of Dougall Designs saw some work we did at a winery. He thought that architectural concrete would be an exciting new medium for shopping mall flooring. Together, we developed the flooring for the Forum Shops mall at Caesars Palace in Las Vegas. It was the first of its kind. Up to that point, concrete was mostly used for bridges, curbs and driveways. Now architectural concrete was now "out of the closet" and into shopping malls. The company moved to

Las Vegas at the onset of Caesars Palace and Arcon of Nevada was born.

What types of overlayments and coloring methods do you use?

We provide textured concrete, stained, and integrally colored concrete along with a variety of toppings. We also provide terrazzo flooring both in epoxy-based and cementitious-based materials. Terrazzo, in a cementitious-based material, can be used for an exterior application without fading and will pass co-efficient friction ratings.

We are currently working on the exterior plaza area for the Fashion Show Mall expansion with Whiting-Turner contractors and the Maryland-based Rouse Development Co. Rather than putting down the same types of plaza flooring that everyone else has, we wanted to do something that would complement the innovative architecture of the mall itself. We poured white concrete, broadcast different colors and gradations of aggregates, ground the surface smooth, then added

decorative graphics with sawcuts. The outcome is quite beautiful and unique and commensurate with the Fashion Mall concept.

Who comes up with your designs?

Our in-house team of designers works closely with architects and interior designers in the trade. Our goal is to obtain the designer's original design intent using the most viable methodologies, combined with the most cost-effective options for the project and the owner.

How much input do your clients generally have in the design process?

We are a relationship-oriented company. We are quite successful at building solid relationships

with architects, designers, contractors, developers and owners. Our relationships are based on mutual respect, honesty and trustworthiness. Our clients know we do our very best to provide them with the best product, in the most timely fashion, for a fair price, that can surpass the test of time in both function and design.

How many employees do you have? What makes your team successful?

There are about 20 people in the office, and our field crew can grow up to 100+. We enjoy a family-like working environment, and I believe everyone here at Arcon takes personal pride in what we do. We all work together for a common goal.



What challenges do you come up against? What have been some of your most challenging projects?

Most of our projects are destination resorts and casinos. We usually work on a fast-tracked accelerated schedule. Also, keep in mind: we work on the floor. When building a casino every trade has to finish at the same time, and everyone has to walk on the floor. A casino has to be open on time, look fantastic and be ready for the public to enjoy. We are usually one of the last trades to start and have one of the most important impacts visually for the general public.

What do you enjoy most about your job and concrete work in general?

I enjoy people. I love the relationships that have developed over the years at Arcon. I like making things happen, the art of the deal. Taking someone's concept, manipulating methodologies and making it work for the client within the confines of cementitious materials, is a great thrill for me. We as a team develop beautiful, signature, unique environments that the Arcon family can all be proud of.



What changes do you expect in your business over the next 10 years?

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CIRCLE #98 ON READER SERVICE CARD

Forging a bond:

An overview of bonding agents in decorative concrete

by Jennifer G. Prokopy

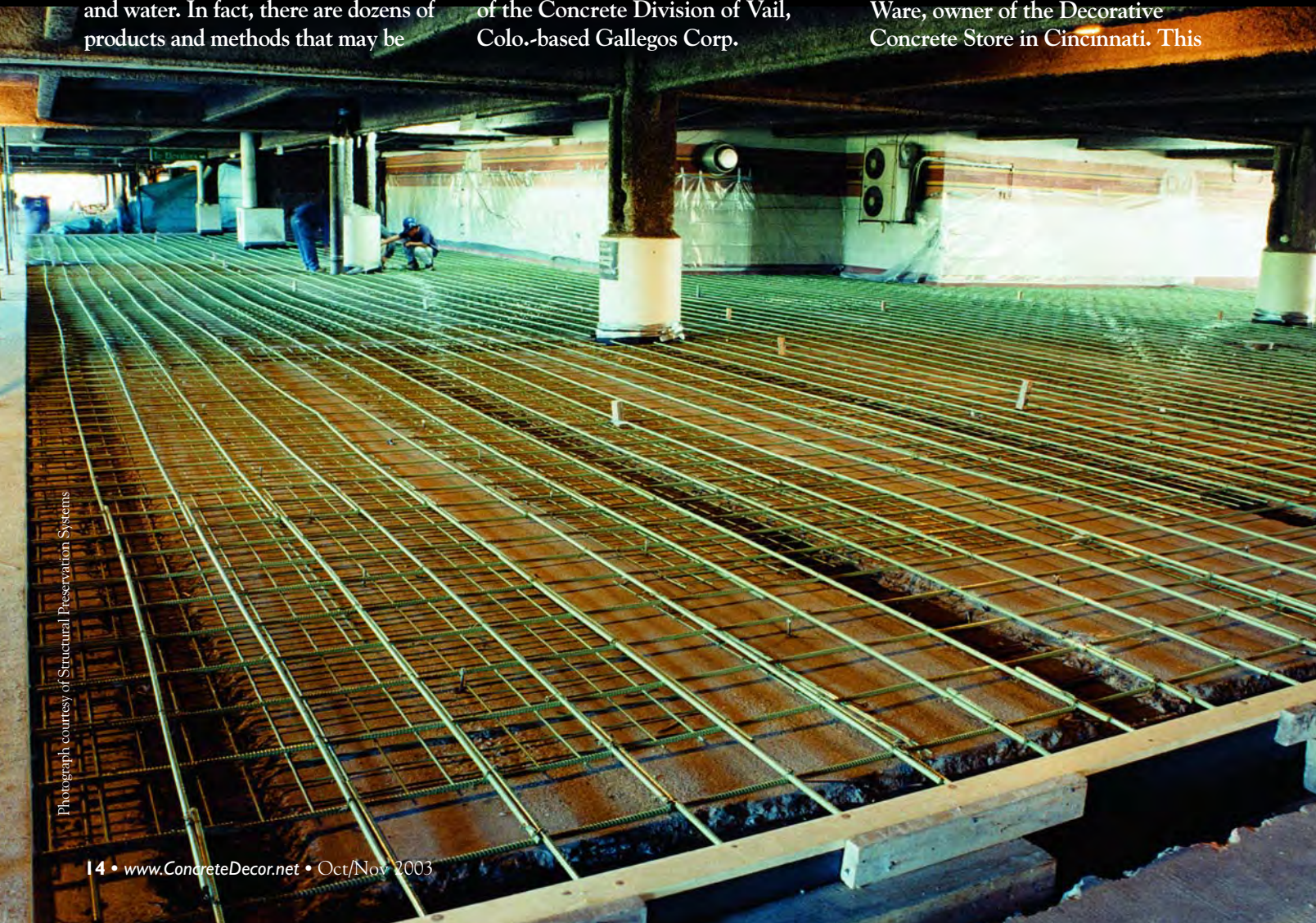
Bonding agents are a widely debated family of products. Some concrete contractors will tell you they have a favorite bonding agent, one that they use almost exclusively. Others say they evaluate every job and develop a unique solution, drawing from a wide range of products. And there are some contractors who swear by the oldest bonding agent of them all, simply using a mixture of portland cement and water. In fact, there are dozens of products and methods that may be

used to create a bond between old concrete and new.

If there's one thing that nearly all contractors agree on, it's this: no matter what bonding agent is used, proper preparation of the substrate is essential for a successful, lasting bond. "Regardless of the manufacturer, polymer-modified toppings are only as good as the substrate on which they are installed," says Scott Truax, president of the Concrete Division of Vail, Colo.-based Gallegos Corp.

Bonding agents fall into two basic categories, cement-based bonding agents (which include simple solutions like a slush coat or a scrub coat as well as a wide variety of latex-modified bonding agents), and epoxy bonding agents.

And new products are being introduced all the time. "New bonding agents today allow you to apply it and let it get to a hard state, where you can walk on it while it's tacky," says Bob Ware, owner of the Decorative Concrete Store in Cincinnati. This



allows the contractor to do larger areas at a time, he says, saving time and costs on big jobs.

Other manufacturers are adding tint to bonding agents so contractors can ensure even and complete coverage. The bottom line: contractors have to find the methods that work for their unique jobs to ensure a complete, lasting bond.

The classics: cement-based bonding agents

Some contractors swear by the most traditional method of bonding new concrete overlays to old concrete surfaces, using the materials at hand. When applied correctly, this approach can prove adequate for many situations, and benefits include ease of application (no mixing of additional materials is required), speed, and low cost. The substrate should be prepared so that it is saturated surface dry (SSD).

One approach is to use a scrub coat, where the repair mortar or concrete overlay material is literally scrubbed into the prepared substrate. Experts caution against adding any water to the scrub coat material, because excess water will weaken the bond. To create the most effective bond, a scrub coat must contain enough fines and cement paste to penetrate the pores of the substrate.

Another method is to use a slush coat (or slurry coat), which is comprised of portland cement and water. The smooth, flowing material ensures penetration of pores in the substrate, creating a strong bond. In some cases, contractors incorporate sand into the mix. A drawback to the slush coat method is that the material dries very rapidly, so overlay material must be applied very quickly after application of the slush coat.

In the mix: latex-modified bonding agents

Latex-modified bonding agents come in a wide variety of formulations, and



Applying a water-based acrylic bonding agent/primer.

contractors should always follow the manufacturer's instructions for the product they choose to use. This group of bonding agents can add significant strength to bonds between old and new concrete. In many cases latex-modified bonding agents are mixed with cement to create a slurry for application, but some contractors choose to apply the latex emulsions directly.

