



Decorative Concrete Overlay



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Contact information

www.DiscountPDH.com

fdapdh@gmail.com

Telephone: 713-787-6810

Corporate Mailing address:

2500 Tanglewilde, Suite 220

Houston, Texas 77063

For all your questions and instructor support please contact us via email or phone.

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Operating hours: 9 am – 4 PM central time

Tel: 713-787-6810

Fax: 713-787-6825

Email: fdapdh@gmail.com

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INTRODUCTION

WHY DECORATIVE CONCRETE OVERLAYS OFFER SO MUCH OPPORTUNITY

Decorative concrete overlays suffer from an identity crisis of sorts. They fall far short in product recognition when compared to the better-known decorative disciplines of stamped and stained concrete, yet they have much greater market potential. They arguably offer the most variety in color and finish, as well as the best opportunity for future growth, yet are just not that well known outside of the decorative concrete arena.

What's behind the identity crisis? Despite the fact that the technology, products and applications have proven themselves for decades, there is no unifying approach to marketing that is enabling these products to gain across-the-board popularity and acceptance. In addition, the decorative overlay market tends to be regionally diverse. Exterior knock-down finishes are extremely popular in the Sunbelt regions, but much less so in the colder northern climates. Hard-troweled interior microtoppings have become popular in contemporary metropolitan settings but are sparse outside the urban corridor. Stampable overlays are even more regionally diverse.

With such a wide range of products, finishes and applications, the identity of decorative overlays remains diluted and obscured outside the industry. Identity crisis aside, the decorative overlay market is strong, and there is no segment of the market that is not ripe with opportunity. However, the opportunities are more subtle, and more work on the sales and marketing side is required to open the eyes of designers and architects to the exciting possibilities.

THE EVOLUTION OF DECORATIVE OVERLAY PRODUCTS

Decorative overlays can trace their roots back to commercial and industrial polymer-modified cement-based toppings introduced in the 1950s. Over the next 40 years, technological advances in dry ingredients and polymer technology led to stronger and more durable systems. Most of these were utilitarian, with little focus on the decorative market. By the mid to late 1980s, manufacturers started offering complete overlay systems targeting the growing decorative market segment. Those early-generation systems have evolved into the wide offering of decorative overlays available on the market today, including systems that work for both interior and exterior applications, on vertical and horizontal surfaces, and at thicknesses ranging from that of a credit card to an inch or more.

“Decorative overlay” is actually an umbrella term that covers a wide variety of products and systems intended to provide a decorative finish over an existing substrate. The general categories that fall under that umbrella are thin-section microtoppings, thick-section stampable overlays, self-leveling overlays and polishable toppings. Within each of these product categories are numerous individual products and systems designed for specific applications.

The one thing that all decorative overlays have in common is that they are polymer-modified, which increases their strength, adhesion and durability. When combined with cement and sand, these toppings can attain strengths exceeding 6000 psi. The additional strength provided by the polymer allows the cement-based material to be applied thinly without becoming brittle and weak. The final performance characteristics will vary greatly, depending on the type of polymer selected. The most popular types of polymers include acrylics, ethyl vinyl acetate (EVA), and styrene-butadiene rubber (SBR). Manufacturers will select the polymers they use in their overlay systems based on the target applications. Acrylics are usually found in systems for interior flooring, where a very hard, durable surface is needed and there will be little change in environmental conditions. EVA systems are more forgiving and are often found in overlays used for exterior applications or where flexibility is important. SBR polymers are used in systems that require water or chemical resistance.

You'll find most of these overlay materials and systems relatively easy to come by, with most full-line decorative concrete manufacturers offering at least one overlay product, and many offering multiple systems.

Trend 1: MICROTOPPINGS

“of all decorative overlay systems, microtoppings command the largest portion of the market.”
— Terry Grimble, Bomanite Company, Denver, CO



To achieve a rustic effect, this microtopping was applied by trowel and a layering technique was used to apply various stain colors.

Microtoppings, or thin-section overlays, run the spectrum from spray deck products for driveways and pool decks to high-end trowel-grade materials for interior residential and commercial spaces. They also run the spectrum when it comes to strength. Knock-down systems can reach 3000 psi, while higher-end interior systems used in high-traffic situations can top 6000 psi. “Of all decorative overlay systems, microtoppings command the largest portion of the market,” says Terry Grimble, director of technical services for Bomanite Co.

