

concrete DECOR®

Vol. 19 No. 6
August/September 2019
concretedecor.net



***Overlays:
A Path to Renovation***



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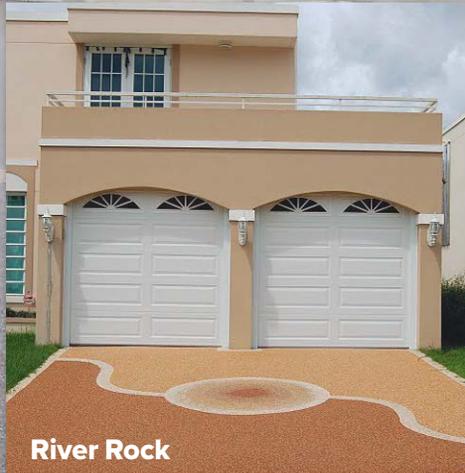
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- Cool Weather
- Cold Weather
- UV
- Reseal
- Tinted Industrial
- Clear Industrial
- Rapid Set
- Primer
- Rubber
- EZ Coat
- Water-Borne

SEALERS

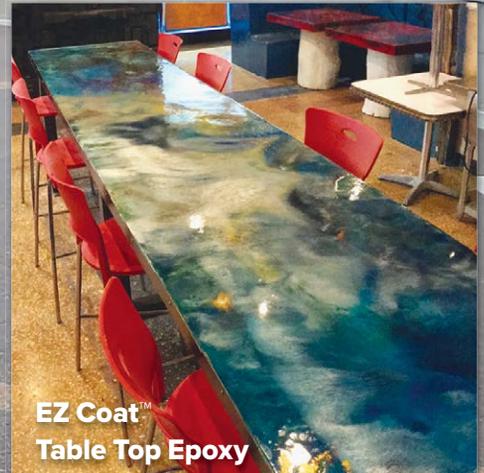
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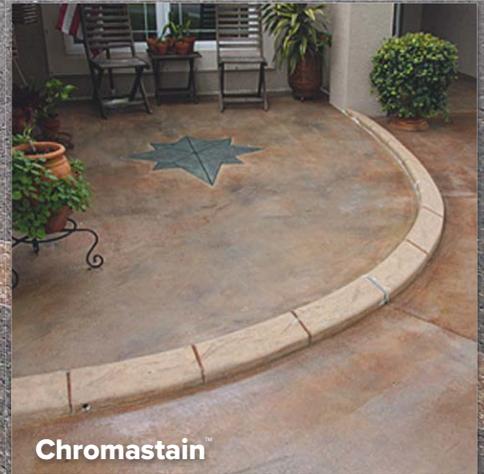
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August/September 2019
Volume 19 · Issue No. 6

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Publications Inc.
27495 2nd Place
Junction City, OR 97448

Concrete Decor[®] is published eight times a year by Professional Trade Publications Inc. Bulk rate postage paid at Lebanon Junction, Kentucky, and additional mailing offices.

ISSN 1542-1597

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American Institute
of Building Design



American Concrete Institute[®]



Publisher's Letter



Dear Readers,

A few years back, L.M. Scofield celebrated its 100th anniversary. Next January, Sundek will celebrate 50 years, and *Concrete Decor* is about to hit its 20-year mark. While there are numerous other companies worth noting, these benchmarks convey success within our decorative concrete industry.

Ten years ago the Concrete Decor Show was launched to more effectively meet the needs of an industry that was — and remains to this day — a competitive force in the building trades.

Like other successful trades, a distribution network was required to ensure ready access to product. Today, supply stores continue to emerge, often entirely focusing on decorative concrete products, tools and equipment. Though consolidation is the norm in active markets, those who design, specify and apply our industry's products need ongoing support to stay on track.

I've been around as a publisher for almost 25 years and I've witnessed tears in the fabric of many building trades that are virtually impossible to fix. These tears happen when an industry is constantly pulling at itself. It showcases itself in many ways.

People and companies become increasingly guarded, we stop taking the time to return calls, and we use technology in unethical ways. We lose sight of long-term goals because the short-term has us too busy to stop and think about ourselves, our family and what others have done to get us to where we are today.

When my editor, Stacey Klemenc, asked what makes the Concrete Decor Show different from other shows I had to stop and think. Yep, you're right! I get caught up in the day-to-day routine as well. But, to answer that question concisely: It's about you, me and our industry's long-term success.

We need each other. We need time together to keep our perspectives in check. As technical tradesmen and women, we must understand at every level our skills are refined and sharpened when we're together. We must acknowledge our trade isn't about competition among us, but rather with all the other trades.

This is what the Concrete Decor Show endeavors to provide. It strengthens our industry, but it only does that when you're present. Start the week off by attending the Decorative Concrete Hall of Fame awards dinner and you'll realize what a difference people make when our industry is focused on the long-term.

From all of us at *Concrete Decor*, we can't wait to see you this fall in Arlington, Texas.

Sincerely,

Bent Mikkelsen
Publisher

On the cover: This lobby in a downtown Los Angeles residential high-rise features GCI's GSPEC, a new epoxy-urethane self-leveling overlay. For this job, light gray and charcoal colors were premixed, combined with aggregates, spread with a gauge rake and then polished within 24 hours.

Photo courtesy of Green Chemistry Innovations



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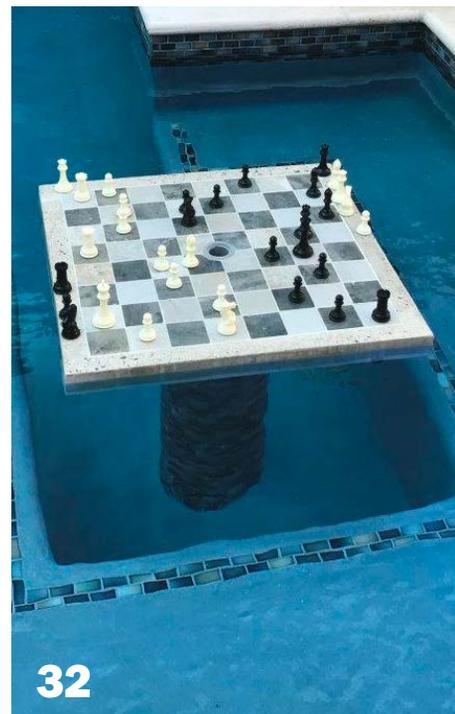
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Bruce Grogg is president of Stone Edge Surfaces in Mesa, Arizona, a division of Turley International Resources LLC, one of the largest manufacturers of concrete overlay products in the U.S. Grogg has more than 20 years of domestic and international manufacturing experience in the custom product and concrete overlay industries. His accolades include being a past voting member for the International Code Council's ISPC code development committee, helping author two current ICC codes and

leading the Pool & Hot Tub Alliance's Government Relations Water Saving Coalition. Grogg can be reached at bruce@stoneedgesurfaces.com or (844) 786-6333. See Bruce's article on page 30.



Jason Ryan, business development manager at Cement Colors Inc. in Fort Worth, Texas, brings 15 years of construction experience to his current job where he manages sales, marketing, on-site training and technical support. Prior to this job, he was a manufacturer's rep specializing in repair, restoration and the installation of decorative concrete overlays. He's a returning educator for the World of Concrete and a regular contributor to trade publications. Ryan also serves as a consultant/

educator for contractors both in the U.S. and abroad. He will be teaching a class titled "Polishable Overlays: Keys to Consistent Success" at the upcoming Concrete Decor Show in Texas. He can be reached at (817) 807-5572 or jryan@cement-colors.com. See Jason's article on page 14.

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This Show's For You!

IF YOU'RE on the fence about whether to participate in the upcoming Concrete Decor Show Oct. 28-31 at the Arlington Convention Center in Arlington, Texas, here's a little nudge that may push you toward the gate.

"It's an event without distraction," says Bent Mikkelsen, organizer of the show and publisher of *Concrete Decor* magazine, "an event solely dedicated to those whose livelihood centers on the business of decorative concrete."

The biennial show covers the segments of decorative concrete in more depth than anywhere else, he says. "You can spend a weekend learning about one manufacturer's products or four days with us comparing an array of similar products and deciding for yourself which one is better for a particular job. Because there's not just one way to do a job; there is a number of ways."

Whether your client has \$10,000 to spend or \$100,000, you should be able to offer solutions for the project at hand and deliver as promised, Mikkelsen says.

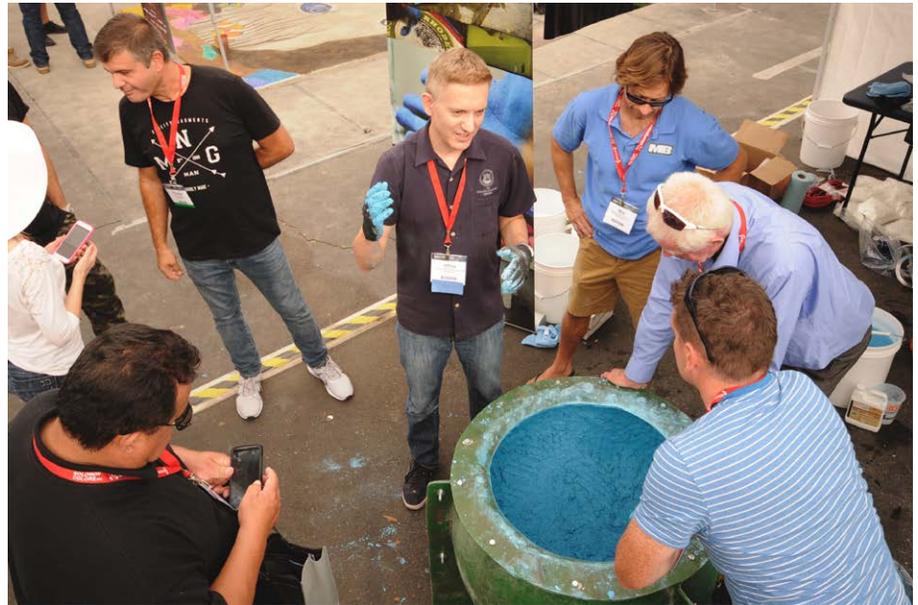
"The Concrete Decor Show helps the industry gain an increasingly competitive advantage," he says. Because when it's all said and done, "we're not competing with each other. We're competing with the other solutions out there."

To that end, Mikkelsen says, "This year's show is all about us — our industry coming together on a platform that *Concrete Decor* has the privilege to provide."

Emphasis on products and demos

Attendees can learn about the industry's latest products and techniques through face-to-face visits with manufacturers and distributors on the exhibit floor from noon to 6 p.m. Wednesday, Oct. 30, and Thursday, Oct. 31. Throughout the show in specially designated areas, supply store representatives will conduct demos with products on display at their booths.

Educational offerings taught by the



"best of the best" headline the show. Designed for beginners and veterans alike, hands-on workshops from 8 a.m. to 5 p.m. Monday through Thursday, Oct. 28-31, will further explore uses of products displayed in the exhibit hall.

Technical seminars taught in classroom settings Oct. 28-31 will be presented at various times.

Whether you are a novice or a seasoned contractor whose native language is English or Spanish, there will be opportunities to help you refine your current skills and learn new techniques. See pages 6-7 for a short synopsis of the scheduled educational offerings. More may be added.