Acrylic resins

Acrylic resins are non-re-emulsifiable bonding agents that act like a glue. These agents can be applied with a broom, brush, spray, or roller, and the overlay is applied while the agent is still wet. "Typically in decorative concrete, they won't be used as an additive," says Bruce Kreielsheimer, director of operations for Flemington, N.J.-based manufacturer Anti-Hydro International Inc. Even so, these agents are compatible with cementitious materials. "If you add it, it will add a little shine to the surface — some want it, some don't." Acrylic resins generally are used for indoor or outdoor settings,

but are not recommended for use in areas that will experience extreme chemical exposure.

The introduction of acrylic bonding agents brought increased flexibility to the concrete overlay market, says Ware. "Acrylic resins work as binding agents, and increase the strength of the overlay and the bondability of the old to the new," he says. (Ware also runs RKC Increte, a decorative concrete installation company.) "We use it primarily for ¼-inch overlays, and for self-leveling overlays and riser faces." Because acrylic resins speed up the set time of concrete, Ware adds a retarding agent, enabling him to cover more area before the material sets.

Styrene butadiene (SBR) latex

Like acrylic resins, styrene butadiene (SBR) latex bonding agents are non-re-emulsifiable and are compatible with cementitious materials, and are sometimes used as an admixture when creating overlays. The materials are applied using a spray, brush, or roller.



A liquid polymer bond coat is applied to the prepared substrate prior to installation of the polymer-modified topping. Wire lathing has been installed on the stair risers to increase adhesion.

The completed stair. The antiquing of the stair was achieved by pigmenting the solvent-based acrylic sealer with powdered release agent.



While they are used regularly for both indoor and outdoor applications, they are not recommended for areas that will receive significant water or chemical exposure.

Polyvinyl acetate (PVA)

Two kinds of polyvinyl acetate (PVA) bonding agents are used in decorative concrete applications: re-emulsifiable and non-re-emulsifiable.

Re-emulsifiable PVAs produce a film over the substrate that can be allowed to dry, which later becomes soft again with the application of the overlay material, offering the benefit of significant advance application time. But the material is not recommended for outdoor use, where humidity or rain can trigger premature re-emulsification. Application can be done with a spray, brush or roller.

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Tim Blankenship, division manager of Atlanta-based Precision Concrete Construction, stays away from re-emulsifiable PVAs. "There is an opportunity to contaminate the agent if you let it set before you apply (the overlay)," Blankenship says, noting that the bond may be compromised as a result. Others see the agent's ability to re-emulsify as a benefit. "Its advantage is, you can let it totally dry," says Kreielsheimer. On big jobs, this can be a boon to contractors, who "don't have to work a few feet ahead of themselves."

Non-re-emulsifiable PVAs offer good water resistance and wear well. They are applied with a spray, brush, broom or roller, and may be used in a wider variety of applications both indoors and outdoors.

Lay it on: epoxy bonding agents

Epoxy bonding agents contain no cement, and generally are more expensive than cementitious bonding agents, but offer excellent bonding strengths. "Government agencies specify them constantly," says Kreielsheimer. With their incredibly strong bonds, epoxies generally are recommended for jobs that require significant repair work.

Epoxies must be applied to a dry substrate. Overlays should be applied while the epoxy bonding agent is still wet. Bob Pirro, branch manager of Structural Preservation Systems Inc.'s Hawthorne, N.J. office, says a common mistake contractors make when using epoxy bonding agents is allowing them to cure too long: "Then it acts as a debonding agent," he says. "It becomes like glass and the fresh concrete doesn't bond."

There are even products that combine the best of both worlds. Pirro says his company regularly uses an epoxy-modified cementitious bonding agent, which also provides an anti-corrosion coating, for doing spall repair and other types of concrete repair work. The product allows his crew to coat

rebar and concrete substrate at the same time.

Needs analysis and preparation for success

Any discussion of bonding agents would be incomplete without addressing the importance of — and methods for — substrate preparation. According to Blankenship, the single

biggest mistake a contractor can make is inadequate preparation: "There must be surface prep before the bonding agent. Not having it thoroughly cleaned, or if the preparation you do causes microfractures in the surface, can cause an overlayment to become delaminated."

Surface preparation starts with cleaning the surface, clearing it of

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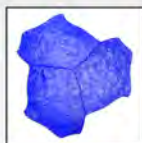
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A self-drying, self-leveling topping is bonded with a re-emulsifiable bonding agent. These bonding agents are sprayed and scrubbed into the dry, clean, properly abraded surface. They must be completely dry before installing self-leveling topping.

contaminants. A range of techniques is available for profiling the surface for bonding agent application, and Kreielsheimer says contractors should perform a needs analysis before making a decision on which material to use, asking questions like: "What is the substrate? What is the cementitious material you're bonding to it? How much abuse will the finished surface receive?"

The surface can then be prepared using one of a variety of methods, including acid etching, sand blasting, shot blasting, scarifying, or bush hammering. In most cases, the rougher the prepared substrate, the better the bond. While contractors disagree on which method works best, all agree that preparation is critical to ensure adequate bond.



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Stirring up new recipes for Concrete Countertops

by Susan Brimo-Cox

Concrete countertops are more than a trend. As more and more homeowners and designers specify concrete countertops in new homes and in remodeling projects, concrete is making a permanent place for itself as a material of choice for countertops across the country.

Of course, the cost of countertop materials varies around the nation, but if you compare concrete to other popular products what you would probably find is this: A typical tile countertop is less expensive than a concrete one. Solid surface materials run about the same or a little less. Granite and marble often cost more.

The advantages of concrete as a countertop material range from its physical characteristics to aesthetics — from its durability to its flexibility. As Michael Karmody, a founding partner of Stone Soup Concrete in Northampton, Mass., points out, “With concrete, you can have any shape you want. Concrete is a structural material; you can vary textures. We can grind it to expose the aggregate or leave it as it



Photographs courtesy of Cement Elegance

comes out of the mold. ... It's easy to inlay [and] emboss textures. It's a really good sculptural material."

Creative potential aside, there are some who may wonder about the weight of concrete countertops. However, weight really isn't an issue any more than natural stone. Karmody explains that a granite countertop weighs about 22 pounds a square foot. Concrete 1.5 inches thick weighs about 18.5 pounds a square foot; at two inches thick it weighs about 25 pounds a square foot.

Concrete has some disadvantages, such as its vulnerability to staining and its not being as rock-hard as granite. As Fu-Tung Cheng, principal and chief executive officer of Cheng Design in Berkeley, Calif., philosophically observes, "I frequently tell people that you have to be objective about concrete. You have to play to the strengths." Fortunately, the contractors who have enjoyed the challenges of creating concrete countertops for many years have worked out many of the "bugs," and the results are more reliable and consistent.

Concrete countertops tips and tricks:

- Contractors report that design mixes are frequently adapted to individual jobs. Pouring a whole job on the same day helps ensure consistent curing.
- The "how-to" part is an important aspect of using a prepared concrete mix. Find out what you'll be getting and make sure you'll have the information you need to go with it.
- Melamine makes an excellent mold for pre-casting. Rubber forms work well for molding special details.
- Many contractors vibrate pre-cast molds after pouring to get the air bubbles out. The vibration also helps aggregate to sink to the bottom, which becomes the top when the countertop is de-molded.
- Contractors who pre-cast generally de-mold their countertops within three to five days. They also like to wait 28 days before delivery and installation, though some have worked shorter turn-around times on occasion with no ill results.
- The finish is the wear surface protecting the concrete or engineered cement product from abrasion and staining. A variety of sealers can be used. If you ask around, you'll find different contractors prefer different products for different reasons. Penetrating sealers give the surface a more natural look. They also allow the surface to develop a patina. Depending on the use and abuse the surface gets, a wax maintenance schedule may be recommended. Topical sealers, such as urethane and epoxy, encapsulate the surface and make it pretty impenetrable, but they have a plastic look and are difficult to repair.
- Although concrete is durable and can take heat, advise your clients to use trivets and cutting boards, and to wipe up spills promptly to avoid staining. Clients should also avoid using citrus-based cleaning products and acidic liquids, such as vinegar and lemon juice, on concrete countertops protected by penetrating sealers.



Photograph courtesy of Specialty Concrete Products





Photographs courtesy of Stone Soup



Photographs courtesy of Eycon





Concrete countertops are not for everyone, though. "Concrete has an earthy aesthetic — mottled color, some crazing. It's OK for it to have some patina," Cheng says. If people want "slick," concrete is probably not the material for them.

"There are criteria people use in selecting countertop materials — granite is a typical standard," Cheng explains. It boils down to the issue of what constitutes what's acceptable, he adds. "Contractors who experiment or push the envelope will help set the standard of what's acceptable."

How-to depends on whom

Each contractor who has experimented and refined his or her concrete countertop technique has found individual solutions to this creative process.

Karmody says his "mix design is not too different than what they used in the Hoover Dam," but he does use admixes, fiber and fan-shape reinforcement, and other innovative techniques to create unique products for each of his clients. "Everybody wants something different, so all colors are custom and are included in our standard product."

His custom finishes include marbling colors, adding dye late in the mix so the colors appear like flames in the finish, acid etching, and embedding objects, such as sea shells, stones, brass and voids for drainboards.

Steve Eyler, owner/operator of Eycon in Myersville, Md., created his mix design based on a Glass Fiber Reinforced Concrete design — tweaking it to work with and enhance his product. "It gives it more structural and flexural strength. [I'm] not as concerned with compression strength, but more concerned with flexural strength."

