

CONCRETE



INTERIOR FLOORS

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The Concrete Network





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WHY CONCRETE?

It's become the new material of choice for designers and homeowners across the United States. Decorative concrete in all of its stained, colored, painted, and personalized glory is popping up in retail stores, trendy restaurants, offices, and homes everywhere.

One of the most common places you'll see decorative concrete these days is under your feet. Whether it's acid-stained, painted, overlays, microtoppings, radiant floors, or a unique personal floor, concrete offers a range unlike any other material.



“We have stamped concrete, slate, stain, overlays, Spanish tiles, Arizona flagstone ... It's just amazing what technology has done. And we have no idea where it's going. It's advancing all the time.”

--David Pettigrew, Diamond D Company, Watsonville, California

Many are welcoming, embracing, and anxiously pursuing concrete for their own home projects. All it typically takes is one look whether it's in a magazine, on a home tour, a television show, or in someone's home and you're hooked.

Barbara Sargent of Kemiko Concrete Floor Stains offers a host of reasons why concrete is a popular material for floors:

- It enhances the integrity of architects' designs.
- They are easy to maintain.
- It's easy to change, especially if you sell your home; the next owner can place carpet or wood on top of the concrete slab.
- They are great in regions with a lot of sand or snow.
- They are a good alternative to carpet if you have allergies.

“Acid-stained flooring is really taking off in Dallas. It's the going rage.”

--Cindy Hamm, The Ultimate Edge, Dallas, Texas

ACHIEVING THE COLOR YOU WANT

Acid-Staining

One of the most popular ways to achieve color is through acid-staining.

Chemical stains can be applied to new or old, plain or colored concrete surfaces. Although they are often called acid stains, acid isn't the ingredient that colors the concrete. Metallic salts in an acidic, water-based solution react with hydrated lime (calcium hydroxide) in hardened concrete to yield insoluble, colored compounds that become a permanent part of the concrete. Several companies manufacture chemical stains that are variations of three basic color groups: black, brown, and blue-green.



“Designers are waking up to the fact that there's more than wood, carpet, and tiles ... There's nothing that can't be done.”

--Richard Smith, Richard Smith Custom Concrete

The acid in chemical stains opens the top surface of the concrete, allowing metallic salts to reach the free lime deposits. Water from the stain solution then fuels the reaction, usually for about a month after the stain has been applied. Other factors that affect the outcome include:

- Cement properties and amount
- Admixtures used
- Type of aggregate used
- Concrete finishing methods
- Concrete age and moisture content when stain is applied
- Weather conditions when stain is applied
- Efflorescence



In general, cements that produce larger amounts of calcium hydroxide during hydration show more stain color; higher cement contents yield more intense colors.

Many homeowners today prefer light tan finishes, which make up about 60 percent of the market. Greens and browns are popular, too. A combination of stain and water called black washes can be used to reduce the contrast between colors.

Painting

One of the emerging trends in coloring interior concrete floors is through painting. At this point, few concrete professionals specialize in painting, but that is likely to change as concrete floors continue their rise in popularity.

Gary Breaux and his company, Surface Effects, based in Lake Charles, Louisiana, is one of the few who specializes in painting concrete floors.



Surface Effects provides custom painted floors that create the look of marble, stone and slate. They can create a tiled appearance without seams or lines, providing a smooth, seamless, low-maintenance floor.

The painted floors are all customized. You can select colors and combinations that either bring your whole project together or create a stand-alone effect.

Surface Effects uses epoxy resins for base and color coats, then they use a clear non-yellowing urethane by Torginol for the durable top coat finish.

“The ease of choice by the home owner can be made at any point in the project, to match fabric, furniture, or your pashmina shawl.”

--Gary Breaux, Surface Effects

If you are considering an acid-stained or painted floor, be sure you can describe the look you have in mind. Also, look at color swatches from the concrete contractor so you can see what the color variations are. Ask to see color photos of finished jobs to help you decide on colors and designs.

CONCRETE OFFERS A VARIETY OF FINISHES



One of the advantages of concrete is its tremendous versatility. Not only can it be colored or stained to match any hue, but you can select your texture, too (To change the texture, see 'overlays' under the Special Applications section of the document).

You may opt for finishes that resemble tile, slate, or brick. These are popular textures for achieving a warm, natural feel and they complement stone and wood. Or, concrete can be transformed to create a more refined, polished look, emitting the look, texture, and feel of quarried stone like marble.

Both scoring and sawcutting can be used for decorative effects and for the necessary work of being the control joints in the concrete surface. Decorative effects only need to be 1/4" deep.



Polishing

Concrete is fast becoming the ultimate no-wax flooring material. Thanks to recent advances in polishing equipment and techniques, contractors are now grinding concrete floor surfaces whether new or old to a high-gloss finish that never needs waxes or coatings.



“It's really one of those things you have to see with your own eyes.”

-- Doug Demmert, Demmert and Associates, Glendale, California

Retail, warehouse and office facilities are sporting polished concrete floors over marble, granite, tile, linoleum, and coated concrete. And now homeowners are taking note and are seeking these smooth, high-luster floors that can replicate the look of polished stone for their own homes.