Costs and events

The cost to attend the 2019 Concrete Decor Show is \$350 for full-conference attendees before Oct. 28 and \$425 at the door. This fee covers the two-day exhibition, and your choice of seminars and workshops. Full-conference attendees are eligible to receive \$150 rebate if they spend \$500 or more on products displayed at the show using the online Marketplace at store.concretedecor.net. Some restrictions apply.

Admission to the exhibition hall is \$25 before Oct. 28 and \$40 at the door.



Registered attendees are invited to attend the Concrete Decor Show Tailgater at 7 a.m. Monday, Oct. 28, at area four on the show floor. Chris Sullivan of the American Society of Concrete Contractors/Decorative Concrete Council will address how you can win the support of co-workers in building a job site environment that's safe and free of hazards. Coffee and doughnuts will be served.

All registered attendees are also invited to help kick off the show at a welcome reception in the convention center Tuesday, Oct. 29, at 5:30 p.m. Refreshments and hors d'oeuvres will be served while guests peruse the exhibits and mingle with the exhibitors.



Special events for this year include:
Hall of Fame dinner, 7 p.m. Monday, Oct. 28. Advance tickets \$85.

Women in Decorative Concrete Reception, 6:30 Wednesday, Oct. 30. Tickets \$20.

Daily Devotion, 6-7 a.m., October 28-31, Super Bowl Room. Fellowship dedicated to strengthening spirituality. All welcome.

Hotel and travel

The 2019 Concrete Decor Show has secured a nightly room rate of \$145 plus tax at the Sheraton Arlington Hotel, which can be reached at (817) 261-8200 or <https://bit.ly/2ztOqpf>. The facility is located adjacent to the convention

center near the new indoor Texas Ranger stadium, the Dallas Cowboy stadium, a new sports district called Texas Live and Six Flags amusement park.

If you're flying to the show, plan on arriving at the Dallas-Fort Worth Airport. Shuttle service from DFW to the Sheraton Arlington can be arranged by calling (817) 261-8200 after you receive your luggage. A shuttle back to the airport after the show can also be arranged.

Registration for the show is open. For more information about the show or on how you can exhibit, call (877) 935-8906. For general information, visit www.concretedecorshow.com. 📱



Exhibitors to Date

EXHIBITOR NAME	BOOTH#
Blastrac / Diamatic	300
BN Products USA	401
Bon Tool	110
Butterfield Color	219
Cement Colors Inc.	407
ChemSystems Inc.	409
Concrete Homes + Low-rise Construction	415
Covestro	301
CTS Cement Manufacturing Corp.	315
Dreamkrete	120
Dustcontrol Inc.	402
Engrave-A-Crete	214
FloorMaps Inc.	501
Fox Blocks ICF	418
Graco Inc.	419
GranQuartz	213
Husqvarna / HTC	105a
Kingdom Products	224
Kraft Tool Co.	318
Laticrete International Inc.	223
Makinex Construction Products	512
Midwest Rake / Wooster Brush	212
Moon Decorative Concrete	500
Nox-Crete Products Corp.	102
Poraver North America Inc.	400
Sika Scofield	217
Skudo LLC	322
Solid Solution Products	517
SpiderLath	417
Stauf USA	313
Stone Edge Surfaces	319
Superabrasive Inc.	412
Surface Gel Tek	116
Surface Koatings	317
Torginol Inc.	523
Trimaco	413
USG	416
Versatile Building Products	508
Westcoat Specialty Coating Systems	105b
WRAP	118

POWER UP!

The **CONCRETE DECOR SHOW** focuses on energizing our industry and connecting you with the right people, tools and products.

Whether through world-class training, education, exhibiting, demonstrations or networking, don't miss your chance to tap into the incredible power brewing in the concrete industry today.

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concrete 2019 DECOR SHOW ARLINGTON

WORKSHOPS



The Sky's the Limit with Vertical Carved Concrete

8 A.M. MONDAY, OCT. 28 & TUESDAY, OCT. 29
Area: Show Floor One

Trainers: Troy Lemon of Cornerstone Decorative Concrete and Emil Gera of Emil J Gera Concrete Contractor Inc.

Workshop assistants: Danny Carillo of Graco and Matt Sampson of Matthew Buckley Sampson Inc. This workshop for intermediate to advanced applicators will focus on productively using the latest products, tools and equipment to turn vertical concrete carving applications into one of your company's most lucrative services. Participants will learn valuable techniques that will fool anyone into believing stone, brick and modern plaster veneers — along with carved steps and other custom finishes — are the real deal.

Boost Profits with Engraving and Stencils

8 A.M. MONDAY, OCT. 28 & TUESDAY, OCT. 29
Area: Show Floor Two

Trainers: Rick Lobdell of Concrete Mystique Engraving and Debbie Ohland of Engrave-A-Crete

In this workshop participants will learn multiple ways to not only use engraving to their advantage, but also methods to incorporate stencils for added details.

Harder, Thicker, Longer ... Concrete Countertops

8 A.M. MONDAY, OCT. 28 & TUESDAY, OCT. 29
Area: Show Floor Five

Trainer: Jake Brady of Jake Brady Concrete by Design This hands-on workshop will provide both beginners and veteran concrete contractors with the opportunity to learn the instructor's innovative way to make massive seamless pieces of concrete out of GFRC. This workshop will focus on a "pour once" method starting with mold making, pouring, demolding, back-grinding, polishing and sealing.

Creating a Faux Bois Sculpture for Indoor or Outdoor Use

8 A.M. TUESDAY, OCT. 29; WEDNESDAY, OCT. 30; & THURSDAY, OCT. 31

Area: Show Floor Three
Trainer: Cindee Lundin of The Studio by Cindee Lundin

This three-day, beginner to advanced workshop focuses on faux bois and carved stone concrete sculpture. Creating a stable armature, deciding on concrete mix designs, sculpting, creating textures, coloring and business training will weave its way through this exciting workshop for the concrete enthusiast, landscaper and decorative artist.

Carpentry for Concrete Forming

1 P.M. TUESDAY, OCT. 29

Area: Show Floor Four
Trainer: Rich Robertson of T.B. Penick & Sons

This workshop will demonstrate best practices for framing and forming retaining walls, steps, stairs, radiuses, wall caps, flatwork applications and more. It will also cover the use of laser guidance, forming materials, fasteners, reinforcements and coping along with the necessary tools to ensure a productive and safe work environment.



TECHNICAL SEMINARS

— MONDAY —

ICFs Answer the Call for an Energy-Minded Society

10 A.M. MONDAY, OCT. 28

Room: Champions I

Presenter: Glen Klassen of Fox Blocks

Numerous examples of ICF building projects, application challenges, best practices and commonly asked questions will be covered in this inspiring introduction to ICF construction.

The Secrets of a Decorative Concrete Entrepreneur

1 P.M. MONDAY, OCT. 28

Room: Champions I

Presenter: Karen Keyes of The Art of Concrete LLC

Starting a company today is completely different than it was 15-20 years ago, especially if you want to compete for commercial jobs. This presentation will cover top survival tips for new companies; how to integrate technology into our tangible industry; and why and how we all must collaborate to contribute to our industry's success.

Designing and Specifying Decorative Concrete

3 P.M. MONDAY, OCT. 28

Room: Champions I

Presenters: Chris Klemaske of Sundek and Byron Klemaske of T.B. Penick & Sons

Award-winning hardscaping projects that highlight a diverse range of color, design and product applications for both new construction and renovations will be discussed. You'll gain a clear understanding of the contractor's role starting with a project's concept on through project management while learning ways to address design challenges and coordinate customer input.

— TUESDAY —

Building and Designing Sizzling Outdoor Kitchens

8 A.M. TUESDAY, OCT. 29

Room: Champions I

Presenter: Scott Cohen of The Green Scene Landscaping & Pools

Participants will learn how to design, build and polish cast-in-place decorative concrete barbecue counters, bars and outdoor kitchens and incorporate colorful accents such as glass embeds and lighting. This class is for beginner to intermediate concrete contractors.

Polishing 101

8 A.M. TUESDAY, OCT. 29

Room: Champions II

Presenter: Adrian Henry of NEX Systems

Back by popular demand, this introduction to polishing class presented by one of the nation's top polishing contractors will show you how to build a profitable polishing business.

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Confronting Common Failures in the Acid Stain Process

10 A.M. TUESDAY, OCT. 29

Room: Champions II

Presenter: Federico Jasso of Kemiko

This class will cover common failures in the acid stain process. Topics will be organized by technique and concept, and will cover common mistakes in concrete surface preparation including how to prevent, detect and remedy problems whether they're your own or inherited with the job.

Make a Splash with Decorative Concrete Around Swimming Pools

10 A.M. TUESDAY, OCT. 29

Room: Champions I

Presenter: Scott Cohen of The Green Scene Landscaping & Pools

Emphasizing considerations contractors should take when installing decorative concrete around swimming pools, this class will cover casting concrete coping, design sizing, drainage options, waterfalls, fire features, swim-up bars, and built-in tables, chess boards and other pool furniture.

Speaking to the Strengths of Polished Concrete

1 P.M. TUESDAY, OCT. 29

Room: Champions I

Presenters: Award-winning Architect Sloan Harris of VLK Architects and David Stephenson of Retail Polishing Management

The presenters will share the formulas for some notable award-winning polished concrete projects. You'll learn about the ways decorative concrete has changed how schools are built, the challenges that arise, how issues are overcome and why three- and four-step polishing processes are used.

Get in the Know with Architectural Exposed Concrete Finishes

1 P.M. TUESDAY, OCT. 29

Room: Champions II

Presenter: Brian Farnsworth of Cement Colors

This class will focus on the latest technology relating to high-end exposed finishes and give attendees installation techniques to achieve success on the job. Methods covered will include sand-finished concrete, wet-on-wet exposed and exposed aggregate with color hardeners.

High-Performance Coatings and Sealers for Industrial and Decorative Concrete

3 P.M. TUESDAY, OCT. 29

Room: Champions I

Presenter: Steven Reinstadtler of Covestro

The history and basic science behind modern polyurethane and polyaspartic technology will be explored, particularly focusing on high-performance coatings and sealers. Attendees will leave with an understanding of desired traits, surface prep and proper application associated with these coating technologies, safe-use and handling requirements, and a variety of end-use applications.

TAMBIÉN SE OFRECE EN ESPAÑOL

Enfrentando Fallas Comunes en el Proceso de Tinción Ácida

3 P.M. TUESDAY, OCT. 29

Room: Champions II

Presenter: Federico Jasso of Kemiko

Esta clase cubrirá las fallas más comunes en el proceso de oxidación del concreto (Acid Stain). La clase cubrirá el proceso de aplicación paso a paso y explicará a detalle cómo detectar, prevenir y reparar los problemas más frecuentes. Además, incluye la selección adecuada de la protección de la superficie y programas de mantenimiento para cada uno de los diferentes tipos de protección.

— WEDNESDAY —

Trends in Decorative Concrete

8 A.M. WEDNESDAY, OCT. 30

Room: Champions I

Presenter: Chris Sullivan of ChemSystems

The presenter will discuss current decorative concrete trends regarding color, design, finishes and products for all the major decorative concrete market segments. Award-winning projects from around the country will be used as case studies.