Another technique Eyler has been perfecting is using sandwich panels to reduce the weight when a thick slab is required. He has developed specific procedures that allow him to sandwich in a lighter material, such as Styrofoam, inside the center of a thick slab without compromising the countertop's structural integrity or finish characteristics.

Many contractors prefer to pre-cast concrete countertops for many reasons: It is less risky. You have more creative

control and more artistic options. And you can get a better surface. But there are times when pouring on site is the only option. For example, Cheng pours on site when he is creating a wall that becomes a cantilevered countertop in one monolith pour.

Pre-casting means seams. Contractors use a variety of materials to fill them: from silicon caulk, to grout, to marine epoxy. Something most contractors agree on, however, is that

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seams don't have to be a negative. If they can't be placed inconspicuously, they work well if they play into the overall design of the countertop.

The overlay option

Some contractors have been busy refining the use of engineered cement overlay products to create countertops.

"I've found a lot more advantages than disadvantages," says Matt Jecker, owner of Stone Craft L.L.C. in Springfield, Mo. "The biggest advantage is the fact that we can pour our overlay material less than a half-inch thickness, allowing it to dry faster — speeding up production." From start to finish, he can complete a job in five days. And, he adds, the material is stronger than standard concrete.

Rune Borgir, founder of Cement Elegance Inc. in Bend, Ore., also uses an overlay product for his countertops. "One of the keys to our success is we have fast-drying, fast-curing time. We can pour in place — seamless, one pour — regardless of the configuration."

The material is often poured over a plywood or MDF substrate.

Jecker says by using overlay he can fashion sculpturally-detailed edging. "We manufacture all our own edging and we're able to create very fine detailed forms. ... We can shape the edge in advance so you can pour curved contours, arches, round table tops" and more.

Engineered cement overlay products lend themselves to numerous coloring options. Borgir explains the primary coloring methodology is integral color, but you can also get creative with dyes. "Color washes — generally subtle tints — bring color and life to the surface." Then there are faux coloring and faux imprinting techniques which have "become more popular because we can mimic stone patterns."

Acid stains, chemical stains, inlays, colorations in the sealer, it all adds up to unique, one-of-a-kind countertops. Top engineered cement's denser, tighter matrix with a finish coat — again, from polyurethane to high-level epoxy,

depending on the final effect desired — and you wind up with a nonporous surface that, Borgir and Jecker report, is maintenance free.

Breaking into this market segment

Concrete contractors can often make the transition from sidewalks to countertops fairly easily because they are familiar with the characteristics of concrete. But concrete experience is not required.

Ric Filiaci and Joy Zimmerlin, co-owners of Something Concrete L.L.C. in Schenectady, N.Y., say there was a lot to learn about concrete and techniques when they launched their business in 2002. Both have degrees in design, but Filiaci did a lot of networking and learned the basics of the craft by reading, and talking to and mentoring with people already in the business.

"It's amazing how different the product is with each craftsman that

applies himself to it," observes Zimmerlin. Now, with the basic process and techniques down, they are working to establish their signature look.

They are entering the market place by offering their services through kitchen design houses. Something they have found very useful is creating 1-foot-square, 1½-inch thick sample boards for each project. Each sample board has two treatments. "One side has more grinding to expose the aggregate. The other side has just gentle sanding and buffing — more like right out of the mold." Zimmerlin explains. There also are two different surface treatments on each side for client comparison. "A food-grade penetrating sealer, buffed with wax, and a food-grade topical sealer, which has a more plastic look." The sample board shows clients what they can expect and gives them a better reference to make choices about the surface finish and sealer they desire.

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CIRCLE #50 ON READER SERVICE CARD

The advantages of classes and premixed products

"Classes are a great segue in getting introduced to the potential [of the medium]," Cheng points out. "Getting your hands into it gives you a good head start; more than reading a book."

Classes also help contractors know what kinds of problems they may run into.

"It's important to know potential hazards," Jecker cautions. "It's

important to know how to address those issues."

Many contractors are saving themselves a lot of trial and error by using prepared mixes.

As Marshall Hoskins, sales and technical representative for Specialty Concrete Products Inc. in West Columbia, S.C., explains, prepared mixes, such as DURA-TOP Countertop Mix, make for an easier installation process. The mix incorporates all that is

needed, so it eliminates the need for many installation steps needed for regular concrete, such as admixtures and, in most cases, a steel support system. Pre-colored mixes, he adds, also help ensure consistent color match from batch to batch.

Multiple-size aggregate is used, depending on the thickness of the pour, as well as colored glass and Terrazzo aggregates that can be exposed by grinding.

"Tops can be both pre-cast or poured in place. Generally, the job scope, dimensions and the contractor's ability determine which method is best for a job," Hoskins says.

Prepared mixes are an especially good choice for contractors who don't necessarily want to specialize in countertops, Cheng says. "Buying a mix that's ready to go is for the contractor who wants to add a product line to what they already do. ... They don't have something that's foolproof, but you have a mix design that's researched and tested."

Cheng, whose company offers NeoMix, points out that prepared mixes eliminate the need to warehouse material and let contractors get right into the creative process. "We're trying to make it so easy and so cheap, why should anyone do anything else?"



For more information, visit the following Web sites. Some of the firms listed offer training classes and/or prepared mix products.

Cement Elegance Inc.

www.cementelegance.com

Cheng Design

www.chengdesign.com

Eycon www.eycon.us

Something Concrete L.L.C.

somethingconcrete.com

Specialty Concrete Products Inc.

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It always seems that the rigors of winter move most forcefully against us when we're dealing with that third or fourth snowfall. Backs throb and tempers strain to accommodate Mother Nature's tantrum.

There is, however, one way to rein in the nuisance of dealing with snow and ice: by melting it away! Snow shovels, plows, blowers, salts and other chemicals ... not required. By introducing your clients to this technology, you can help them have a stress-free, accident-free winter.

A snowmelting system works with electric heat, or by circulating warm fluids through tubing inside a surface, so that walkways, driveways, and other areas remain dry and clear. Since most snowmelting systems are "hydronic" (using circulated fluids to heat these outdoor masses), that's what this article will focus on.

These systems are ideal for residential uses and for commercial applications — especially critical areas like hospital and senior-housing entry areas, helicopter pads and delivery ramps. A snowmelting system performs a valuable, perhaps life-saving, function.

It's also the perfect complement to an artfully stained, stamped or otherwise decorative concrete surface. Why shouldn't your craftsmanship be admired year-round?

Here are some of the benefits that you can share with potential customers. Icy surfaces are no longer a threat. Home or facility maintenance costs are reduced because snowplowing is eliminated or reduced, and ice-melting chemicals aren't required. These chemicals kill landscaping, require cleaning when tracked inside, and seriously degrade concrete and asphalt.

And, consider this: The cost of the system is more than returned with one avoided "I slipped and fell on your sidewalk" lawsuit. Even insurers recognize the value of these systems, rewarding commercial building owners with reduced insurance rates.

Typically, most of the components of a snow melting system, especially the heating plant, sensors and controls, are installed by a plumbing and mechanical contractor. But concrete contractors should be involved when it's time to embed the heating elements in the slab.

Snowmelting classifications

Snowmelting systems are generally grouped into three classifications based on the amount of snow actually melted at design conditions:

- Systems designed not to melt snow while it's falling, but afterwards.



Photographs courtesy of Watts Radiant

Snow Removal Got Your Customers Down?

Melt Their Troubles Away!

by John Vastyan



- Half the snow is melted during snowfall, the rest afterwards.
- All snow and ice is melted while falling.

Snowmelting Loads

It takes a lot of energy to melt snow: about five to six times the load required to heat a building of similar size. For example, it may take only 30-40 Btu/hr per square foot to heat the inside of a structure with a floor-warming (radiant heat) system. But it can take up to 150 Btu/hr-square foot or more to melt snow and ice from a surface. When a snowmelt is first started, much energy is lost when it's moved from the heated pipe to the surrounding ground, which is frequently frozen hard. Because the warmed fluid gives off heat as it travels through the slab, installers prefer to lay the tubes in a spiral or serpentine pattern to distribute the heat evenly.

The Importance of Insulation

Insulation substantially reduces operating cost. When added under the slab and at its perimeter, heat loss into the ground is reduced, and the slab heats more quickly. The preferred material is usually 1- or 2-inch thick rigid polystyrene foam.

Insulation also helps channel the heat in the direction it's wanted. Contrary to popular belief, energy doesn't necessarily rise. It travels — in any direction — from hot to cold, from areas of high concentration to low concentration. This works great for interior spaces. But outdoors, four “thieves” work in tandem to steal the heat.

Thief #1: Ground. Heat is literally sucked into the surrounding ground. Heat loss to the ground is about 10-15 Btu/hr-square foot.



Following are examples of snowmelt applications: Helipads

With space becoming more and more precious, many hospitals are forced to install helipads on building roofs. These rooftop helipads can become extremely dangerous when coated with ice and snow.

Sidewalks

Sidewalk snowmelts can increase business and decrease liability. Customers are more likely to shop stores with sidewalks that are free from ice, snow and chemicals.

For residential applications, Doug Davis, owner of Davis Plumbing & Heating, Columbia Falls, Mont., regularly uses PEX or EPDM tubing under stamped concrete driveways, entry areas, patios and sidewalks to keep the snow and ice at bay.