“People are looking for the most inexpensive floor with the best look.”

— Ryan Connors, Modern Concrete Surfaces, Signal Hill, Ca



There is a wide range of finishing options for microtoppings, including integral and topical coloring.

WIDE RANGE OF COLOR AND FINISHES

Microtoppings also offer the most variation in regard to color and finishes. They can be applied plain, colored integrally, or be topically colored with stains and dyes. The ability to manipulate the look of a microtopping to create a wide range of finishes and colors is a big selling point. In recent years, microtoppings have grown in popularity because of their competitive price. “People are looking for the most inexpensive floor with the best look,” says Ryan Connors, owner of Modern Concrete Surfaces, Signal Hill, Calif.

This is where microtoppings excel. You can offer so much with a microtopping that it really comes down to what the client is willing to pay and how creative the applicator wants to get. “It does not matter if the job is residential or commercial. The look is what is important, and then we match the product to realize that look,” says Connors. Modern Concrete Surfaces offers a wide range of “stock finishes” but takes advantage of the flexibility of microtoppings to find products and finishes that meet the demands of their clients.

EXTERIOR MICROTOPPINGS

The demand for more utilitarian exterior microtoppings is also growing. In the warmer Sunbelt climates, spray deck or knock-down microtopping finishes have long been popular. These are the most common finishes found around pool decks and for exterior concrete surfaces such as driveways, walkways and patios. These types of knock-down finishes have proven themselves reliable to a point that they are now becoming more common in colder, more environmentally demanding areas. “Residential homeowners are becoming more comfortable with topping exterior concrete,” says Chris Becker, managing director of the architectural concrete division of Stockness Construction, Hugo, Minn. The microtoppings he installs have to endure a harsh environment, so weather-resistance is one of the top factors he considers in material selection, followed by the client’s artistic demands and budget constraints.

“the multiple colors and textures you can get with a microtopping are not achievable with regular concrete. these systems give the installer a lot more options.” — Trevor Foster, Miracote, Los Angeles, Ca

SPECIALTY APPLICATIONS

Another application where microtoppings are establishing a niche is in the area of specialty and designer finishes, including vertical wall coverings, showers, and countertops. “The multiple colors and textures you can get with a microtopping are not achievable with regular concrete. These systems give the installer a lot more options,” says Trevor Foster, western sales manager with Miracote Products. Foster has seen a big jump in specialty applications such as showers and walls and feels that trend will continue as more installers see what can be done with these products. The design community, in particular, is realizing the clean look that microtoppings can provide. “You can produce a large surface area without any grout lines,” says Foster.



The design community likes the clean look, without any grout lines, that microtoppings can provide.

Trend 2: STAMPABLE OVERLAYS

Stampable overlays, or thick-section toppings, are the one decorative overlay market that is not experiencing rapid growth. A combination of economic pressure and technical demand has contributed to the slow decline. “The price point of stamped concrete has caught up [to stamped overlays],” says Foster. Over the last decade, stamped concrete has seen a slow decline in price and an overall increase in quality. This trend has negatively affected the stamped overlay market. In many instances, it has become more cost-effective to rip out and replace a concrete slab with stamped concrete than to apply a stampable overlay.

INSTALLATION TRENDS

Stampable overlays also require a high degree of technical expertise to install, more so than any other decorative overlay. Because of the thicker build (1/4 inch to 1/2 inch), they require more attention to detail in regard to surface preparation, application and maintenance. Stamped overlays often require aggressive mechanical surface preparation, along with the use of specialty primers. This costs money and takes time, which in some cases makes the price of installing the overlay prohibitive. The mentality of “just overlay it” that permeated the market in the mid-2000s has really hurt stampable overlays. There were many failures, which to this day negatively affect the overlay industry.



Installing stampable overlays requires a higher degree of technical expertise than other overlay systems.



Today, light earth-tone colors and simple clean patterns are most popular for stamped overlays.

The latest trend in stamped overlays is to go vertical.

However, the news is not all negative. Advances in technology and application techniques have contributed to a better product overall and higher-quality installations with greater durability. The trend in stamped overlays today is the same as with microtoppings—simple, clean, and natural. Light earth-tone colors, such as tans, light browns, and beiges, are popular as are simple stone patterns using cleaner and lighter textures. Another trend is post-coloring of stamped overlays to lightly highlight the work and accentuate the texture.