Polishable Overlays: Keys to Consistent Success

8 A.M. WEDNESDAY, OCT. 30

Room: Champions II

Presenter: Jason Ryan of Cement Colors

This course will examine environmental variables that can compromise a polished overlay project, as well as the steps and best practices required for a proper installation. The course's objective is to help prepare contractors overcome inevitable challenges with these high-demand flooring solutions that are so in-demand today.

Coatings for Concrete: One Type Does Not Fit All

10 A.M. WEDNESDAY, OCT. 30

Room: Champions I

Presenter: Mark Haen of Tenec Coatings

Restoration of nonstructural concrete applications, indoors or outdoors, begins with a clear understanding of today's concrete coating products. In this presentation, you'll get to know these products with firsthand examples of where and why they're best used.

Sales & Marketing: Price and Value Are Two Different Animals

10 A.M. WEDNESDAY, OCT. 30

Room: Champions II

Presenters: Jeff Wells of Sundeck Products Inc. and Karen Keyes of The Art of Concrete LLC

As billionaire Warren Buffett puts it, "Price is what you pay. Value is what you get." The presenters will discuss methods you can use that will help customers better understand the difference between the two, including traditional marketing, business development techniques and one-on-one presentations.

— THURSDAY —

Surface Refinement for Polished Concrete

8 A.M. THURSDAY, OCT. 31

Room: Champions I

Presenter: Clark Branum of Diamatic USA

This class will define surface refinement in detail and cover ways to fully achieve it. Participants will learn how to measure it, how to determine which measurements are useful to a contractor and how to use these measurements in a specification or on a job site. Class also includes an overview of emerging industry standards and updates from the Concrete Polishing Council and ACI 310 – Decorative Concrete, a joint committee of the ACI and the ASCC.

Public Art — Get the Winning Hand with Public Works Projects

8 A.M. THURSDAY, OCT. 31

Room: Champions II

Presenter: Robin Brailsford of Brailsford Public Art

This presentation by the LithoMosaic patent holder will discuss the role of the decorative concrete professional in creating collaborations that increasingly move decision makers toward decorative concrete for public art projects.



Sealer Selection Can Make or Break Job Satisfaction

10 A.M. THURSDAY, OCT. 31

Room: Champions I

Presenter: Chris Sullivan of ChemSystems

This seminar will explain the different concrete sealer options, provide a basic understanding of their makeup, explore the pros and cons of each, and present guidelines for sealer selection. It will also cover application methods and troubleshooting.

Concrete Mix Design — The Contractor's Guide to On-site Concrete Chemistry

10 A.M. THURSDAY, OCT. 31

Room: Champions II

Presenter: David Ojeda of Fritz-Pak Corp.

When it comes to delivering a load of concrete for architectural and decorative applications, it's imperative to have accessible tools to ensure the placed concrete results in a finish that achieves customer expectations while meeting industry standards. This presentation looks at concrete's geographic challenges, common mishaps at the plant and handy chemical additives.

Register today at ConcreteDecorShow.com



Photo courtesy of Laticrete

Pumpable, self-leveling underlayment flattens floors and can be polished

Laticrete, a leading manufacturer of construction solutions for the building industry, recently introduced Supercap SC650-MC, a fine-sanded, pumpable and pourable, low-alkali cement-based, premium self-leveling topping suitable as a high-strength wear surface or underlayment. It's the first high-volume self-leveling underlayment of its kind that flattens floors while producing durable and low-maintenance finished wear surfaces for an all-in-one solution.

SC650-MC is ideal for education, health care, retail, hospitality, corporate and government applications that need a fast turnaround time. It can be used to produce a finished concrete floor or to create a flat floor that can be topped with a wide range of flooring material.

The product can be used to transform rough concrete to a flat, smooth surface that's walkable in just two to four hours and polishable in 24 hours. Installers can also apply finished flooring goods as soon as one day after the initial application.

For those who choose to use SC650-MC as an all-in-one self-leveling and finished flooring solution, the product produces a coarse salt-and-pepper



look that can be left as is or tinted with L&M Vivid Dye. The dye comes in 22 standard colors, with custom colors available.

For those who choose it as a floor-leveling solution where the surface will be covered, most floor covering adhesives suitable for concrete can be used with this product. It doesn't contribute to or harbor the growth of mold or mildew.

SC650-MC is available in 50-pound bags as well as a bulk super sack designed to pump through the Supercap Mobile Blending Unit for large projects.

www.laticrete.com

Level company launches two-brand strategy

Two leaders in the measuring and marking tools industry have joined forces to form a new company called Keson LLC. The merger involves Keson, a family-owned company started in 1968 in Berwyn, Illinois, and Sola Measuring Tools, a family-owned company in Goetzis, Austria, that invented a leveling tool in 1949.

Together, they are bringing high quality and affordable levels, featuring Sola's Focus vial technology, to North America. The alliance builds upon Keson's U.S. manufacturing, existing distribution network and strong relationships by adding Sola's European manufacturing expertise, precision-

engineering and industry-leading technology.

Keson LLC is launching a two-brand strategy: the Sola-branded levels are at the high-end of the market while the Keson-branded levels are marketed as the best of the mid-tier levels.

All the new levels will be made for Keson at a Sola manufacturing facility in Austria or Hungary. More than 60 different level products are currently available for purchase through local distributors and specialty stores.

Most notable among the features of the new levels is Sola's Focus vial technology. Compared with standard ring vials, these show a considerably higher contrast. This patented technology gives users a better, faster and more accurate reading from a distance or in a low-light setting.

www.keson.com

Forged trowels are strong and flexible with no internal voids

Bon recently introduced Keystone Forged Masonry Trowels, a new line of contractor-grade hand tools.

The trowels feature a blade and shank that's precision forged from a single piece of specially formulated carbon steel. Unlike trowels that are welded, the forging process eliminates any internal voids in the blade, creating a stronger blade that won't weaken and crack.

The blades are hand polished to create a surface that resists sliding and allows the mortar to stay centered even when the tool is moving. The blade is also heat tempered to provide uniform hardness. Each one is taper ground to provide elasticity over the whole blade and help reduce user fatigue.

Bon's Keystone Forged Masonry Trowels are available in Narrow London, Wide London and Philadelphia patterns in four handle types. There are more than 45 trowels in the new line.

www.bontool.com



Cleaner meets EPA Safer Choice criteria

Klean 'N Release Cleaner, a new all-purpose cleaner and degreaser from Prosooco, is now certified with the U.S. EPA Safer Choice program and meets its direct-release criteria for products with outdoor uses.

The Enviro Klean cleaner is ideal for cleaning a variety of interior and exterior surfaces including windows, countertops, bathtubs, sinks, patios and sidewalks. It works on multiple substrates such as natural stone, limestone, marble, granite, masonry, tile and metal.

This fragrance-free, water-rinseable cleaner is formulated to be safer for people and the environment by using readily biodegradable ingredients. It contains no phosphates, colorants, hazardous solvents or environmentally harmful surfactants. It's also safer to use around plants, lawns, pets and wildlife.

Klean 'N Release is strong enough for general cleaning in new construction and safe for historic restoration projects. It's dilutable with up to 10 parts water to offer an economical and effective concentrate solution. *(continued on page 11)*

Decorative concrete business expands

AGGRETEX, a leading manufacturer in the decorative concrete industry, has recently partnered with the Adleta Corp. and Wanke Cascade, two of the nation's premier flooring and construction products distributors.

According to Curt Thompson, founder and president of Aggretext, this new partnership will help the distributors deal with the impact that concrete has had on traditional flooring. The demand for decorative concrete solutions continues to climb, he says, as architects, designers and end-users realize that concrete can be used in other ways than merely structural.

Adleta's president, John Sher, said his company has always been out in front of the product

curve as markets change. He sees Aggretext as its next chapter to help Adleta diversify and grow.

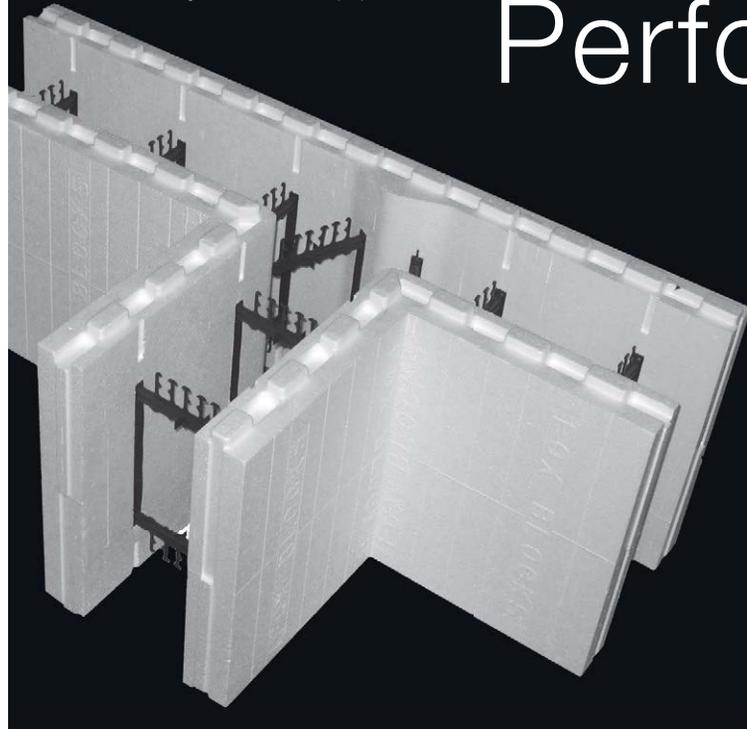
Rob Tarver, president of Wanke Cascade, said his company had studied the decorative concrete market for two years and discovered Aggretext, a proprietary and unique product that well represents the next generation in concrete. A partnership will give Wanke Cascade an opportunity to participate in the growing decorative concrete segment.

Aggretext is a pioneer in decorative concrete products used in many applications. Its portfolio includes a proprietary product called Smashed for exterior concrete, as well as an innovative system for the interior, polishable overlay market.

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ICF Safe Rooms Offer Shelter From Natural Disasters

TORNADOES are extremely dangerous natural disasters that can come with little to no warning. People who live in tornado-prone areas, as well as those in hurricane locales, should have a safe place to go when bad weather hits. In the worst-case scenario, not having a proper safe place to retreat to can become a death sentence for homeowners and/or their families.



Contractors who build or add on a safe room can provide their customers peace of mind and protection during bouts of bad weather. Here are some things to take into consideration when building one:

Choose the right location and size

Location is important when building a storm shelter. It's best to put a safe room on the ground-level floor or in a basement. However, some homeowners opt to have one built as a stand-alone in their backyard.

There are many places inside to build an above-ground shelter, it simply depends on the space available in a home. Some good ground-floor options include the laundry room, under

stairs area or the garage. Wherever it goes, the room needs to be easily accessible and completely free of windows. Do not build it in a flood-prone area.

First, determine how many people the safe room needs to accommodate. FEMA recommends anywhere from 3 to 7 square feet of space per person. The room should be at least 8 feet tall and be stocked with a first-aid kit, among other things.