“I’ve been doing snowmelt systems for 12 years,” he said. “Builders in this area recognize that we take our work seriously and that we’re reluctant to use anything but the very best materials available.”

School entrances

Youngsters are protected with a snowmelt on duty. They keep accidents at a minimum and prevent chemicals from being tracked inside.

Stairs

It's all too common for stairs to become slippery and dangerous during the winter season. Why shouldn't they, too, be safer and easier to maintain?

Hospital entrances

“Because they are usually considered critical systems,” says Whitworth, “these systems are most frequently ‘idled’ during the winter months — operated at a reduced output — to decrease system lag time (the time required for the system to reach operating temperature and start melting snow). When the sensors detect precipitation, the system is then operated at full output.”

Parking garage ramps

Snowmelting systems ensure that cars driving in off the street can safely negotiate up and down parking garage ramps. System sensors are usually placed away from the ramp so that they can detect snowfall, or precipitation, and temperature.

Loading docks and ramps

Here, moving the goods is the essence of business. Another great application for snowmelt.



Thief #2: Atmosphere. The atmosphere works even harder than the ground to swipe the heat you'll be putting into the slab. That's why energy must be fed into the slab continuously. Loss to the atmosphere can be up to 90 Btu/hr-square foot. That's a lotta' heat.

Thief #3: Water. As the snow or ice turns into water, it runs off into drains, storm sewers and into grass. This water runoff carries precious energy away from our slab, too. Care must be taken to ensure the water runoff from the snowmelt system has a place to go. If not adequately designed for, water will run off the slab and "pool" in low spots around the system and freeze. It may be necessary to heat drain pipes and water runoff areas.

Thief #4: Evaporation. As melting snow and ice turn from liquid to gas, more energy is carried off. This energy must also be replaced by our heat source.

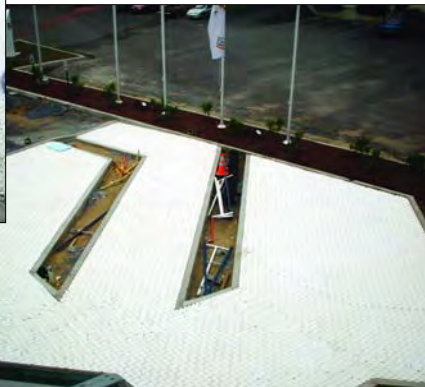
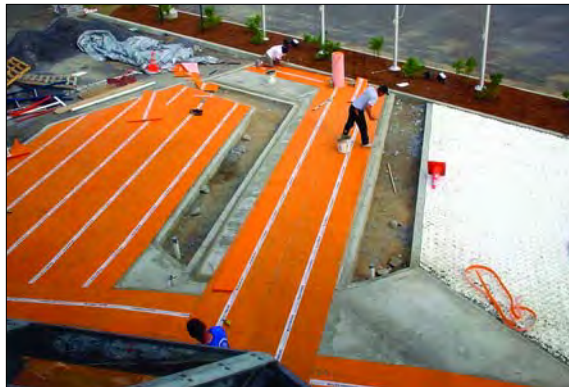
High-tech tubing

Typical snowmelts employ tubing buried in a concrete slab. The most popular tubing used is either cross-linked polyethylene (PEX), or synthetic rubber (EPDM). Both varieties of tubing have a long history of performance and longevity.

According to Keith Whitworth, a design engineer at Springfield, Mo.-based Watts Radiant, a leading supplier of radiant heat and snowmelt technology, tubing comes in a variety of sizes, typically $\frac{1}{2}$ " ID (inside diameter) to $\frac{3}{4}$ " ID. The flexible tubing ties into supply and return piping at distribution points, or "manifolds," that come in pairs: a supply manifold where the tubing starts and a return manifold where the tubing stops. The layout is usually easiest if these manifold pairs are located together next to the "zone," or area to be snowmelted.

Tubing is spaced from 6 to 12 inches on center and circulates a solution that has been heated to 110°F to 140°F. Tube spacing is varied according to the degree of snowmelting required.

Tubing is usually strapped or tied to rebar or rewire. Even if rewire is not



Photographs courtesy of Watts Radiant

Photographs courtesy of Schluter Systems



needed for structural reasons, it is needed to keep the tubing from floating to the surface of the concrete during the pour. A minimum of 2 to 3 inches of covering must be maintained over the top of the tubing. Tubing can also be clipped to rewire, hooked to a base material with turf hooks,

stapled into rigid insulation, or otherwise connected to a compacted base.

At expansion joints, where slab movement could cause stress, it's necessary to take special precautions. "We recommend slipping the tubing through collars cut from plastic pipe or pipe insulation and placed several inches below the expansion joint," explained Whitworth.

"Another key precaution," he added, "is that the system must be pressure-tested before and during the concrete pour to ensure that no damage has been done to the heating elements during installation."

... and, finally, maintenance:

A hydronic system requires maintenance. In addition to maintaining the boiler and pumps, Whitworth explains that the glycol/water antifreeze must also be checked periodically to assure its effectiveness.

Principles of Operation

On-off operation

Some snowmelts are operated only when there is ice or snow. These "on-off" systems are operated in the presence of precipitation when the

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ambient temperature is below 35°F. While less costly to operate, these systems take longer to start melting ice and snow because they must first increase the temperature of the slab.

Idled operation

In order to help systems respond faster, some systems are idled, or operated at reduced output until precipitation is sensed with a temperature below 35°-38°F, when the system is operated at full output. These systems permit faster system response, and no snow or ice accumulation is permitted.

Sophisticated controls

Automatic controls that sense slab temperatures, outdoor temperatures, and precipitation can also be used. They're more costly, but allow greater system control.

What's the system cost?

Snowmelts themselves are not that expensive to operate — especially the “on-off” types — since, typically, they operate only a few times a year. The biggest cost with a snowmelt system is the up-front price.



Photographs courtesy of Watts Radiant



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"Considering the cost of insulation, tubing, boiler and pump system, and all installations, a snowmelt system will usually cost between \$6 to \$12 per square foot, with commercial systems at the higher end," says Whitworth.

... and the operating cost?

On-off system cost:

The cheapest system to operate has a simple on-off function. As an example, a Class II system in Buffalo, N.Y., may cost about \$0.21 per square foot per year. The same system in Chicago, Ill., may only cost \$0.12 per square foot per year. Minneapolis or St. Paul may be in the range of \$0.25 per square foot per year.

Idled system cost:

Because they operate any time the temperature is below 38°F, it will clearly cost more to operate these systems. Considering that they may operate for up to 1/3 of the year (about 3,000 hours), the total system energy would be 300,000 Btu/year. Hospitals may have waste heat from steam or condensate that may be readily available, greatly reducing or eliminating energy needs.

Snowmelt systems and decorative concrete: a great match

Whether your client needs to melt snow on a New Jersey walkway or warm the entrance to an emergency room in Nome, a properly installed snowmelt system will readily answer the call. And with some beautiful decorative concrete to finish off the job, you will have brought both beauty and utility to the site.



John Vastyen is president of Common Ground, Uncommon Communications, based in Manheim, Pa. He specializes in communications for the radiant heat, hydronics, plumbing and mechanical and HVAC industries, serving regional, national and international business-to-business manufacturers and trade associations.

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Alternative Finishes: Your Contractor to Contractor Training

Some people are good at doing, while others are better at teaching others how. When you find you have a natural talent in both directions, it generally pays to run with it.

That strategy has definitely worked for contractor Wes Vollmer, of San Antonio, Texas. Vollmer, who has eleven years of decorative concrete experience, has spent the past seven years consulting on jobsites around the country. He opened his own training school in San Antonio a couple of years ago with great success.

The overwhelming response to his training has caused him to take it a step further. In February, Vollmer will open decorative concrete training schools on opposite coasts — near Los Angeles and in Atlanta. The schools will operate under the supervision of top-notch contractors in each area: Dale Drath and Mike Allen of Drath & Allen Concrete in Atlanta; and Doug Carlton of Carlton Concrete Co. in Visalia, Calif.

At the ASCC annual meeting, held in Dallas in September, Vollmer gave a presentation on his specialty: acid staining. He kept it basic, concentrating on tools, preparation and the essential steps of the process. The class, filled to overflowing, was a huge success, he says, adding that he was “bombarded by people who want information.”

Vollmer believes in keeping beginning classes at a basic level and encouraging contractors to build their skills over time. “Instructors always shows their best work [in the classes],” he says. “It’s great, but it’s confusing. I wanted to show how you can get to that level.”

Vollmer’s schools will open in February under the name “Alternative Finishes: Your Contractor to Contractor Training.” The classes will not be manufacturer-backed, so they won’t push any particular products. All classes will be taught by experienced professional contractors (not sales reps) who have no less than 10 years experience.

“We’re going to offer really good, hands-on training,” Vollmer says. “We’ll simulate a real job, not make little bitty samples. Every day we’ll figure out problems.”

Classes will cover acid staining, overlays, stamped concrete, walls, countertops and much more. “We’ll offer unique finishes that no one else knows about,” Vollmer says, declining to give away any secrets.

You can find out more about Wes Vollmer’s new training centers by visiting Alternative Finishes’ new Web site at www.alternativefinishes.com.



40 lbs of creativity

A photograph of a HoverTrowel machine, a specialized tool for decorative concrete finishing. It features a yellow coiled hose and a black handle, mounted on a base with wheels. The machine is shown in a dynamic pose, suggesting it is being used on a surface.