Design flexibility and color control also go a long way to realizing an architect's or homeowner's design goals. On green projects, in particular, using lighter colors for stampable overlays can contribute to U. S. Green Building Council LEED points.

Contractor Insight:

one company seeing an increase in their stamped overlay business because of the trend toward custom coloring is Decorative Concrete resurfacing, Ballwin, Mo. "We have been offering custom stampable overlay finishes for a few years, and it now makes up 20% of our business," says company vice president Lisa O'Hern. While it is a growing part of their business, it does come with some barriers. "We find that cost is an issue. Because of the additional labor and cost involved in creating these high- end finishes, many customers can't afford it," she says.

VERTICAL OVERLAY APPLICATIONS

The latest trend in stamped overlays is to go vertical. Special stampable overlay materials are now available that stay in place on vertical wall surfaces and remain pliable for long periods of time, allowing for custom carving and stamping to replicate the look of natural rock and stone formations. These overlays have become viable alternatives on projects where natural stone cannot be installed because of economics or logistics.

Trend 3: POLISHABLE OVERLAYS

“I see decorative overlays, and especially polishable toppings, as a still-developing product segment.” — Trevor Foster,
Miracote, Los Angeles, CA

Considering the popularity of polished concrete and overlays in general, putting the two together is sure to spawn a popular new decorative product. “Polishable overlays are the big trend in the market,” says Foster. Polishable overlays can either be self-leveling or trowel applied, but the result is the same—a seamless flooring product that looks and feels like polished concrete or terrazzo.

Another area where polishable overlays are making a difference is with the green movement. Because they increase the reflectance of the floor, which decreases the need for artificial light, they help to contribute toward LEED points on green projects. The smooth, dense, polished topping is also easy to clean, reducing maintenance. Because of these attributes, polished overlays are taking market share from carpet and other flooring materials, especially in commercial settings.



Polished overlays are taking market share from carpet and other flooring materials.



Polishable overlays are popular in commercial settings because they contribute to LEED points, are easy to maintain and can be installed quickly.

Polishable overlays also fit nicely into current design trends. These systems can be seeded with different types of aggregate or colored glass, allowing them to look and perform like traditional terrazzo but at a much lower price. Grimble says their company has been successfully promoting these types of systems for interior commercial work for years. “When you look at what we are competing against, we see a real advantage with some of these decorative overlay systems.”

Despite their popularity, polishable overlays might not be for everyone. The skill level required for installation is high. Not only do you have to be qualified in the installation of self-leveling or trowel-grade overlays, you also have to have expertise in polishing. The equipment required to perform this type of installation can run as high as \$30,000, plus the cost of a skilled operator. When you consider everything that goes into a polished overlay project – surface preparation, primer, overlay, and labor—any type of failure, no matter how small, can lead to large liability issues.

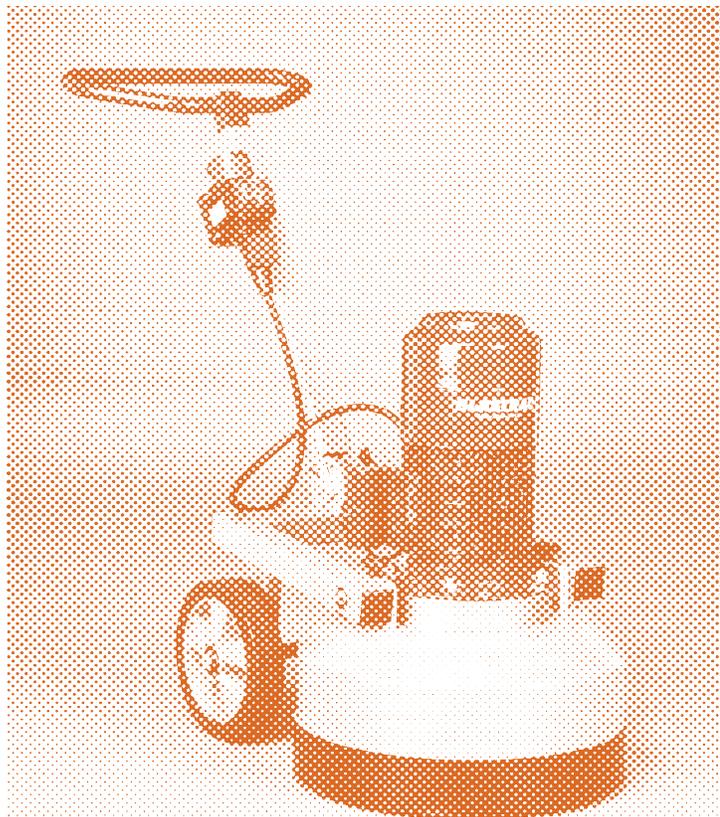
While the polishable overlay market is hot, Foster says it’s just getting warmed up. There is still room for new product innovations that will change this market segment over the next few years. “I see decorative overlays, and especially polishable toppings, as a still- developing product segment,” he says.