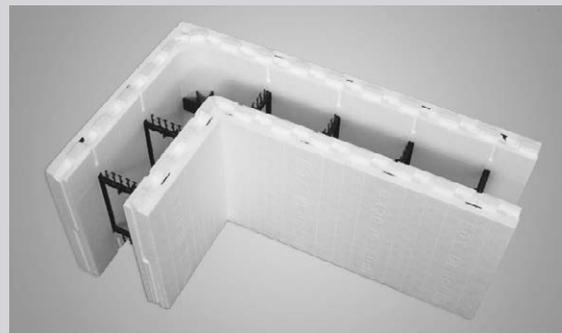
Don't settle on materials

When it comes to safety, especially when dealing with natural disasters, building materials are extremely important. Don't settle. Instead, choose a building material that offers durability and immovability such as Insulated Concrete Forms.

There are many reasons ICFs should be chosen over traditional materials. For starters, a residential safe room built with ICFs meets and exceeds the FEMA criteria and can ensure the safety of a home's occupants.

On average, there are about 1,253 tornadoes each year in the United States, making tornado safe rooms critical for those in their path. Tornadoes come with strong winds which pick up debris and slam it into surrounding homes and buildings. There are about 60 fatalities every year due to tornadoes, most of those caused by flying debris.

Tornado shelters can be built both below and above ground. The material used for a tornado safe room, especially if the shelter is above ground, must be able to withstand both the wind and debris. Tornado shelters built with ICFs have a proven track record of extraordinary durability when it comes to high winds and flying debris.



Photos courtesy of Fox Blocks

On top of being able to withstand flying debris, tornado shelters should also be impossible to move. Traditional storm shelters consist of three separate layers — the foundation, roof and walls — making them vulnerable to being destroyed by a large tornado.

Shelters made with ICFs are built with an interlocking system, keeping the foundation, walls and roof together in a continuous load path which will keep the storm shelter intact.

Other details to consider

Building a safe room requires a lot of planning. Whether building in a basement or yard or retrofitted on a home's ground level and anchored to the ground, details are crucial.

Safe room doors should be FEMA-approved and able to withstand major impacts without taking damage. Be sure the door is easy for family members to open and close. Heavy doors can make access to the storm shelter difficult and time consuming. Easy-to-open doors that lock from the inside and are built for impact are best.

When a storm shelter is complete, it should be properly stocked with necessities such as flashlights, a weather radio, batteries and bottled water among other things. 🗡️

This article was contributed by Fox Blocks, a leading manufacturer of insulated concrete form building blocks with manufacturing locations throughout North America. For more information on building with ICFs, visit www.foxblocks.com.



(continued from page 9)

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Mixer-pump made for gypsum floor underlayment

Blastcrete Equipment LLC, a long-time manufacturer of shotcrete and gunite mixers and pumps, introduces the RS180 Mixer-Pump with variable speeds from 0-18 cubic yards per hour and long-distance and high-volume pumping capabilities. It is a user-friendly, economical option for gypsum flooring underlayment, grouting, cellular concrete and some wet shotcrete applications.

The RS180 was developed as a solution to the challenges of applying gypsum floor underlayment.



Contractors said they needed a pump that could pump further and faster without surging.

To eliminate material surges and allow for higher pumping volumes, the RS180 uses an adjustable 2L8 rotor-stator pump. The adjustable rotor-stator, or progressive cavity, design allows contractors to tailor material flow to the job at hand. By tightening the unit, operators can increase line pressure for longer vertical

or horizontal pumping distances. For shorter distances, the unit can be loosened. This flexibility limits wear compared to other rotor-stator pumps.

In addition to the 2L8 rotor-stator, the RS180 features a 12-cubic-foot hydraulic spiral mixer, driven with a planetary gearbox, offering variable speed from 0-60 rpm for application- and site-specific adjustments. The robust mixer mixes a full load in less than two minutes. A 15-cubic-foot receiving hopper further increases job-site efficiency.

The unit is also designed to make routine cleaning and maintenance less difficult with easily accessible parts. 

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Star Power:

Polished Concrete Helps Deliver the ‘Goods’

Neighborhood Goods, Plano, Texas

by Joe Maty

WHAT do tennis great Serena Williams, Hollywood movie star Reese Witherspoon and decorative concrete have in common?

Answer: They all are players in an experiment in retailing, in the form of a new destination in shopping called Neighborhood Goods.

Williams and Witherspoon brought their brands — the Serena leisure apparel line and Draper James, Witherspoon’s Southern-flavored women’s clothing label — to Neighborhood Goods in the Dallas suburb of Plano, Texas. The store is billed as a “new kind of shopping experience, with brands that will rotate in and out,” the Dallas Morning News reported. Williams and Witherspoon were two of the early test cases in this new retailing frontier deep in the heart of Texas.

The concept is described as a new twist on conventional “brick and mortar” retailing, with a dynamic, evolving variety of brands and items, combined with online ordering.

But before the Serena and Draper James offerings made their appearance,



Photos courtesy of Johnson & Sons

architects Droese Raney, general contractor Scott + Reid and decorative-and polished-concrete contractor Johnson & Sons put the stamp of their own brands on the Neighborhood Goods location, creating a high-end store environment with glistening polished concrete, appealing but subtle colors and artistic flair.

“One of the greatest challenges was to create a neutral floor plane that did not compete with the fixtures or merchandise, was durable enough to handle retail traffic, was cost effective and could be completed within our aggressive finish-out timeline,” says Lance E. Raney, principal, Droese Raney Architecture.

“The answer was to grind, stain and polish the existing concrete slab. By staining the ‘activations’ we were able to delineate the vendor areas from the ‘pedestrian streets’ that weave through the retail neighborhoods.”

“Johnson & Sons made it happen,” Raney adds, giving credit to the polished-concrete contractor for its

collaboration and execution.

The design and construction team sought to produce a “neutral” neighborhood environment for this changing roster of retailers — one that offered an adaptable setting for an array of different merchandise and brands, while placing emphasis on the products being sold. Along with the neutral polished-concrete color palette, the finishes featured white, powder-coated steel fixtures and natural wood, Raney says.

Mike Cox of Johnson & Sons says the polished concrete design by Droese Raney was relatively straightforward — polished gray concrete for open areas of



Project at a Glance

Project: Polished concrete for Neighborhood Goods shopping destination in Plano, Texas, including application of stain colors used to highlight various retailers and their offerings. Decorative epoxy floor system installed in bar area.

Decorative Concrete Contractor: Johnson & Sons, Plano, Texas

General Contractor: Scott + Reid General Contractors Inc., Dallas, Texas

Architect: Droese Raney Architecture Inc., Dallas

Polished Concrete Materials: Prosoco Consolideck LS/CS Densifier, LS Guard and GemTone Stain in Concrete Gray

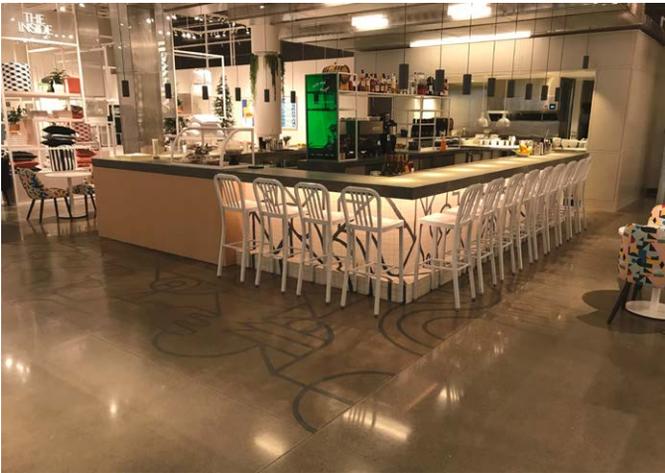
Challenges: Precise alignment of borders between stained and uncolored concrete surface, and working with other trades in a fast-track project.



the floor, and a darker gray stain for rectangular areas where merchandise is displayed.

The existing concrete surface was in good condition, giving Johnson & Sons a good canvas to work its artistry. The designers specified a Class B aggregate finish with a Level 3 gloss. Johnson & Sons employed an eight-step polishing process using metal- and resin-bond diamond grinding to a 1500-grit finish. The acetone dye was applied at the 200-grit grind level, followed by densifier and subsequent grind/polish steps.

Prosoco's Consolideck system was used for the polished concrete process — densifier and guard (sealer), and acetone stain.



An epoxy flooring system in a steel-gray color inside the store's bar area was also part of the design scheme. Here, the installation included epoxy basecoat, quartz broadcast and urethane topcoat. The same existing concrete surface was given an initial grind to create a good profile for adhesion of the epoxy.

Cox says the "fast-track" project put Johnson & Sons to the test in coordinating the job with other trades.

"At one time there were 17 scissor lifts working around us at the same time," he says.

The prospects for this new retailing concept may be an unknown, but the expertly crafted, polished concrete floor offers a solid, though subtle, foundation on which to build a brand. 🛠️

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Surface Prep:

Eliminating chances for failure

by Jason Ryan

FOR thousands of years the permanence of concrete has made it an ideal construction and design medium for architects, engineers and builders. Even the word “concrete” is often used as an adjective to describe the reality, longevity and durability of everything from objects to ideas. Despite this long and proven track record, some of the latest design and repair trends in overlays, toppings and coatings have revealed a critical fail point in that permanence concept: inadequate surface preparation.

Adequate surface preparation is rarely as appealing as putting down that last coat of sealer and admiring a job well done. It receives little fanfare and rarely makes the cover of trade magazines, yet it’s the most important aspect of any project and can quickly undo the skilled hand of any artisan.

Due to its often dull and monotonous nature, surface prep is often neglected or overlooked. Most of the neglect comes from good installers who have a specific standard they follow for every job without ever completely understanding how or why. This leaves the broad variety of slabs and substrates treated the same, despite their differences, and many variables unanswered.

Ninety-nine percent of the bond failure issues I’ve inspected have either been poor or incomplete surface prep and consistency. Just like preparing for an exam, job interview or business meeting, good preparation is about knowing the answers before they are asked.

With overlays and toppings, good preparation means reading the substrate, knowing the materials, identifying all possible variables and accounting for them one by one. Doing this effectively ahead of the installation will eliminate most, if not all, chances for failure.

The current industry environment is one of open communication and free information with many of the

pioneers that developed the installation processes for these materials. Their combined years of know-how and experience can be used to eliminate any and all surprises.

Proper surface prep should provide a clean, sound and open substrate that’s ready to receive a uniform coat of the desired topping.

Clean and sound

A clean and sound substrate is free of contamination, previously applied coatings and loose debris. Also, its cracks, spalls, voids and depressions have been addressed and repaired. Each of these repair subjects could be an article on its own but the basic principle is to provide a clean surface where the final topping can cure consistently and properly.

“By failing to prepare, you are preparing to fail.”

— BENJAMIN FRANKLIN

Most materials cure through a chemical reaction. The rate at which this occurs increases as the mass increases. This means that doing your repair, leveling and final finish in one coat will result in differential curing throughout due to the material’s varying thicknesses. Most, if not all these differences, will be visible as “shadows” in the final finish.