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Well-stocked trailer educates contractors and customers

When Jeff Patterson saw the decorative concrete business heating up a couple of years ago, he saw a lot of possibilities for his company — and for contractors in his area.

But he also saw that many contractors lacked the expertise to do the job right. And that most homeowners didn't know what kinds of choices were available.

"So I came up with this trailer idea," says Patterson, vice president for business development for Muller Construction Supply, based in San Jose, Calif.

Patterson outfitted a 7' by 12' trailer with samples of the company's decorative concrete products (Muller is a Raeco distributor and also carries products from manufacturers such as White Mountain, Glaze-N-Seal, and Davis Colors) and started taking it around to home shows and contractors' offices. He's even gone to a few job sites to help contractors educate their customers. This gives homeowners a chance to look at color charts, color chips, examples of different types of sealers, stamped pieces of concrete, and literature about the products.

The trailer cost his company about \$10,000, but Patterson was able to get half of that back by featuring the logos of manufacturers such as Raeco, Kraft Tool and Magnolia Brush on its sides.

At a recent home show, three people who took a tour of the trailer asked a local contractor for an estimate on decorative concrete work. The contractor got seven more calls by the following Wednesday. "It's a good selling tool for the contractor, and it lets the end-user know what is available to them," Patterson says.

Over the last five years, Muller Construction Supply has seen phenomenal growth in decorative concrete products. "Our sales have dramatically increased year after year," Patterson says. He gives the trailer a lot of credit. "It's done a lot to promote decorative concrete," he says. "I literally think it sells jobs."



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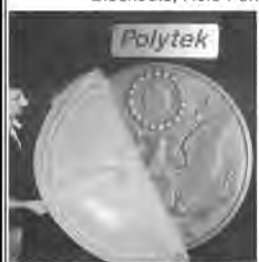
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Unique Impressions

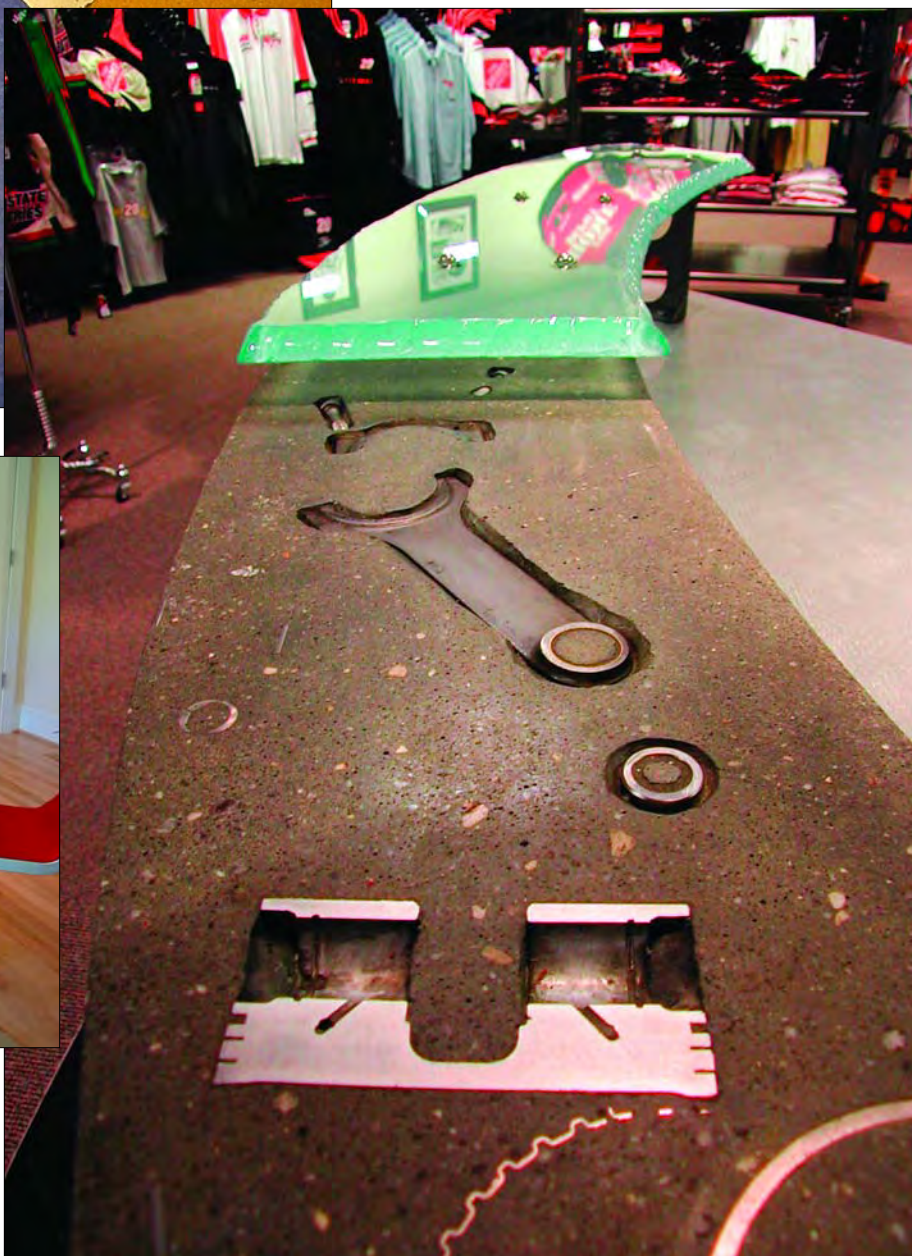
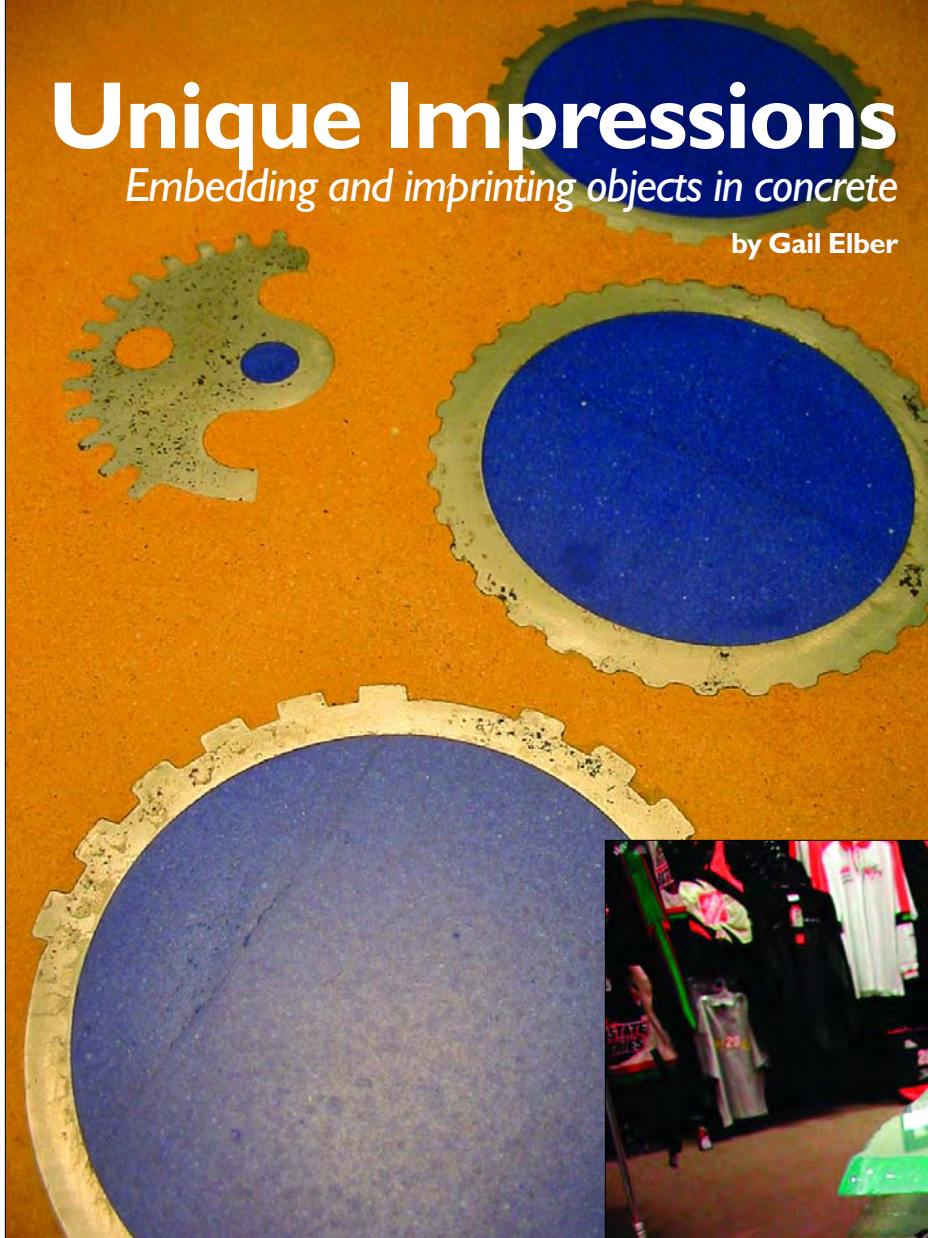
Embedding and imprinting objects in concrete

by Gail Elber

Many people's first experience with concrete art is the surreptitious addition of a handprint or some initials to a neighborhood project. But the urge to leave such a message to the future is not confined to adolescents. Whether it's sentimental knick-knacks or corporate logos, embedding or imprinting objects into concrete gives clients an unmistakably one-of-a-kind addition to their home or business. Here are some tips on how to add this finishing touch to an interior or exterior project.