CONTRACTOR INSIGHT

George Rankin, owner of GIC3, Plantation, Fla., is working 6 to 7 days a week servicing the demand for polishable overlays. “We provide the look of concrete with a 1/2-inch overlay that achieves 7300 psi,” he says. GIC3 utilizes a system that allows them to prepare the floor in one day, install and power trowel the overlay the next day and polish the surface the third day. this fast-track system is what his customers want and one of the real benefits of a polishable overlay. Rankin feels that the polishable overlay market will only grow in coming years. “everyone is in a hurry, and we provide a quality product that fits that need.”

Trend 4: SURFACE PREPARATION

No matter what type of overlay work you do, the most critical factor contributing to long-term performance is adequate surface preparation. “Almost all the surface preparation we do for overlay projects involves grinding with diamond cup wheels or diamond pads,” says Becker. Every expert installer I spoke with agreed that mechanical surface preparation is the way to go and is what they themselves do. This is a change from 10 years ago, when most installers would rely on acid etching, chemical cleaners and power washing to do the job.



Why the trend toward more thorough surface preparation? “Contractors own larger [grinding] equipment because of the popularity of polished concrete, and it can be used for surface preparation,” suggests Grimble. The impact of years of education from the supply side of the overlay business must also be acknowledged. Foster has been teaching overlay application and proper surface preparation techniques for years, and says that 90% of all overlays require a surface profile of CSP 3 or better, as recommended by the International Concrete Repair Institute.

“We see a trend toward better prep and moisture control.”
— Ryan Connors, Modern Concrete Surfaces, Signal Hill, Ca



Thorough crack repair and efficient grinding are becoming commonplace prior to installing an overlay.

TECHNOLOGICAL IMPROVEMENTS

Along with more installers owning grinding equipment, or at least having access to it, is the fact that grinding technology has also improved. Equipment manufacturers have jumped on board with better diamonds, more efficient grinding and scarifying machines, and advances in dust collection. To be sure, the equipment can cost big bucks. But it can also prepare thousands of square feet per hour and ensure better overlay performance.

The trend is not only to use the right equipment, but also to use a better system of primers and repair products. Connors uses a moisture-block epoxy primer seeded with sand on most of his decorative overlay projects. “We see a trend toward better prep and moisture control,” he says. Some installers will include the cost of a moisture-control system in their price for surface preparation, knowing that a callback because of a delaminating failure caused by moisture is much worse than the upfront cost per square foot for a moisture-control epoxy primer.

The trend is not only to use the right equipment, but also to use a better system of primers and repair products.



Epoxy crack fillers are popular for repairing cracks prior to overlay installation.

CRACK REPAIR

Installers are also changing the way they deal with cracks and patching. Gone are the days of filling cracks with caulk and hoping for the best. Becker uses a two-part rigid epoxy crack filler. “We clean the cracks, backfill if needed with sand, and then fill them with the epoxy material. Once that cures, we then profile the entire floor mechanically,” he says. Rapid-setting cement-based repair mortars and patching compounds are also popular. Grimble has been promoting these materials to installers for years. He likes polyurea and water-thin polyurethane crack repair products that can be bulked up with sand if needed, as well as rapid-setting polymer-modified cement systems for patching pop outs and voids prior to priming the surface. “In today’s world, people want fast turnaround,” he says.

The market is also seeing more overlay use for new construction, for both interior and exterior work. Some projects find it more cost-effective to place a rough-base concrete slab that they don’t have to worry about protecting during build-out. Once the general construction is complete and the detail finish work begins, overlays are applied to create the final decorative flooring.