Surface profile

The major mechanisms for a long-lasting bond between existing concrete and an overlay are the overlay’s adhesive properties and the mechanical bonding properties between the two materials. By far, the most effective way to maximize the bond is to adequately profile the surface.

There are many methods used to

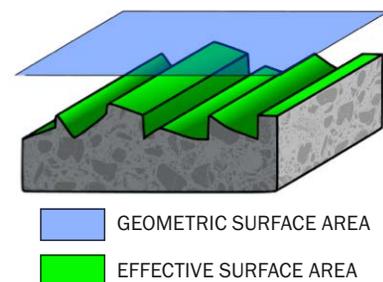
profile a concrete surface. The most common are mechanically abrading, blasting with abrasives, chemically etching and using high-impact mechanical methods achieved with tools such as jackhammers and concrete floor scabblers.

The preferred methods are mechanical abrasion and blasting. Chemical and high-impact methods increase the risk of microcracking and leave residual byproducts behind. Although the latter two methods have their place, it’s best to consider them as a last resort when either of the former two are available.

Effective profiling accomplishes two things. It increases the concrete’s effective surface area. It also opens and exposes pores and cavities in the concrete surface. Because of this, more material may be needed to cover the now-enlarged and more porous surface.

While most materials require a profile that can be achieved through grinding or shot-blasting, some projects require more aggressive removal processes such as milling or scarifying. The profile left by these methods can typically require 20% or more material than that of a diamond-ground slab.

The process of exposing pores will have the greatest impact on primers, as well as materials applied without a primer. Because the density and porosity of concrete can vary broadly between



This figure illustrates how proper surface profiling can increase overall effective surface area and interface between overlay and substrate despite no change in geometric surface area.

Illustrations courtesy of Jason Ryan

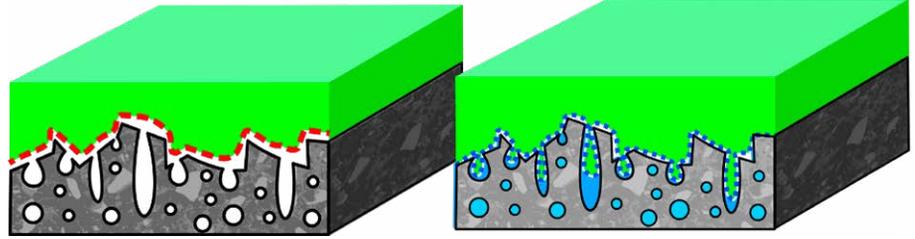
different sections, you need to accurately measure each project's profiled area to ensure you have enough material to cover the effective surface area.

One good analogy to describe the difference between effective surface area and geometric surface area is to compare Texas to Colorado. Looking at a map, it's clear that Texas' geometric surface area, in terms of square miles, is much greater than that of Colorado. Yet, if you were to flatten all of Colorado's mountains and valleys it would have the same effective surface area as Texas.

When concrete is profiled, copious peaks and valleys are created along multiple planes and axes, expanding the overall interface area between the surface and the overlay. By definition, all bonding, and material properties that affect bonding, occur at this interface — so the bigger the better.

Exposing pores

Concrete is an inherently porous material. Through the placement and finishing process, capillaries and voids



The figure on the left illustrates the reduction in effective surface area when a lack of substrate saturation is combined with cementitious mix with a low water-to-cement ratio. The figure on the right illustrates the increase in effective surface area when the substrate is properly saturated and a cementitious material is properly installed.

■ OVERLAY
■ WATER
■ SUBSTRATE

are formed throughout the matrix as air is entrained, mix water migrates and water evaporates.

The final finishing stage closes off these capillaries at the concrete surface. Removing the surface layer exposes openings and pores beneath it, allowing overlays and coatings to firmly anchor to the existing concrete by working into the voids and curing into the substrate to form a monolithic structure.

Properly exposed pores create the environment necessary for the other factors that directly attribute to overall bond strength: the substrate's moisture

content and the overlay material's physical attributes.

The diagram above illustrates how both overlay slump and substrate saturation can impact final bond. Although this example illustrates priming using only water, the physics remain constant for most overlays and coatings regardless of priming method.

When priming with water, the industry standard is "SSD" (Saturated, Surface Dry), which means that all the substrate pores and capillaries are saturated with water but there's no water on the surface. SSD prevents a

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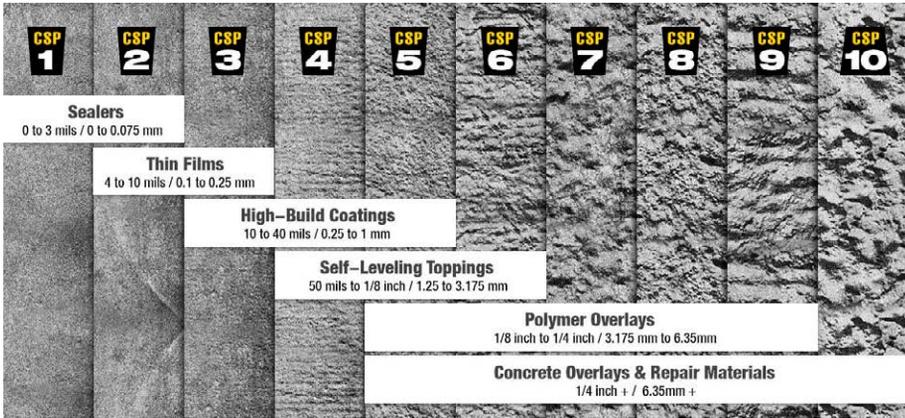


Photo courtesy of Graco

The ICRI molded rubber comparator chips replicate 10 grades of surface roughness. They are designed for direct visual and tactile comparison to the concrete surface in question.

“thirsty” floor from robbing the overlay material of needed hydration water but doesn’t contribute any significant amount of water to the mix, effectively creating a moisture-neutral surface.

Due to their polarity, water molecules have the useful characteristic of connecting to each other via hydrogen bonds. When the water in a cementitious overlay comes into contact with the water within the substrate, these covalent bonds draw the mix water, along with cement and aggregates, into the pores creating a strong mechanical bond between the two.

If the overlay or the substrate isn’t adequately saturated then a moisture differential is created in which water migrates away from where it’s needed. This is why primers or slurry coats are

called for when low water-to-cement ratio overlays or patch materials are needed.

Identifying surface profiles

The final question to answer now becomes “what is the proper surface profile?” Most turn to the International Concrete Repair Institute for guidance. The ICRI focus is repair, but the first and most critical step of any repair is surface preparation.

To take the guessing game out of surface preparation, ICRI created the Concrete Surface Profile Chips, also known as ICRI CSP chips. These are a set of rubber plaques numbered 1 through 10 that show properly prepared concrete ranging from almost smooth to extremely rough.

The chips, along with the accompanying booklet, establish a third-party guideline for what properly prepared concrete should look like, how to achieve the desired level of surface preparation, and which profile is best for a particular overlay or coating system. The chips and guide, which sell for \$122 to ICRI members and \$244 for nonmembers, have become a standard reference for manufacturers of most systems.



Photo courtesy of ICRI

Overlays can present a daunting challenge to many contractors because of a perceived liability or risk of failure that they present. But there are many installers that regularly use these materials with a very low failure rate largely because they understand how all these pieces come together.

Successful overlaid surfaces aren’t works of art that require an extraordinary talent to execute but they do require a high degree of technical discipline. While there is a basic outline to getting the best results, the key is identifying the project-specific variables and tailoring specific solutions to achieve the principles discussed here. Even high-performance, ultra-modified materials can’t replace the careful consideration and attention to detail required for proper surface preparation. 🛠️

Jason Ryan, business development manager at Cement Colors Inc. in Fort Worth, Texas, brings 15 years of construction experience to his current job where he manages sales, marketing, on-site training and technical support. Prior to this job, he was a manufacturer’s rep specializing in repair, restoration and the installation of decorative concrete overlays. He’s a returning educator for the World of Concrete and a regular contributor to trade publications. Ryan also serves as a consultant/educator for contractors both in the U.S. and abroad. He will be teaching a class titled “Polishable Overlays: Keys to Consistent Success” at the upcoming Concrete Decor Show in Texas. He can be reached at (817) 807-5572 or jryan@cement-colors.com.

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effortless EDGES

From a basic square edge to an intricate Victorian pattern, there are molds and form liners on the market designed to consistently give you desired results that may not have been possible without them.

Photos courtesy of Concrete Countertop Solutions



Forms
and liners
can simplify
the job

by *Stacey Enesey Klemenc*

WHEN it comes to forming the edges of countertops, pool coping and steps, a good form liner or mold is an indispensable tool that can help you get the job done quicker and easier — no more hand chiseling or finagling a texture mat to give you a detailed edge.

Some form liners can provide edge detail that wouldn't be possible without them. Easy to use, they are simply inserted along a form's inner edge before placing the concrete into it. Once the concrete is set, you strip the form work and remove the insert to reveal a finished edge. The edge can be left as is or colored.

Time-saving steps

If you ask Dan Whitaker, Northeast sales rep for Butterfield Colors headquartered in Aurora, Illinois, he'll tell you step liners are a great addition to a concrete contractor's toolbox.

"They make the job go so much smoother," he says of his company's step liners that give stair tread edges, risers, wall caps and other vertical surfaces a decorative edge with minimal effort.

Once the reusable urethane step liners are secured in place, you just place the concrete, vibrate it to eliminate honeycombs and worm holes and stamp the step treads with a texture mat. The next day you strip the forms to reveal the textured risers and the steps are done.

“It’s a big labor savings and it looks better,” Whitaker says. Unlike previously, you don’t have to wait for the concrete to set up before pulling the form, rubbing the face and then stamping the step risers.

Butterfield Colors has about 30 step liners to offer, with its most popular the one-piece cantilever 7¼-inch cut stone. “The top 2 inches looks like there’s actual stone sitting on top of the steps,” he says. There’s also has a 7¼-inch version with a wooden texture that was designed to use with the popular Gilpin’s Falls texture mats.

The company’s Pebblestone step liner is probably its most unusual design, Whitaker notes. It and some of the other step liners, including cut stone, are available in a 1½- or 2¼-inch size that can be used for countertop edges as well as stairs.

Some contractors like to combine two step liners to create a more custom look, he adds. “We also make some oversized step liners so you can trim them to fit your needs.”

The liners, which are touted for their



Butterfield’s one-piece cantilevered cut stone edge and textured riser lets you create realistic-looking stone steps without complex forming.



Photos courtesy of Butterfield Color

Butterfield’s Pebblestone form liner pattern is probably the company’s most unusual design.

realistic look and durability, can be used repeatedly. “I’ve never worn one out,” Whitaker says. They last for a very long time and tend to be tossed when they’ve been “cut and cut” and are only a couple of feet long.

Butterfield’s form liners are designed with a 45-degree angle where the riser meets the tread to give contractors room to finish the step under the form.

Producing countertops easier

In addition to the Butterfield step liners that can also be used on countertop edges, there are tools explicitly made to make fabricating countertops easier.