A good impression

"A lot of contractors are limited by what they can buy in the store, but you have to think out of the box," says Lee Levig of Concrete Works in Fairfield, Calif. At customers' request, he has made





Photographs courtesy of Artistry in Concrete





imprints of leaves and branches, but he also uses more exotic things, such as embossed wallpaper. "Just before the final trowel, when it's still pliable, trowel the wallpaper border face down." He doesn't use a release agent; he just leaves the wallpaper there until the concrete has set, then peels it up.

One of Levig's signature techniques is imprinting custom stencils, which he cuts out of heavy waxed paper used for packing produce and discarded behind supermarkets. For the home of a violinist, Levig cut out two bars of music to adorn the entrance to a music room. "It takes a lot of work to do the cutting," Levig admitted, so he generally uses this technique as an accent in a highly visible area such as a front porch or entrance. You needn't cut your own stencils for popular designs such as flowers and foliage. Try a craft store, such as Michaels (www.michaels.com), which sells paper and plastic stencils from Plaid (www.plaidonline.com).

Embedding objects

For a truly one-of-a-kind project, instead of just imprinting objects, you can embed them in the surface. Lee Levig has spotted computer chips in the exposed aggregate at the Discovery Channel Store in Sony's Metreon entertainment complex in San Francisco. He also reports that the Animal Kingdom attraction at Walt Disney World has a faux dirt road made of concrete embellished with twigs, tire tracks, and boulders.

In his book, *Concrete Countertops: Design, Forms and Finishes for the New Kitchen and Bath* (Taunton Press, 2002), Fu-Tung Cheng showcases countertops inlaid with marble slabs, semiprecious stones, auto parts, fossils, coins, and even Gumby. For molded countertops, Cheng attaches the objects to the mold with a very thin layer of silicone caulk, pours the concrete, then peels off the caulk when the mold is removed. The caulk recesses the object slightly under the surface, which allows him to polish the surface without damaging the inlaid object. For smooth objects such as coins, he attaches

a bit of wire mesh to the back with epoxy adhesive to give the concrete something to grip.

Phil Bigelow (www.philbigelow.com) has developed a casting process that results in what he calls Embedded Stone Concrete (ESC). Although the details are a trade secret, a signature of



his work is veins of pebbles embedded in the surface.

Some clients will supply their own objects to be embedded. Bigelow says one client brought a handful of stones and a copper nugget from England and asked him to make a matching wall fountain and coffee table.

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You can embed large objects, too. Jeff Girard, founder of Formworks, a company that makes concrete countertops and licenses its methods to other artisans, has embedded movable auto parts in the counter of a store that sells racing memorabilia.

What works, what doesn't

Girard, who is a civil engineer, says that not everything a client may suggest is suitable for embedding. "Wood is not really compatible with concrete because it swells with moisture (which could cause cracking), shrinks when it dries out, and can rot. Plastic may or may not be compatible simply because the concrete may or may not stick to it. Aluminum is not a good metal to embed because it readily oxidizes in the alkaline environment."

Surprisingly, glass isn't a good candidate for outdoor applications. "It might seem like a good material because it's chemically similar to sand, but glass actually can lead to the eventual self-destruction of the concrete," Girard says. "Most glass reacts with the cement paste to form a silica gel that surrounds the piece of glass. This is the classic alkali-silica reaction that plagues some natural aggregates. The silica gel forms at a rate different from the curing rate of concrete, and it swells with moisture."

"Over time, as the concrete's moisture level changes, the gel swells and shrinks, causing pop-outs and eventually forming a spider web of cracks in the concrete. This is not the case with indoor applications, because the moisture levels involved are much lower."

Formworks embeds a lot of ferrous metal objects in indoor countertops, and their exposed surfaces do rust, even if sealer is applied. However, Girard says that the rust adds a nice appearance to the concrete. One of Formworks' characteristic touches is the addition of curled steel shavings to the concrete. They're called "industrial fossils," and they do impart a fossil-like look and rusty accents to the surface.



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CIRCLE #76 ON READER SERVICE CARD

Commercial stamps

You may want to imprint something not found in nature. If you need a two-dimensional custom silhouette or logo, Concrafter (www.concrafter.com) can make a custom rubber stamp from your drawing. The company also has standard designs and letters. You dampen the stamp, place it on the troweled slab, and strike it to make the imprint, then move it to another location and repeat if you want to. To add texture to the surface, Theo Hunsaker of Concrafter suggests painting retardant inside the outline of the stamp with a brush, to expose aggregate inside the silhouette. The company also has standard designs and letters.

If a three-dimensional imprint is what you want, L.M. Scofield has a catalog of stamps for imprinting everything from fanciful butterflies to animal tracks. They can also cast a stamp from your three-dimensional object. Staining the imprinted image adds realism.

A little goes a long way

Don't overdo impressions, or the surface will become very busy. "Less is more," observed Sherry White, L.M. Scofield's marketing manager. "If you use it as an accent, it's extremely effective. If you covered an entire area with it, it would be less effective. It's like — you don't wear three ties."

Before you take custody of your customer's irreplaceable fossil or family heirloom, experiment by embedding or imprinting objects into some sample panels so you have an idea of how firm the concrete should be before you start embedding. If polishing with diamond wheels will be part of the process, get familiar with what happens when you run the wheels around or over embedded objects. Photograph these samples for your portfolio, and you'll have yet another technique to add value to your customers' projects.

And if you do end up embedding those family heirlooms, your work will be a step toward immortality: You won't just be creating beautiful things, you'll also be perplexing future archaeologists.



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CIRCLE #26 ON READER SERVICE CARD

Shot Blasters

An essential tool for floor prep

by John Strieder

Photograph courtesy of Blastrac



A shot blaster fire scores of tiny BB's at the ground over and over again. It duplicates a simple mechanical action — a metal object hitting a crushable piece of material — and duplicates it very, very quickly. If you want to tear a layer off a slab of concrete, these machines will certainly do the job.

But shot blasters have the same downside as shotguns: The end result is not exactly tidy.

That's not a problem if you're prepping a new warehouse floor for a thick layer of epoxy. But for decorative concrete contractors who shot blast, the questions "why," "when," and "how" are much more crucial.

A shot blaster is the tool of choice for concrete contractors when prepping a surface, says Greg Ferchaud, national sales manager for SASE Co. Inc., which distributes Italian-made Trimmer shot blasters. Shot blasting gives the surface a rough profile so coatings and sealers will bond snugly with a floor. "You scarify, diamond grind or shot blast — that's how you prep a floor," he says. "Shot blasting requires the most attention of the three. It can be the most productive, but it requires the most parts to be replaced."

Shot blasters were developed to scour nonskid coatings off the steel decks of aircraft carriers. When it comes to

concrete, most shot blasters are used on large industrial and commercial jobs, from cleaning parking lots to scouring line stripes off highways. "To come into a residential home and use a shot blaster is pretty rare," Ferchaud says.

But small-job contractors use them too. The rough profile guarantees a good bond, and the work can be done in a fraction of the time it can take with other equipment.

Shot blasters can be used to blast decorative garage floors before coating. On new construction sites, they can scrape the dusty top surface off rained-on concrete. They have even been used to stencil patterns, from company logos to leaves and seashells, on concrete.

Shot blasting is essential before applying an overlay, says Dave Pettigrew of Diamond D Concrete. "Some manufacturers won't even warranty their product without blasting," Pettigrew says. "You have to give the existing concrete a tooth so you can attach to it."

Give it a shot

Trevor Risher's Seattle-based outfit, Washington Shotblasting, shoots five million square feet a year, much of it as a sub for small or mid-size contractors. "I have different shot blasters for different types of jobs," he says.

A good machine costs \$30,000, he says, so if a contractor only blasts one job a year, it may be more cost-effective to hire a specialist like himself. But he acknowledges he occasionally loses good clients when they finally decide to buy their own machines.

Let's say you've reached that point — you expect to use a shot blaster on at least four or five jobs a year, so buying one makes sense. How do you go about shopping for one?

Bruce Williams, owner of B W Manufacturing Inc., based in Grand Rapids, Mich., says shoppers should look at reliability, production rate, and ease of maintenance and servicing. "A lot of times what I do is refer people to owners of the equipment," he says.

Allen Slater, product specialist with Blastrac, a leading manufacturer of shot blasters, says five variables impact each blasting project: the travel speed of the propulsion device; the quantity and size of the abrasive; the tenacity of the coating to be removed; the desired end result; and the size of the machine.

However, he says, the most important question is a basic one: How many square feet of production do you need per hour?

Machines with blast widths between 10 inches to 30 inches will cost roughly the same, he says, but below 10 inches, the price drips drastically.

The first shot blaster you buy should be small, for edges, corners, tight spots and test patches, he says. "You have to have the small one. Even if you have a 30-inch, how are you going to get in and do restroom stalls?"

Another variable is the way the shot is propelled out of the machine. Most machines are "center-fed," meaning the abrasive flows into the center of a centrifugal wheel. But some big riding models are "paddle-fed," in which the shot is fed onto a wheel peripherally. Paddle-fed models work best with medium-size to large pieces of shot, but they throw with less velocity than a center-fed wheel, so they distribute a more even shot pattern.