Trend 5: INSTALLING DECORATIVE OVERLAYS

HANDCRAFTED FINISHES ARE STILL THE GOLD STANDARD

Uniqueness is one of the main differentiating factors that separate decorative overlays from other hard-surface flooring materials. Often this can only be achieved by a craftsman and a meticulous application procedure. “I have not found a shortcut tool or application technique that replaces what we do,” says Becker. The trowel applies all of his microtopping installations to create a one-of-a kind look. Each application is unique and handcrafted.

That said, equipment has been developed that can improve the process of mixing and applying overlays. When it comes to most decorative overlay installations, one of the limiting factors in being cost competitive to other flooring materials is the ability to get material mixed and applied in as short amount of time as possible without compromising quality. Larger mixers have been developed that help resolve this issue. “We are seeing larger mixers being used that increase the size of the batch being processed,” says Grimble. Larger batch sizes also help reduce inconsistencies, especially when working with integrally colored material.

THE MAGIC OF THE MAGIC TROWEL

one tool that has an almost cult-like following in the decorative overlay industry is the magic trowel squeegee, manufactured by tex master tools. this thin rubber squeegee, and others like it, have become a staple for overlay manufacturers. they allow installers to put down microtoppings without leaving trowel or roller marks and work out gauge rake lines and trowel lines in stampable overlays. Their ability to put the desired finish on almost any type of overlay has made it the tool of the trade. Foster has been using these squeegees for years in his product training classes. “the thin- blade squeegee is huge in the toppings world to achieve smooth finishes,” he says.



Trend 6: COLOR AND PATTERN TRENDS



Decorative scoring and stenciling were used to enhance this high strength microtopping.

LESS IS MORE

Decorative scoring and stenciling were used to enhance this high strength microtopping. The decorative overlay industry has come full circle in regard to design and color. In the early 1960s, overlays were mostly gray, with more of a utilitarian function. As the market grew and expanded, the use of complex colors and patterns became the trend. This movement reached its peak about the time the industry slowed down in 2008. We now see the market returning to clean and simple finishes. Gray is back as one of the most popular colors, as the contemporary industrial look has returned. The days of complex pattern and bright intense color have been replaced with soft, single-color finishes, muted earth tones and clean lines.

No matter if the work is residential or commercial, “less is more” when it comes to current overlay color and design trends, according to Becker. “Seven to ten years ago it was all about how different and unique the floor can be. Today it is about clean, simple, and cost- effective.”

STENCILS WITH OVERLAYS

stencils are a popular method for creating patterns in decorative overlays, especially corporate logos for restaurants and retail stores. the use of stencils and patterns to create more artistic finishes on knock-down exterior microtoppings has also grown significantly over the past decade. the beauty of stencils used in conjunction with overlays is the number of variations that can be achieved. one of the most popular is to trowel apply a thin coat of microtopping over a stencil to provide an almost seamless two- dimensional graphic once the

DESIGN METHODS

Even in the trendy design markets of Southern California, a minimalist approach has taken hold. “Anything goes in our marketplace, but at the same time we see less bright colors and more industrial gray finishes being requested,” says Connors. However, not all jobs have gone to industrial gray. Becker likes working color into his overlay projects, but in subtle ways. His crews will work multiple thin layers of light-colored microtopping on top of each other, very much like Venetian plaster. They then come back and apply diluted stains and dyes to accentuate the natural variations and marbling in the microtopping colors.

The design flexibility, durability and clean look of decorative overlays have really taken hold in hotels and chain stores. Connors has established good repeat business by working with corporate accounts that want a reproducible flooring system that fits their design requirements. “We sell a style and look to a company with lots of stores,” he says. One example is a regional coffee store chain that was looking to update the look of their stores. “They wanted a more modern look but needed a floor that can handle the heavy foot traffic,” says Connors. They settled on a microtopping in a soft color, with the company logo stenciled into the floor. Connors’ crew is traveling all over California to apply this finish to all the stores. “We are able to provide them with the same look at all of their locations,” he says.

While not the current trend, multicolored and patterned overlay work is still applied quite often. When multicolor overlays are installed, the method for separating colors varies depending on the system being used. “Shallow decorative sawcuts are still the go-to method for creating a pattern in a microtopping floor. With thicker-section overlays, terrazzo strips or other metal dividers have become the popular method for creating a pattern of color separation,” says Grimble.