Concrete Countertop Solutions, headquartered in Scott Township in Northeastern Pennsylvania, introduced its edge forms to the market about 10 years ago. “Z Counterform was the start

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Photos courtesy of Ben Ashby

Gettin' edgy with it

Although rocker Huey Lewis made headlines singing how it was “Hip to be Square,” artisan Ben Ashby couldn't quite jibe with that mantra when it came to concrete countertops. Back in the early '90s, others in the fledgling decorative concrete business — like FuTung Cheng and Buddy Rhodes, he remembers — were perfectly fine with square-edged countertops but Ashby wanted more for his creations.

So in 1992, Ashby introduced two edge forms, Imperial Rope and Raphael Oak Leaf (pictured above). “When people saw those, they went crazy,” he says.

Back then, as he does today, he made the molds out of polyurethane using a self-taught method he learned about in a book. “I just started playing and having fun with the polyurethane,” he says. “That's how I learned.” Although even the book advised formal training, “I never did take a class.”

Today, his company, StoneCrete Systems headquartered in Orem, Utah, offers more than 30 easy-to-use molds for countertop edges. You can use the molds alone or combine them for more intricate patterns. All are reusable.

To install, just set the mold in place and run a small bead of silicone around the edge and you're ready to pour. Once the concrete is dry, the pliable molds release without a hitch. Sanding molds in between jobs isn't necessary, Ashby says.

To precondition the mold for the next use, he suggests spraying Howard Orange Oil — “Not any ol'

orange oil; it has to be this brand” — on the inside of the mold and wiping it down. “Don't use a lot,” he cautions, “because it will transfer to the concrete if you're not careful.” You should also store your molds in a dry cool place as sunlight will leech the oil out of them.

To do a typical sized job, you need four or five of his edge moldings, which are 8-feet long and available in varying widths. “Don't cut if you don't have to,” Ashby advises. “Cutting is the biggest way to ruin a mold.” On average, he estimates, you can get 500 uses off a single one.



His Broken Flagstone edge (above), which he first introduced about 10 years ago, is by far his most popular design. “I sell more of that edge than I do all others combined,” he says.

The pattern has so much going for it. “The flagstone gives you so much leeway. I can do a flagstone edge in less time than a square edge because it doesn't have to be perfect,” Ashby says. “If you're 1/8 inch off in a square edge you can see it. You can be 3/8 inch off with the flagstone and no one knows.”

— Stacey Enesey Klemenc

of everything. That was our entrance into the concrete market,” says Dario Baldoni, vice president of technology and marketing, whose father invented the product and founded the company.

The countertop forms are designed to be used easily and consistently to build cast-in-place, concrete countertops with finished edges. Simply place ½-inch cement backer board on top of the cabinets, fasten the form to the edges and back wall and pour the concrete. After the concrete has cured, pull the form and snap it off.

The extruded PVC forms come with 10 different edge styles that vary in width and profiles from Fancy and Commercial to the company's best-selling Square Edge.

The forms opened the ability for contractors to cast in place without having to screw into the cabinets or make forms out of wood, Baldoni says. “You cast right on top of the cabinets, so you don't have to move several hundred pounds of concrete and you don't have to worry about the counters not fitting properly. And you can form and pour all in one day.”

Most contractors then polish and stain the counters and typically seal within four or five days. “With our systems, the kitchen is out of commission about a week,” Baldoni says.

In 2011 to create the look of textured stone or split-rock face without all the work, CCS introduced liner inserts designed to fit inside their Z Counterforms. The reusable form inserts come in six textured patterns in varying sizes and relief. “They're made of the same material we use to make textured stamps,” Baldoni says. The line's newest addition replicates woodgrain, he adds.

Pooling resources

By 2014, Concrete Countertop Solutions launched its Z Poolform product for installers who were looking for ways to adapt the countertop system for pools. These forms are made to be paired with a form liner to achieve the desired edge detail.

Made from a pliable PVC, Z Poolforms are reusable and can be used with gunite, fiberglass and vinyl liner pools to form cantilevered concrete



Photos courtesy of Concrete Countertop Solutions

Reusable Z Poolforms are paired with an insert to get a desired edge profile such as the high-demand Chiseled Stone seen here. (Below) Bendable Z Poolform can be used to form curved pool copings for vinyl liner, fiberglass or concrete pools.



pool coping in an array of edge profiles and textures, including Chiseled Stone.

According to the company website, the forms lock directly into a liner track on vinyl liner pools, and a special receiver track on fiberglass or gunite pools, eliminating the need for tie-wires. Rubber form liners are then inserted into the forms to shape the desired edge, allowing for concrete edge

designs that weren't possible in the past. Currently, there are seven profiles to choose from.

"Our pool forms are all about time and cost savings, and reusability is a big factor," Baldoni says. "Plus people really like the fact that they can create a textured edge profile — especially the rock face ones — on a pool to match the stamped deck."

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Photos courtesy of Mortex

(Above) Mortex's Spear and Button anchoring system is one of the company's solutions to eliminate tie wires. (Middle and right) The company's reusable brackets in its Brackit line are designed to adhere forms to various materials.

Establishing a new 'Brackit'

Mortex, a Tucson, Arizona-based company founded in 1962 when it introduced its Kool Deck concrete overlay, offers an array of concrete products ranging from repair, restoration and application to forms for pools, countertops, cornice moldings and cantilever-style steps.

Probably most importantly, Mortex has helped shape the country's pool industry with its disposable and reusable forms, starting with reusable forms made from steel and rubber.

However, says Mark Deason, director of operations, "We found that people would cut and recut reusable forms when attaching to a pool and they would end up cannibalizing their own forms." Plus, someone had to clean the reusable forms, transport them and take care of them after each use. Their uses were finite, he adds, "A good contractor would only get 10-15 uses

out of each form."

So Mortex turned its attention to making disposable cantilevered forms out of EPS for each type of pool — fiberglass, vinyl, gunite and cover track — in a variety of profiles from Keystone to Stone Edge. It also introduced its Key Lock attachment system with reusable keys. The keys push through the form into the liner track and are locked into place by turning the handle.

Another anchoring system to the company's credit is its plastic Spear and Button locking system that let forms be quickly set with a click or two. "The spear stays in and the button comes off," Deason says, about the anchoring method he touts to be superior to conventional tie-wire.

Most recently in 2015, Mortex introduced its Brackit forms, which unlike conventional forms don't have

any tape to help them stay in place. Instead their holding mechanism revolves around reusable brackets specially designed to adhere the forms to various materials.

"Contractors are working with mixed media these days where concrete needs to interface with different items," Deason says. "The Brackit was invented for people who don't have tile to attach to."

He sees a bright future for this innovative product that unites reusable mounting systems and disposable forms. "It really is the best of both worlds," he says. 🗝️

🌐 www.butterfieldcolor.com

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Although overlays are not new to the industry, the products today are much more long-lasting and harder than those offered in the past. GSPEC, a self-leveling product used to breathe new life into the lobby of this residential high-rise in downtown Los Angeles, is as durable as terrazzo without the busy aggregate-look. Photo courtesy of Green Chemistry Innovations

DURABLE & GOOD LOOKING

THE OOHS AND AHHS OF OVERLAYS

by K. Schipper

A BAKER knows when there's a disaster in the kitchen, sometimes a little bit of icing can go a long way toward redemption. Concrete contractors have a similar option with overlays and an unsightly slab: The overlaid section not only looks better but the chemistry behind today's overlay offerings often creates a much more durable surface than what was already there.

However, that's only one of the advantages these products offer that's bringing them to the forefront of a contractor's bag of tricks.

Products for an imperfect world

In a perfect world, every client would love every job, and the durability of every installation could be measured in decades. The reality is something different.

Scott Kummer of Los Angeles-based Green Chemistry Innovations (GCI) says there are several different reasons for using overlays. One, of course, is for

concrete in need of repair.

"That repair could be due to cracking, unsightliness or irregularities," he says. "You can go through a laundry list of reasons: discoloration, improper finish, or the client simply doesn't like the finish or the color."

The other reason, Kummer says, is in commercial and industrial applications where more is being demanded of a floor than when it was originally installed, including the elimination of seams, cracks and crevices.

The idea of overlays, in general, is not at all new. What's setting today's products apart is their durability.

Frank Owens, vice president of marketing for Atlanta-based Quikrete, says his company has offered a concrete resurfacer for about 15 years.

"It was designed with a bond strength that was equal to concrete's tensile strength," he explains. "If you were to imagine pulling up on concrete until it fractured, that's the strength of our resurfacer."

However, continued research by Quikrete over the years led to the use of proprietary polymers in its current resurfacer, called Re-Cap, which has a bond strength that's about four times the strength of the concrete itself. As a result, the concrete will fracture before the bond to Re-Cap will break.

Kummer agrees there's nothing weak



Photo courtesy of Quikrete

Installing an overlay is an affordable alternative to tearing out old and worn concrete driveways, sidewalks and patios and replacing them.

about these overlay products. He says a typical concrete job may have a tensile strength of 3,000 psi, but his company's new GSPEC (Green Self-leveling Polyurethane Epoxy Cement) product goes well beyond that.

"The resin alone can yield more than 8,500 psi," he says. "Then, you add the powdered cement and sand aggregates into it, and the matrix is being increased. This is a coating that can easily yield 9,500 psi."

That's not to say it will, though. Owens says research has continued in the development of polymers to make up for any potential problems that might arise through poor surface preparation or materials handling.

For instance, Owens says Quikrete recommends spending at least as much time in surface prep as in applying the actual product.

"We really recommend a 3,500-psi pressure washer," he says. "That will take off any concrete that's delaminating, and it does an adequate job removing oil, grease and other contaminants that could prevent a permanent bond. That's critical for the ultimate success of resurfacing."

A solution for every need

However, the result of resurfacing can be just about anything a contractor needs it to be, whether it's simply cleaning up the mess left by last winter's freeze-thaw conditions or an unhappy

color application, or something more complex, like a new stamping job.

At its most basic is a product like Picayune, Mississippi-based Stone Edge Surfaces' MicroTop, which can be sprayed on in thin coats.

"MicroTop has many uses from tape-down applications and smooth topcoats to updating colors," says Bruce Grogg, company president. "The simplest application is using it in a spray or roll-on application on a textured surface to take the color back to gray or white while leaving the texture."

It also works on veneers or ready-mix concrete surfaces to change or clean up coloring or add more life, Grogg adds.

Bart Sacco, president of Throop, Pennsylvania-based Kingdom Products, says his company's Top Cap is designed for just about any kind of restoration work the customer may need.

"They can do standard concrete repair with it," Sacco says. "We sell it pigmented so they can do decorative repair with it. They can also use it as a finish coat around a pool for a pool deck where they're applying a spray-down/knock-down finish."

Kingdom Products also sells a product that can be used for

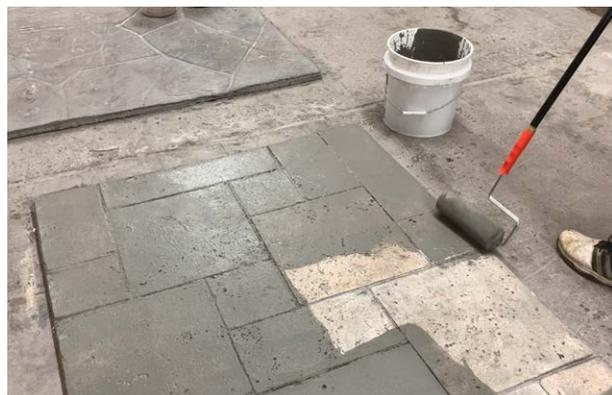


Photo courtesy of Stone Edge Systems

Some overlays can be rolled on a textured surface to take the color back to gray or white while leaving the texture.

waterproofing. Sacco says often when there's a problem with concrete it's because the environment it's in is too moist, such as near the ladder of a swimming pool.