Polishing concrete is similar to sanding wood. Heavy-duty polishing machines equipped with progressively finer grits of diamond-impregnated segments or disks (akin to sandpaper) are used to gradually grind down surfaces to the desired degree of shine and smoothness.

Almost any structurally sound concrete floor, whether new or old, can be polished. But there are some exceptions. Floors that are wavy, need extensive patching, or are extremely porous may not be good candidates for polishing. An experienced contractor can usually determine a floor's suitability.

There are numerous options available with polished concrete, including:

- Colored aggregate can be applied to the concrete mix or “seeded” into the top layer of the mix. The polishing process will reveal these aggregate.
- Integrally colored concrete can be used.
- Glass can be “seeded” into the mix. The polishing process will reveal the glass pieces.
- Nails, bolts, computer chips, or any other objects can be seeded into the mix and polished smooth.

Of course, any of these options can be combined together or into a pattern.

SPECIAL APPLICATIONS

Overlays

Overlays are becoming an increasingly popular choice for architects, designers, and homeowners. If your concrete is worn and aged, it can be topped with a fresh, level canvas that can be decoratively styled to match any décor. They can be as thick as several inches, or paper thin. And they can be used both indoors and outdoors.

You can do any design on an overlay that can be done on regular concrete, such as staining or polishing, the overlay simply gives you a clean 'canvas' to start from.



These self-leveling overlays are flowable, polymer-modified cementitious toppings that have the huge advantage of setting within a matter of hours, says Bruce Hackett of Concrete Décor magazine.

He says self-leveling overlays offer a number of significant benefits over alternative floor coverings. Through staining, saw-cutting, dying and grouting, overlays can accommodate an almost limitless range of designs global maps, for instance, or dolphins swimming through waves that would be either impossible or cost-prohibitive with other materials.

And, provided they are properly and regularly maintained, self-leveling overlayments will also last indefinitely, which offers a clear advantage over carpet, tile, vinyl and other more traditional floor coverings that must be periodically replaced. Additionally, overlays are considerably less expensive than pricier alternatives such as granite, terrazzo or marble.

Radiant Floor Systems

If you're entertaining the thought of an interior concrete floor, but are reluctant because of the “cold” factor, then a radiant floor heating system is the answer for you.

A radiant floor heating system "radiates" heat from the floor and delivers the heat evenly throughout the rooms.

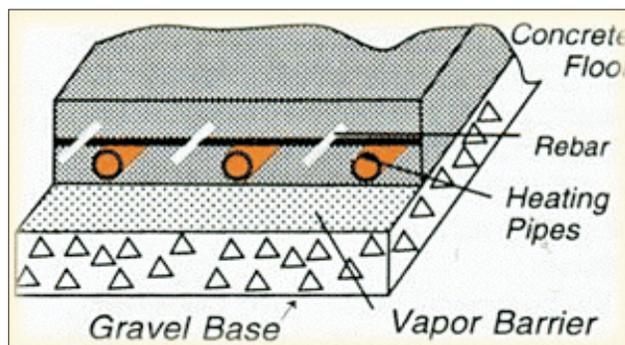
“Sometimes when you think of concrete, you think of a cold slab. Now, with all the stamping and staining, you have this thing of beauty that can be comfortable, too.”

--Ingrid Mattson, Wirsbo marketing communications manager

Other benefits of radiant systems include:

- Silent operation. There's no hum or whistle of a forced air system.
- Inconspicuousness of the system you don't see vents or hear air blowing.
- Energy savings. Evenly distributed heat from a radiant floor heating system can allow the thermostat to be set two to four degrees less than in a forced air heating system. This can reduce energy costs by 10 to 40 percent. (You'll want to check with the utility in your area to verify what a two to four percent temperature decrease would amount to in savings in your area).
- A healthier home. Forced air systems can spread dust, pollen, and germs.
- Also, radiant heat is less likely to dry out your breathing passages and skin.

Many radiant floor heating projects are in slab-on-grade concrete. Tubing is installed in the slab. Temperature-controlled water then circulates through the tubing in the slabs; this process turns the slab into a radiant panel.



Concrete presents the greatest thermal mass of any of the radiant floor heating methods, which can be a tremendous benefit in rooms or buildings with high ceilings.

The Romans first used radiant floor heating in 60 A.D. to warm enclosed spaces, according to Wirsbo, a radiant floor manufacturer. Radiant heating controls the rate at which a body loses heat by turning large surface areas (floor, walls, ceilings) into large, low temperature radiators. These surfaces surround a person with warmth. Radiant systems can keep your family cozy and comfortable and often increase the resale value of your home.

“Radiant systems are very forgiving coupled with a concrete floor ... It's a high-mass system, like hot rocks on a fire.”

--Ingrid Mattson, Wirsbo marketing and communications manager

GETTING PERSONAL

As with other concrete projects, one of the benefits of concrete floors is the ability to achieve a look that is one of a kind.