"They deliver a more even profile than center-fed," says Williams, whose company makes a paddle-fed machine. "Center-fed machines leave you with lots of hot spots. A lot of times they hit harder on one side than the other."

The shot itself is almost always steel and round, but it varies in size. Pieces typically used in blasting range between 17 thousandths of an inch (S-170) and 46 thousands of an inch (S-460) in diameter. The size of the abrasive dictates how much energy or force it exerts, and bigger shot will do more damage in a smaller period of time.

Today's diamond grinders provide fierce competition for shot blasters, Ferchaud says. They are so powerful that they



don't require a shot blast before polishing, and they prep a floor quickly. "Diamond grinders have put a big dent in the shot blaster business," he says. "It's just the latest way of doing it and it's better in a lot of applications."

But shot blasters have advantages over diamond grinders. For one thing, given two machines of the same size, the shot blaster will be faster, Ferchaud says.



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While diamond grinding can clean a surface, it doesn't open pores like a shot blaster, Williams says. "The pores allow the material to soak down into the concrete further and give you a better blending surface."

Risher of Washington Shotblasting says diamond grinding can replace shot blasting on some jobs, like prepping for stains. But when prepping for overlays and coatings, it's a poor substitute, he says. "Diamond grinding leaves too smooth a surface to have a mechanical bond. It will fail faster. Most coating manufacturers will recommend shot blasting. The biggest concern they have is adhesion."

Problems to watch for

The shot blaster is easy to use compared to other machines in decorative concrete, Williams says. "It's really self-explanatory. I sell to guys who are just getting into the business all the time. They actually love the machine. Once you've done it one or two times, you'll know what you're doing within reason."

But problems crop up quickly. For starters, the machine leaves "tiger stripes" or "cornrows" when rows overlap, and those can be tough to cover up if you only intend to lay down a light coating.

Just turning on the machine without thinking can damage a floor. If you go over your surface too quickly, you



leave stuff behind. Too slow, and you remove too much. (Start with small shot and run the machine quickly, Risher advises, slowing down or switching to bigger shot as needed.)

Thicker epoxies are harder to blast through. And shot will just bounce off elastomeric or rubberized coatings.

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Photographs courtesy of Washington Shotblasting

that heat can make an adhesive sticky again, gumming up the shot inside the machine. "Once shot sticks to anything, shot sticks to shot, and then you have to dump the whole load," Ferchaud says. "If they don't hit something hard enough to rebound, they just die."

A shot blaster will also be less effective if used on a floor that has been blasted before. You can end up with a very rough profile. "If a floor was well-prepped prior to coating, the coating is tougher to get off," Slater says.

For all these reasons, training and support for novices is critical. "I don't sell a shot blaster without training unless they're buying their second machine," Ferchaud says. "If there's any piece of equipment you need training on, it's a shot blaster."

Shot blasters must also master a number of variables in terms of electronics, environment and upkeep. "Shot blasters are very high-maintenance,"

Ferchaud says. "A shot blaster is a self-destructing piece of equipment. All that abrasive stuff is constantly going through the machine."

Slater agrees. "To get consistent results, you need to consistently maintain the machine," he says.



Urethane coatings will transmit the energy of the blast to the concrete underneath, crushing it. Then the top just peels away. But the peelings can clog the screen in the hopper of the machine.

Adhesive coatings and glues will also cause problems for shot blasters. The machines create frictional heat, and

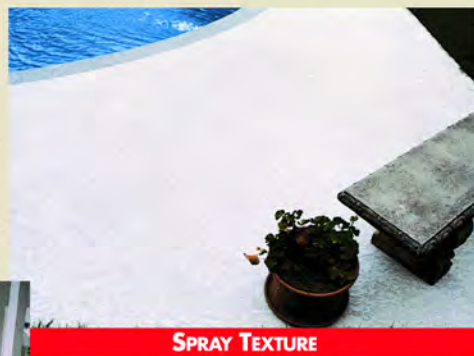
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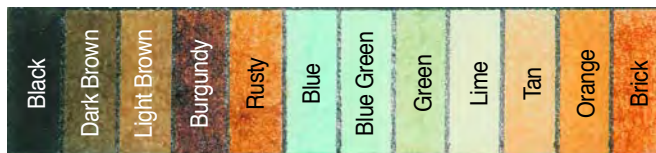
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The templates are also available without adhesive (bare), for newly poured concrete. These are available in 500 and 1,000 sq. ft. rolls. The bare templates can be used more than once if care is taken when removing and cleaning them.

The templates can be applied to exterior or interior floors, walls and ceilings. Patterns include cobblestone, brick (in various patterns), flagstone, Mediterranean tile, pavers and more.

For more information, call (888) 568-4128 or visit www.universaltemplates.com.



Flattoeing!

Surface Gel Tek (SGT) has introduced a new process called Flattoeing, the art of tattooing images into flat concrete surfaces. The Flattoo process uses Flattoos — vinyl adhesive designs — and Tek Gel for Stenciling Micro Etch.

Flattoeing offers the applicator year-round income opportunities because the entire process is easily used indoors. Surface Gel Tek has a catalog of stock Flattoos, but all custom artwork designs are welcomed.

The Flattoo process increases income potential and decreases overhead. The cost of SGT's stock Flattoo designs averages \$6 per square foot. Tek Gel for Stenciling Micro Etch costs about 15 cents per square foot. The remaining tools needed for most any job is masking tape, a paintbrush, protective plastic, rags and a bucket of water. It's that simple.

Flattoos come with a protective backing; weeded positive, negative or no weeding; and a top masking tape, which helps hold the shape of the Flattoo until it can be placed onto the concrete surface.

Surface Gel Tek offers monthly Flattoo Certification classes in the company's Mesa, Ariz., factory. Classes are held to 10-12 people so everyone gets hands-on training. The four-hour class includes: How to make your own Flattoo; How to order a stock or custom Flattoo; accent coloring using Stain Mule The Stain Carrier; and Flattoo Certification.

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Manufacturer Profile: Stegmeier Corp

by David Thompson

Contractors in need of custom wall caps typically choose between pre-cast concrete, which is elegant but pricey, or cinder block caps, which are — and look — a lot cheaper.

Stegmeier Corp. has developed an alternative: a disposable foam form that allows concrete wall caps to be cast in place, creating cantilevered edges that look great but won't bust the budget.

"With these forms contractors are able to give wall caps to the consumer for maybe \$12 to \$15 dollars a linear foot, as opposed to \$35 to \$50 dollars a foot for pre-cast," says Bud Stegmeier, the company's Western division manager and marketing manager.

Stegmeier Corp. has long manufactured decking forms and other products used in swimming pool construction, but in the past three years it has ventured into non-aquatic territory as well.

In addition to wall cap forms, the company's newer products include step liner forms for producing overhanging treads and forms for creating concrete countertops with cantilevered edges. All come in a variety of profiles.

The company also makes Slip-N-Join Lumber, a forming material for producing free-form edges on patios, walkways, driveways and pool decks. It bends to a two-foot radius. And since it won't warp like plywood and masonite forms do, it's reusable.

The roots of Stegmeier Corp. stretch back to 1966, when Bud Stegmeier's father, Bill Stegmeier, started manufacturing products for swimming pool decks in Northern California. Not content with the coping stones and brick commonly used at the time to cap pool-shell walls, Stegmeier invented a disposable foam form that produced cantilevered edges on concrete pool decks.

"It turned out to be the best thing that happened to the swimming pool industry in 40 years," says Bud, who is part of a group of partners that bought the company when the elder Stegmeier retired. "He revolutionized the construction of swimming pools by coming up with cantilevered decks."

Cantilevered decking was the first in a series of innovations patented by Bill Stegmeier, who at 82 works as a consultant for the company. He currently holds 25 patents. "Not all are super money-makers, but some are gold," says Bud. The artificial lava rock, for instance, never really caught on. But the "snap in" removable-top deck drain and the methods for putting fiber-optic lighting beneath the lip of cantilevered pool decking are big.

The company today has two manufacturing plants, one in





Arlington, Texas (the home office), and the other in Henderson, Nev. It also stocks inventory at warehouses in Atlanta, Baltimore and Orlando.



This geographic spread helps Stegmeier Corp. respond quickly to its nearly 600 distributors. "Orders are in in the morning and out in the afternoon," says Bud. "If a customer in, say, Palm Beach needs a load of material, they order by fax into Arlington, Texas, and that order is processed and shipped out of our warehouse in Orlando. Our distributors aren't hampered by long lead times so they don't have to carry as large an inventory as they normally would."

Products used in swimming pool construction still make up the bulk of what Stegmeier Corp. manufactures. Its product line includes pool drains, expansion joints and 13 shades of Frontier Desert Deck, the company's brand name for the popular pool decking material known as Kool Deck.

Stegmeier Corp. makes a variety of decking forms for gunite, fiberglass and vinyl-liner swimming pools. Among them are forms designed for stamped concrete pool decking, forms that allow automatic pool-cover tracks to be installed when decking is poured, and forms that produce a child safety grip along the edge of a pool. All of the company's cantilever forms — including those for steps, countertops and wall caps — are made from expanded polystyrene foam.

The company continues to put out new products, such as an aluminum-topped deck drain for large commercial projects and forms to make backsplashes on concrete countertops, both of which will soon hit the market.

To stay in tune with contractors and see how Stegmeier products are faring in the real world, the company gets people out to job sites frequently, says Bud, who has several years of experience as a concrete contractor himself.