"The polymers we utilize in the material literally get stronger the longer they're under water," he says. "Some types of polymers aren't able to handle water. They break down. But we use a material that's conducive to that environment."

For clients looking for a different look with an existing concrete base, one option is a thicker overlay, says Grogg.

"If you want to carve or stamp, you want to go with a stamped overlay like our Stamp or Trowel Mix," he says. "They go on a little thicker because they have larger sands and fiber for added strength in them. The finer sands you go, the thinner the product can go, typically."

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Photo courtesy of Todd Fisher/Unique Concrete

Kingdom Products' Rosalia Microtopping System was used on this kitchen floor and countertop, including the waterfall edge. The color was achieved simply by troweling multiple colors of material together.

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But that's not the only look where an overlay can play a key role. Kingdom Products also manufactures what Sacco calls "a profile corrector" which can smooth out the cornrows left from shot-blasting or cover other imperfections in a floor.

Rosalia comes in a variety of thicknesses, but while the coarser version is great on imperfections, with Rosalia Cream, "when it dries it's a perfect subbase that's ready for an acid stain, acetone-based dye or as a perfect base for an epoxy," Sacco says.

That is, of course, unless you're GCI's Kummer, who says his epoxy can take on the self-leveling cementitious products and create a floor that's as durable as terrazzo without the busy aggregate-look that doesn't fit with today's interior designs. In fact, his GSPEC is designed to put a product in the hands of contractors that looks like self-leveling cement with 50-year durability.

"That's who I'm competing with," Kummer says. "Because my product is self-leveling, you're not on your hands and knees troweling it. I can do a large amount of square footage in half the time that terrazzo can be done, and while I can add aggregates, I'd rather leave some artistic freedom to the contractor or installer."

Plenty of pluses

Choosing the right overlay can enable a contractor to do a remarkable range of things, but there are also other factors to consider. Ease of use and cost are two.

For instance, Kingdom's Sacco notes that sometimes a job setting doesn't make it easy for a contractor to do a replacement job. That's especially true in big cities where dumping refuse can be cost-prohibitive, and the job's location can make it difficult.

"If you're in New York or New Jersey, there's no place for guys to dump the old material," he says. "They're paying by the ton to get rid of it in a dumpster, and it can be a fortune."

That's only part of the cost-savings that can be seen with overlays, though.

"Not only might it take you days to tear out old concrete, bring in a ready-mix truck and pour a new surface, the

cost to do so is significantly more than using a resurfacer,” says Quikrete’s Owens. “Renewing concrete with our Re-Cap is 10 percent of the cost of replacing the surface. That’s real attractive to people who have a structurally sound slab that just looks bad.”

It’s also a quick fix, Owens says — again stressing the need for a structurally sound slab underneath the overlay.

“With our product you can be walking on it in about eight hours and driving on it in 24,” he says.

The other big advantage with many of these products: They have a longer open time, says Stone Edge Surfaces’ Grogg.

“You can manipulate it, move it, change it, carve it or do what you want to do with it, versus standard concrete,” he says. “If you mess it up a bit, you have time to fix it. Still, it’s made up of the same materials, so it generally reacts the same as concrete does.”

Grogg adds that he’s heard from many contractors who don’t want to get into using overlays because of the learning curve. However, he says, if they make sure they’re working on a stable slab, spend the time to do surface prep and cut their teeth on a few smaller projects, there’s nothing to be afraid of.

GCI’s Kummer agrees. “There’s nothing complicated about it,” he concludes. 🛠️

🌐 www.greencheminnovations.com

🌐 www.kingdom-products.com

🌐 www.quikrete.com

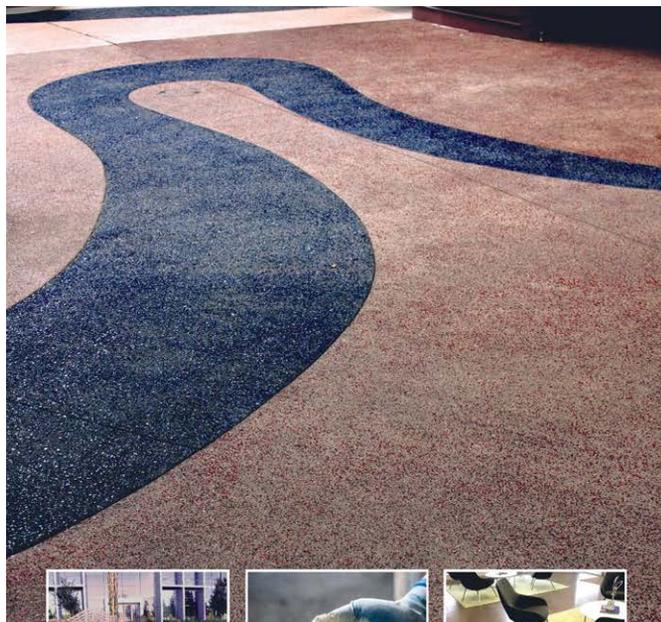
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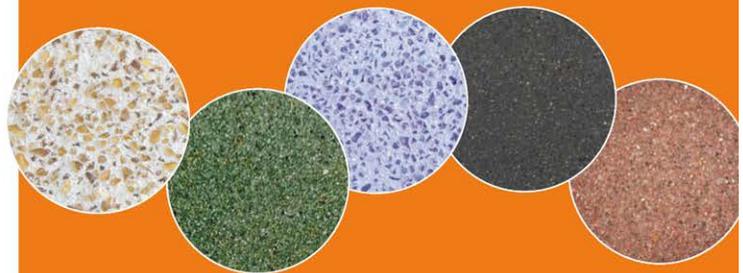
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Overlays for concrete today run the gamut so there are plenty to choose from. Following is just a sample of the products available that can help you get the job done:



T1000 Stampable Overlay

Butterfield Color's T1000 Stampable Overlay gives an old, worn or outdated surface new life with a thin cementitious coating which can be integrally colored, stained, stamped or textured. It's freeze-thaw stable and can be installed on existing structurally sound interior or exterior slabs.

www.butterfieldcolor.com

(800) 282-3388

Spectrum Re-Kote TF

Designed to resurface deteriorated concrete surfaces, Spectrum Re-Kote TF from W.R. Meadows is a single-component, polymer-modified cementitious concrete repair mortar that hardens rapidly. As a resurfacer, which contains a migrating corrosion inhibitor, it creates a trowel texture finish and can be featheredged up to ½-inch deep. As a mortar suitable for horizontal, vertical and overhead repairs, it can be used from a featheredge to 2-inches deep depending on the aggregate.

Easy to use and versatile, Spectrum Re-Kote TF produces a horizontal repaired surface suitable for rubber-wheeled traffic. For overhead or vertical use, it's an ideal choice for smoothing rough surfaces, repairing honeycombs and dressing up bug holes.

When mixed, the product's creamy

consistency provides an excellent skim coating for swimming pools, concrete walls and balconies. Because of its bond strength, breathable properties and freeze-thaw resistance, Spectrum Re-Kote TF may be used for interior and/or exterior surfaces that are below-, above- or on-grade.

www.wrmeadows.com

(800) 342-5976

Miracote Mirastamp

Designed to be used in conjunction with conventional concrete stamping tools, color and sealer, Miracote Mirastamp can restore or transform old existing concrete to produce a distinctive architectural paving finish. The two-component, polymer-modified, thin-stamped cementitious overlayment has very high compressive strength making it well-suited to withstand the wear and tear of commercial vehicular and pedestrian traffic. Combined with its excellent adhesion, freeze/thaw resistance, and tensile and flexural properties, Mirastamp is a good option for both interior and exterior applications in any climate.

www.miracote.com

(310) 886-9100



Supercap SC650-MC

Laticrete Supercap SC650-MC is a premium pumpable and pourable self-leveling cementitious overlay that can be tinted. Primarily, it's used to finish interior concrete and level uneven floor surfaces, but it may also be used as a high-performance self-leveling underlayment. With high-strength properties, it provides a durable, low-maintenance and attractive salt-and-pepper look. SC650-MC can also be polished to a finished wear-surface for striking results in as little as 24 hours.

www.laticrete.com

(800) 243-4788



MicroTop Mix

Stone Edge Surfaces' MicroTop Mix is a strong, easy-to-use, heavily polymerized cementitious product designed to be applied either horizontally or vertically as a base coat or a smooth finish topcoat. It can also be applied with a mortar sprayer or rolled on with a nap roller.

The overlay can be used to recolor or rejuvenate old, worn or discolored concrete surfaces that have been textured, stamped or carved. MicroTop can also be used on other cementitious products such as existing stone veneer and ready-mix concrete surfaces. The mix can be enhanced with pigments integrally, colored topically with the company's Liquid Colors, or colored with stains and dyes.

www.stoneedgesurfaces.com

(844) 786-6333

Level-It

Enhance and level unsightly, irregular concrete floors with Westcoat's Level-It, a self-leveling flooring system that can be stained, sealed and finished in a variety of ways. It offers a high-build, quick-drying solution for uneven interior floors. Level-It is a good option for both commercial and residential environments including private residences, sunrooms, offices, restaurants, showrooms, and environments with foot and light-wheel traffic.

www.westcoat.com

(800) 250-4519

SureSpray

SureSpray, SureCrete's No. 1-selling overlay for more than 20 years, was the first single-component overlay made by the company. It was formulated to allow for both textured and smooth concrete overlayment finishes. Today, SureSpray is used to create elegant finishes

with textured and stenciled patterns including woodgrain, euro-stone, bubble and stipple. It can be applied via trowel, squeegee or spray. Typical venues where SureSpray is preferred are multifamily housing patios, shopping centers, restaurant floors, pool decks, game rooms and man-caves. SureSpray is available throughout North America, Canada, the Caribbean, South America and the Middle East and has been used in multiple projects in Africa, Australia and China.

www.surecretedesign.com

(352) 567-7973



Photo courtesy of Emil J. Gera Concrete Contractor

Rosalia

The Rosalia Microtopping System from Kingdom Products is a high-performance, two-component, cementitious overlay designed for interior or exterior use. When applied to a properly prepared surface, any floor profile desired can be achieved including glass smooth, spray-down/knock-down or stimped finishes.

Available in three different grades and offered in white or gray, Rosalia can be applied to achieve numerous effects through various methods using stains, dyes and pigmentation techniques.

As well as being an excellent base for logos, graphics and epoxies, Rosalia can be troweled on vertical surfaces, including shower walls, to create a precast or plaster look. In combination with pigments and stains, Rosalia is ideal for creating realistic wood-grain textures.

www.kingdom-products.com

(570) 489-6025

Micro-Crete

Micro-Crete by Euclid Chemical's Increte Systems brand is a single-component, micro-topping designed for interior and exterior application. Perfect for hiding repairs or transforming dull,

old surfaces into brand-new looking concrete, this versatile topping may be broom finished for a nonslip exterior surface or troweled smooth to enhance interior slabs. Due to its polymer-modified formula, this cementitious topping is easy to mix and easy to use and can be applied as thin as a featheredge or built up by adding multiple layers.