Concrete contractors have their own proprietary materials and coloring methods. In addition, many concrete specialists take full advantage of their creative and artistic talents to produce floors that are spectacular, almost unimaginable.

La Honda House: Color and Geometry

One such project is the La Honda House, designed and created by David Pettigrew of Diamond D Company. Pettigrew was basically given free reign to design the floors in the 6,000-square-foot California house.

The kitchen is graced with beautiful mahogany-colored concrete countertops. The kitchen floor resembles a stunning piece of artwork, resplendent in rich hues of amber, gold, and sage thoughtfully arranged in interesting, interlocking shapes. A swath of the brown color matching the countertops accentuates the floor design.



In the dining room, a redwood-colored, picnic-style table sits atop an amber-colored floor, accented with dark-colored diamonds, almost resembling a checkerboard.

In the living room, patches of a sea-colored blue-green one of the most difficult colors to achieve in concrete intersect with varied shapes of earth tones. A game room floor comes to life as large circles of blue-green intersperse with a rich, dark red and a burst of yellow flashing across the room.



Concrete runs throughout the house in the floor of the guestroom, in a back bedroom, in a shower surround, on the countertop of the master bedroom, and in the master bath and shower.

“Everyone who comes in the house can't believe it's concrete.”

--David Pettigrew

Beach House: An Indoor Ocean Floor

Sometimes contractors are given a challenge beyond their wildest dreams. That was the case for Tom Ralston of Tom Ralston Custom Concrete.

His talents were put to the test recently when an architect asked for Ralston's help on a beachfront home in California.



The architect wanted the floors to look as if they had been worn and weathered by the ocean. Beach glass found at a rockery that had collected the glass from Bodega Bay, up the coast and aquarium sand and seashells accented the floor.

Ralston also wanted to achieve those little holes that are so prominent along a cliff's edge. So, he used a retardant that takes away about one-eighth of an inch of the concrete's surface. He used a turkey baster to shoot out random "holes."



In addition, he wanted the ocean floors to possess the "veins" look worn by a matured seashore. To do this, Ralston used his ocean effects beach glass, aquarium sand, and seashells and employed multiple acid stains. Some of the work was applied with an artist's brush to get into the very small holes with a darker acid.

"We also used pieces of foam to get a crack-like appearance," Ralston said.



ABOUT THE CONCRETE NETWORK

The Concrete Network (www.concretenetwork.com) is the definitive concrete industry web portal with a directory for concrete construction services and concrete products. It draws over a quarter million visitors per month.

ConcreteNetwork.Com was born at the 1999 World of Concrete Trade Show in Las Vegas. Founder, Jim Peterson, a former Vice President of a major concrete contractor in Riverside, California, had an idea to create a definitive industry portal on the World Wide Web.

Concrete Network's directory lists concrete contractors and other industry suppliers and experts in 58 specialties in 164 metro areas. The directory is organized by area and specialty, such as patios, pool decks, driveways, countertops, acid-stained floors, stamped concrete, and water features, among many others.

Site visitors can choose a metro area and view the concrete construction services and concrete products that are available in the area and obtain full contact information for the listed businesses.

ConcreteNetwork.Com's web site's extensive articles and directories constitute a repository of information and a resource about the industry's products and services, including concrete home construction, stamping and other decorative concrete products, resurfacing products, concrete stains, boom pumps, and literally hundreds of other products.

SITE HIGHLIGHTS & NEW FEATURES

THE IDEA CENTER

Slide shows featuring concrete countertops, interior floors, pool decks, patios, water features, furniture, and much more! A new slide show is added each week!

THE DESIGN CENTER

Designer Jeanine Laiza has a field day designing inviting indoor and outdoor rooms with innovative concrete products and surfaces.



WEEKLY CONTRACTOR FEATURES

Michele Dawson writes each week on one of the contractor members of The Concrete Network; these fabulous artisans build outrageous pool decks, interior floors, countertops, patios...anything with concrete.

PRODUCT FEATURES

Anne Balogh, former editor of Concrete Construction Magazine, writes on concrete industry products for The Concrete Network. Innovations such as stamped overlay wall systems, "concrete engraving", and numerous other products are covered. If it's useful and innovative, you'll find it on The Concrete Network.



DECORATIVE CONCRETE TECHNIQUES

Jeff Potvin writes on decorative concrete techniques for The Concrete Network. Potvin, a civil engineer and the owner of Architectural Concrete Consultants, has nearly 15 years of experience in the architectural concrete industry. His experience includes stamped concrete, overlays, form-liners, acid stains, counter tops and coatings.

INDUSTRY LEADERS

We cover industry leaders such as Buddy Rhodes, the father of concrete countertops; Bob Harris from L.M. Scofield, an innovator in decorative concrete techniques; Barbara Sargent, on Kemiko Concrete Stains, who is taking the concrete acid staining industry to a new level. How did they get to the top? We get the inside scoop.



The Concrete Network is dedicated to showing site visitors what is possible with concrete and how to find a contractor to get the job done.