"Most of our new products come from being out with the contractors and looking and seeing where the problems come from," Bud says. "A lot of companies make a product and never go out to see it in use, but we have people who get out in the field, and we are working off current experience. That

experience helps us to develop new products, upgrade current products and have the answers people need to know."

Contractors looking for such answers have a toll-free technical support number they can call. "That line drives us crazy sometimes, but it's worth it," says Bud. "We're very, very aggressive as far as customer service. We're second to nobody in that respect."

The company's 35 to 38 employees seem to make out pretty well, too. "Every year we give time off to all of our full-time employees, usually from the 20th of December until the first of the year, and we don't count it as vacation time," Bud says. "And once a year we have a really big company picnic down in Arlington, Texas, and we fly everybody from Nevada down there for a big party."

As for the future of decorative concrete, Bud sees the industry continuing to come out with products that allow contractors to add value to their work. "People are getting nicer and nicer work at economical prices, and contractors are making more money and actually having a lot more fun with decorative concrete," he says.

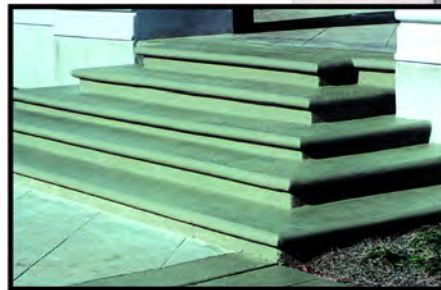
Using forms to create overhangs on steps, for instance, adds an appealing architectural detail to the finished product without adding much to the overall price of the job, Bud says.

"It's the same pile of concrete, but by using these foam forms you're getting something really, really striking instead of just a set of square steps," he says.



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To include your training services schedule, email [Concrete Decor](mailto:ConcreteDecor@ptpub.com) or call 541-341-3390. This value-added service is available exclusively through Concrete Decor magazine.

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September 18-20, 2003 Arizona Polymer Flooring Glendale, Arizona Training Seminar	September 18-20, 2003 American Society of Concrete Contractors Dallas, Texas Annual Conference 2003	
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October 10, 2003 Cheng Concrete Exchange Countertop Workshop Albany/Berkeley, CA Hands-on mixing, pouring, finishing countertops	October 10-11, 2003 Stencil Systems Two Locations Stenciling New and Existing Concrete (Espanol)	October 16-17, 2003 Concrete Solutions San Diego, California Training Class
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Scarifiers solve problems with slabs

New Sawtec scarifiers featuring heavier frames and drums are ideal for repairing common slab problems: curled joints, high spots, uneven slabs, burned slabs due to overtroweling, trowel marks and damage due to weather. A variety of cutter teeth and quick-changing drums allow for

easy reconfiguration to meet a range of applications — from light cleaning to heavy coating or laitance removal. For greater control and easier handling, Sawtec scarifiers include a quick lift-off feature and micro-depth control for fine-tuning the cutting depth. Gas or electric scarifiers are available in sizes from 8" to 13" widths. Sawtec scarifiers remove oil, contaminants, traffic lines, epoxy coatings or paint from asphalt and concrete surfaces. They are also suitable for smoothing uneven surfaces and trip hazards, or for cutting safety grooves in ramps, walkways and loading docks. For more information, call (800) 624-7832 or visit www.surfacepreparation.com.

Schmidt offers abrasive airblasting systems

Schmidt abrasive airblasting systems are designed to handle contractor needs for maintenance blast and paint operations as well as for the popular decorative sandblasted look or stenciled patterns in decorative concrete applications. Blasting systems feature pneumatic or electric deadman controls, optional remote abrasive cutoff for cleaning the area of abrasive, and normally closed, fail-safe metering and control valves. Schmidt systems use significantly less abrasive, minimizing downtime, saving on abrasive costs and requiring less cleanup and disposal. They are available in a range of sizes. Call (800) 231-2085 or visit www.surfacepreparation.com for more information.



New cove trowels from Marshalltown

Marshalltown has introduced a brand new line of inside cove trowels that feature a wood handle and blue steel blade with a riveted steel mounting. Blades come in 6" x 4", 6" x 6", and 6" x 8" sizes. All three sizes have a 1-inch radius and

a 3-inch lip. The trowels are designed to appeal to the professional who wants a quality tool that gives better control. For more information, visit www.marshalltown.com.

Hand-held shot blaster great for stenciling, cleaning small surfaces

The Blastrac 1-5HH hand-held shot blaster can be used for decorative concrete applications such as stenciling — and much more. The 1-5HH cleans and prepares small floor and wall surfaces, balconies and stairways, and small metal surfaces (such as weld seams). Applications of this 110V unit include cleaning and contouring, etching concrete and natural stone, decorative concrete, paint removal, and preparation for repair and restoration work. The 1-5HH may be used on either horizontal or vertical surfaces. For more information, visit www.surfacepreparation.com or call (800) 256-3440.



Foam fills cracks, gaps and holes

Sika Corp. has introduced Sika Boom, a one-component expanding polyurethane foam formulated specifically for concrete and masonry applications. This multi-purpose foam is used to seal, fill, bond, insulate, and deaden sound in cracks, gaps and holes that are too large for a conventional sealant. It is available in 12 oz. and 20 oz. can sizes and is designed for easy dispensing through a straw adapter that is included with each can. When applied, Sika boom expands two to three times its original size and will bond to most construction materials, especially concrete and masonry. For more information, visit www.sikacorp.com.

Crack-chasing saw makes grout lines too

The Sawtec Crac-Vac cuts to a depth of 1½ inch and is ideal for cleanout of random cracks and joints in concrete.



It controls dust generated during routing out of cracks and joints in preparation for the application of repair compounds. The Crac-Vac has a patented vacuum housing with internal impeller fan that routes the dust to a reusable dust collection bag. When mounted on a dolly, it can be used for straight-line joint cleanout work, or for cutting artificial grout lines for decorative concrete applications. For more information, visit www.surfacepreparation.com or call (800) 624-7832.



Floodlights chase away the dark

Bull Dog Power Products' new Silver Series includes quartz halogen floodlights that light up work sites from 5,000 to 10,000 square feet. These portable, weatherproof lights feature 500-watt high-intensity halogen bulbs and pebble-finished reflectors to diffuse light for broad coverage.

Tubular steel tri-pods are heavy-duty with telescoping masts. All lamps have lenses of clear, tempered glass and metal guards designed to minimize chance of tipping. They feature extra-wide lamp frames to help direct heat away from the housing. The lamps take down easily and are very portable and lightweight. For more information, call (877) WARNER-1 or visit www.warnertool.com.

Wet/dry vacuum runs cordless or corded

DeWalt's new DC500 is the first cordless/corded portable two-gallon wet-dry vacuum designed specifically for contractors. For versatility, the DC500 runs off either a battery pack or a 120-volt AC electrical outlet.

A Gore wet/dry filter from the makers of Gore-Tex products provides effective dust collection, trapping 99.7 percent of dust particles inside the vacuum. The washable, reusable filter captures the finest dust particles, such as drywall dust, and prevents them from escaping out the exhaust.

The vacuum produces ample power to pick up drywall and concrete dust, fasteners, water, sawdust, wood chips and other debris. For convenience, a drain port on the front of the vacuum allows users to empty any liquid in the tank by simply unscrewing the cap instead of removing the entire canister lid.

The DC500 has a durable, positive-lock rubber hose with a standard 1 1/4" opening. The detachable hose expands to six feet and can be connected to the exhaust port, turning the vacuum into a blower. Heavy-duty canister latches and a sealed power unit add durability to the unit. For more information, call (800) 4-DEWALT or visit www.DEWALT.com.



New 4-Cycle from HoverTrowel


HoverTrowel Inc. has introduced a new 4-cycle power trowel for finishing polymer flooring overlays in non-sensitive indoor and outdoor areas. The 45-lb trowel is powered by a quiet, low-emissions 31cc Honda engine with enough torque to finish the most difficult systems on the market today. As the demand for these troweled systems grows,

the HT-S4C adds even more versatility to the company's line of lightweight power trowels, without sacrificing any of the time-tested features and benefits of its predecessors such as fingertip pitch and speed controls, a telescoping handle, different troweling path sizes, additional weights, and many blade or float options. Its design makes this engine interchangeable with existing pneumatic motors. For more information, visit www.hovertrowel.com or call (610) 856-1961.



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The Final Pour

Artistic solution prevents skateboard damage

After Tom Ralston Concrete recently finished a handsome concrete wall for the Pacific Gardens Chapel in Santa Cruz, Calif., local skateboarders promptly began to destroy it while practicing their “railing” and jumping techniques. Owner Gary Benito rapidly became frustrated and turned to Tom to brainstorm a solution.

Neither Ralston nor Benito were thrilled with the solutions around town that use bent rebar or metal plates to deter the skateboarders.

Tom got an idea and within hours went to the Santa Cruz wharf to buy a seashell that was quickly made into a mold. From there an Ardex polymer concrete was used to cast a replica of the shell, adding a piece of rebar in the mold that could be used to fasten to the wall with epoxy. Ralston went one step further and coated the concrete shells with copper epoxy that was polished with steel wool and “antiqued” to give a bluish hue for effect.

Finally the walls were drilled and the shells attached.

The wall hasn't been bothered since the attractive “shells” went up, and Tom Ralston Concrete has since received a number of inquiries from other building owners looking for an attractive fix for their own problems with skateboard damage.



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