Micro-Crete is fast setting and will accept foot traffic in 24 hours. It cures to 4,000 psi (27 MPa) for extended durability and low maintenance. For added interest, the overlay comes in both white and gray formulas, providing a fresh canvas for coloring with acid stains, dyes or integral pigments.

www.increte.com

(800) 752-4626

Re-Cap Concrete Resurfacer

If you're looking for a cost-effective way to improve a home's curb appeal, Quikrete's Re-Cap Concrete Resurfacer may be your answer.

It's an affordable alternative to tearing out old and worn concrete driveways, sidewalks and patios and replacing them. A special blend of portland cement, graded sand, polymer resins and other proprietary additives, this overlay is four times stronger than regular concrete. This means the concrete surfaces being renewed will fracture or crack before their bond with Re-Cap will break.

The resurfacer is a proven shrinkage-compensated repair material for making thin structural repairs to sound concrete in need of surface renewal. Applied with a squeegee, trowel or brush, one 40-pound bag will cover approximately 20 square feet at ¼-inch thick or approximately 90 square feet as a skim coat. The renewed concrete can be walked on in eight hours and driven on in 24.

www.quikrete.com

(404) 634-9100

GSPEC (Green Self-leveling Polyurethane-Epoxy Cement)

There's got to be a first for everything and GSPEC heads up the environmentally friendly category as the first "green" epoxy-urethane cement overlay that contains no isocyanates and no VOCs. The self-leveling decorative overlay from Green Chemistry Innovations is touted not to

crack or stain and produces a natural polished concrete look when finished. It has the durability of a urethane, the chemical resistance of an epoxy and is naturally antimicrobial.

The product differentiates itself from terrazzo in that it can be applied with a gauge rake, back rolled with a nap roller and polished within 24 hours. But the look is more like a beautiful polished concrete, without the typical challenges of microfracture, staining and color drift that you often get with self-leveling concrete.

www.greencheminnovations.com

(424) 277-8388



Aggretex

With its flexibility, control and predictability, Aggretex systems offer contractors multiple cutting-edge design options for decorative concrete overlays. It can be installed wet-on-wet over the system's Smashed products or placed wet-on-dry over existing concrete. Aggretex's Smashed line features 19 base colors with pigment and aggregates. The product can be used straight from the bag or combined with other aggregates of your choosing.

For interior projects, Aggretex's InteriorEFX offers stunning results as a self-leveling, polishable overlay. Integrally colored, the overlay simplifies things for installers by eliminating the guesswork from the job-site chemistry and delivering consistent results. By laying down a fresh canvas with Aggretex's InteriorEFX, contractors can eliminate unsightly plumbing trenches, adhesive ghosting and variations in aggregate exposure. The line features 13 standard integral colors ready to be poured right out of the bag.

www.aggretex.com

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QUARTZ vs. LIMESTONE

Which sand is better in concrete overlays?

by Bruce Grogg

CONCRETE overlays' strength comes from combining specific amounts of portland cement, sand, water and polymer. Sand type is an important component in decorative concrete and concrete overlays because overlays are typically applied thinner than standard concrete, yet still need to withstand the forces of foot and automobile traffic.

Research and experience with aggregates have taught us that some sand types can break down quickly with heavy use and traffic and can weaken the concrete over time.

All sands are not the same

Quartz sand is very hard and usually has no sharp or angular edges as it typically comes from rivers and sand deposits where over the millennia the sharp or angular edges have been worn down.

Limestone, on the other hand, is a softer mineral so it doesn't wear down into sand. It wears down into powder, which is why you don't find deposits of limestone sand. Limestone powder or derivatives of it are used to make powdered portland cement. Limestone sand, which is used in some decorative concrete, is created by crushing limestone rocks to make sand. Limestone sand is soft enough that the angular edges of the grains can be easily crushed, broken and turned to powder.

You can test this yourself by rubbing crushed limestone sand together in your bare hands and watch as it starts to create powder. Concrete overlays with softer sands show wear faster and have more trouble supporting foot traffic, chairs, tables and vehicles because they scuff, scratch, chip and spall. Some even crumble and fail. It's true that limestone sand in repair mortar has worked great for centuries to fix columns, sculptures and items with no traffic, and it can work well as larger aggregate in standard concrete.



Picture 1: Stone Edge Surfaces Stamp mix

However, if your aggregate or sand fails, it can cause the other ingredients to also fail. This is due to the voids created when the softer sands turn to powder and break the physical bond between all the other ingredients and the substrate.

As a manufacturer, we select ingredients based on many factors, and one of them is the Mohs hardness scale (see chart). This scale is designed to help people around the world choose the best mineral (sand) for their specific use.

According to the Mohs scale (<https://www.concretedecor.net/decorativeconcretearticles/vol-13-no-4-mayjune-2013/make-tooling-choices-easier-with-the-mohs-hardness-test>



Picture 3: Seen here is a concrete overlay mix applied to a wall and stamped but not colored.



Picture 2: Stone Edge Surfaces Wall mix

kit/), you can see why quartz is used whenever possible when making concrete, decorative concrete and concrete overlays. It's harder, will stand up to more abuse and lasts longer.

To be fair, concrete — like natural stone — breaks down over time, but weaker aggregate or sand can break down faster.



Picture 4: Here's the same wall that's been colored and finished.

Photos courtesy of Stone Edge Surfaces

Achieving a realistic look

Even if you know the difference when comparing quartz sand and limestone sand, what we've found is that a realistic "look" is created by a combination of all the ingredients used in a concrete overlay mix. Once the sand is mixed with the concrete ingredients, you don't see the sand as anything more than part of the mix. It's not discernible once it has been immersed, coated and covered with the gray or white portland cement and additive mixture in the dry concrete overlay mix.

Pictures 1 and 2 show four different concrete overlay mixes in powder form right out of the bag. Picture 3 shows a concrete overlay mix applied to a wall and stamped but not colored. Picture 4 shows the same wall and concrete mix colored and finished.

Sand plays a minor part in the overall realistic look. The other factors that add to the realism are the type of polymer or acrylic used in the mix, the sealers, pigments, dyes, integral colors and skill level.

You must factor in the skill of the applying contractor because a skilled contractor can make almost any mix look good, while an unskilled contractor can ruin the look of even the best mix. There are many factors that contribute to a realistic look. Sand is a main contributing factor for strength and form.

Which sand is used most often?

Most industries seem to prefer quartz over limestone sand. Due to its unique properties, quartz sand is predominantly used throughout the concrete, paint and adhesive industries.

Quartz sand helps paint and other products be more chemical resistant. Naturally acid- and wear-resistant

Mohs Hardness Scale

Hardness	Mineral	Observations of Mineral
1	Talc	Very easily scratched by fingernail.
2	Gypsum	Can be scratched by fingernail.
3	Limestone, Calcite	Very easily scratched with a knife and/ or a copper coin. This is where most marbles, limestones and travertines rate.
4	Fluorite	Can be scratched by a knife.
5	Apatite	A knife has difficulty scratching this mineral; glass is rated in this hardness.
6	Orthoclase	Cannot be scratched with a knife. This mineral can scratch glass with some difficulty.
7	Quartz	Can scratch glass easily. This is where most granites are rated in terms of hardness.
8	Topaz	Can scratch glass very easily.
9	Corundum	Can cut glass.
10	Diamond	Can scratch virtually anything; is commonly used to cut glass and stone.

The Mohs hardness scale is designed to help people choose the best mineral (sand) for their specific use.

because of its hardness and ability to take scrubbing, it improves durability and flowability of paint.

Because of its reinforcement qualities, quartz sand is used in industrial rubber. It's also used in tire linings as it offers superior adhesion, tear resistance and heat-aging properties. When added to adhesives for tiles, quartz sand improves tensile strength and impact resistance.

Based on our own experience with aggregates and the information and research available to us, we believe quartz sand is the more durable ingredient to use in a concrete overlay mix that's going to see foot or vehicle traffic. For long-term durability and stability in general for both residential and commercial projects, quartz sand is the way to go. 🛠️

Bruce Grogg is president of Stone Edge Surfaces in Mesa, Arizona, a division of Turley International Resources LLC, one of the largest manufacturers of concrete overlay products in the U.S. Grogg has more than 20 years of domestic and international manufacturing experience in the custom product and concrete overlay industries. His accolades include being a past voting member for the International Code Council's ISPC code development committee, helping author two current ICC codes and leading the Pool & Hot Tub Alliance's Government Relations Water Saving Coalition. Grogg can be reached at bruce@stoneedgesurfaces.com or (844) 786-6333.

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Smooth Move

by Stacey Enesey Klemenc

TRANSFORMING tired and dated backyard retreats into personal and welcoming family havens just so happens to be Scott Cohen's specialty.

"Decorative concrete continues to be a growing trend in our high-end swimming pool and outdoor kitchen designs," says the president of The Green Scene Landscaping & Pools in Chatsworth, California. "This remodel takes advantage of not only the durability of concrete, but the endless color and finishing options as well."

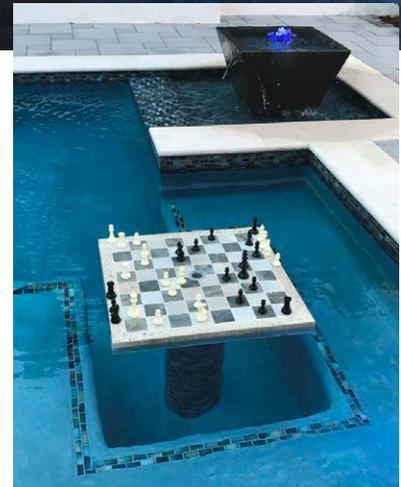
In this case, for that personal touch, concrete was fashioned into a built-in chess table as part of the pool's Baja shelf layout.

"The client's son is an avid chess player and he flipped out over the idea of being able to challenge his friends and family to a heated chess match while chilling in the pool," Cohen says. The table was built with cast concrete and granite tiles, which were then ground, honed and polished with a handheld three-head polishing machine.

Next to this gaming area, in the square where the former hot tub had resided, Cohen added a precast concrete pot with an LED waterspout and a tiled spillway. To add more ambiance to a nighttime party, dual precast concrete firepots anchor the rear of the pool



Photos courtesy of The Green Scene Landscaping & Pools



and a sleek fire trough complete with built-in seating and a cast-in-place concrete cocktail table are behind the new whirlpool.

In addition to the fire features, lighting is integral to the design. More than 300 fiber-optic cables are embedded below the large recycled glass chips and chunks in the cast-in-place concrete kitchen counters. An illuminator uses a "sparkler wheel" to create a show where multicolored lights dance in a seemingly random pattern across the barbecue counter and serve bar.

"I love to incorporate decorative concrete techniques and features into all of my high-end outdoor projects," says Cohen, who will be teaching a seminar — "Make a Splash with Decorative Concrete Around Swimming Pools" — Tuesday, Oct. 29, at the upcoming Concrete Decor Show in Arlington,

Texas. He'll also be teaching "Building and Designing Sizzling Outdoor Kitchens."

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