Looking to update to a more modern look, this regional coffee store chain chose a microtopping in a soft color with the company logo stenciled on the floor.

Trend 7: SEALERS AND MAINTENANCE

LESS IS MORE

If there is a hidden downside to the current trend toward the lighter colors and finishes popular in the decorative overlay industry, it has to be sealing and maintenance. Lighter colors tend to get dirty and show wear much faster than darker colors, which means the sealer and maintenance products need to meet a higher standard of durability. “Lighter colors demand more attention,” says Grimble, who is seeing a trend toward the use of better-quality sealers.



Lighter colors and cleaner finishes also demand a higher caliber of sealer. Acrylics are no longer the go-to sealer for decorative concrete, and especially decorative overlays. High-solids polyurethanes, polyaspartics, and epoxies are now commonplace, especially in high-traffic and commercial applications. It is especially critical to have a high-solids sealer protecting thin-section overlays like microtoppings because the overlay will not withstand direct traffic long before beginning to wear. High-performance coatings may cost as much as three to five times more than acrylic sealers but can last years longer.

MATTE AND SATIN FINISH SEALERS

One noticeable trend with sealers on decorative overlays has been the shift toward matte and satin finishes. About 20 years ago, a high gloss “wet look” finish was practically the only option available. This trend held fast and was embraced by the decorative overlay industry through the mid-2000s. In the last few years, though, the trend has shifted away from gloss toward matte and satin finishes. The combination of lighter colors and simpler designs has also drawn more designers and installers to embrace matte sealers because they tend to hide scratches and wear better.

SEALER SELECTION

When it comes to sealer selection, Foster feels this is one area where contractors fall short. “People spend time and money focusing on the topping with little thought to the sealer,” he says. Foster believes strongly in educating installers and end-users on the importance of sealers and maintenance. Overlays are thin for the most part, which means the sealer is a critical part of the overlay flooring system as a whole. Foster also spends a lot of time educating the architectural and installer communities on the importance of using floor finishes over sealers on decorative overlays. He wants to start a new trend where we get away from using the term “wax” when describing these topcoat floor finishes. “The term wax conjures up images of cheap and unimportant. This is actually far from the truth. Wax does not do justice to what a floor finish does,” he says.

Floor finishes and maintenance schedules are important, yet they are often left out of the scope of work when installing decorative overlays. The good news is that educating installers seems to be paying off, as the decorative overlay industry has embraced better sealer systems, including the use of floor finishes. the trend has shifted away from gloss toward matte and satin finishes.



Matte sealers hide scratches and wear better than high-gloss sealers, especially on light colored surfaces.

CONCLUSION

What's next?

The overall trend within the decorative concrete industry as a whole continues to be competitive pricing, clean soft colors, and design versatility—everything decorative overlays have to offer, and then some.

As the benefits and design flexibility of decorative overlays become more recognized by the mainstream design community, overall awareness of what overlays are and what they can accomplish will grow. Decorative overlays may never reach the place of prominence held by carpet or tile, but they have qualities that those materials don't. Decorative overlays give installers the flexibility and artistic license to create a high-end one-of-a-kind finish or a reproducible utilitarian floor, all with the same product.

Although the products and technology have proven themselves, much work lies ahead if the industry is to realize its full potential. Material suppliers need to stay ahead of the curve in regard to continuing education, product development, and marketing all the virtues and benefits of decorative overlays to specifiers, both nationally and locally. The contracting community needs to stay in touch with what the design community and building owners are looking for in flooring in terms of cost-effectiveness, aesthetics, and performance. All parties need to manage expectations and temper their enthusiasm that decorative overlays can be all things to all people. While the products are versatile and durable, they have a place in the market and should not be used in situations they are neither designed nor approved for.

Lastly, it is imperative that the industry remain diligent in stressing that decorative overlays are specialty finishes commanding a premium price. Of course, market pressure will come into play as the products become more popular and more installers enter the industry. This will inevitably lead to some price erosion, but to what extent is up to us. No one wins when price wars erode profitability to a point where quality and durability are no longer a concern, and volume is the driving force. Becoming a true craftsman in the decorative overlay business of the future will require more than a skilled hand, but a skilled business intellect as well. Opportunity will be there—you just may have to work a little harder to realize it.

RESOURCES:

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Concrete overlays Q&A

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