



Countertops and Beyond

A gallery of fun and exciting ways to use concrete in the home

by Mark Johanson

PHOTOS BY MATTHEW MILLMAN

Concrete offers mass and presence that few other building materials can match. Despite its monolithic appearance, the countertop shown here is cast in several pieces, including the vertical standard that interlocks with the top on the right side. A few decorative inlays and an integral drainboard highlight one of the great advantages of concrete: Each piece you cast will be unique.

Finding new, creative uses for familiar materials is one of *HANDY* readers' favorite pursuits. We see evidence of this in projects submitted to *HANDYWORKS* and in our communications with Club members. So we know you'll enjoy taking a fresh look at one of the oldest building materials — concrete — and seeing innovative ways it's being incorporated into today's homes.

Kitchen countertops are a relatively new application for poured concrete, although we've covered the process in the magazine ("Cast in Concrete," November/December 1999, p. 50) and it has received plenty of attention elsewhere. As designers and builders hone their casting craft, they continue to create new variations on standard countertop projects. For example, we're seeing more concrete bathroom vanity tops. (Look for our version in the upcoming May/June issue.) Casting an integral sink basin in a concrete vanity top is an emerging trend with dramatic appeal (although it requires skill and experience to execute).

Concrete treatments also offer a virtually unlimited range of design possibilities for fireplace hearths and surrounds. And acid stains, new paints and inlay options can be used to create beautiful decorative concrete floors anywhere, not just for basements or patios.

Other potential applications for concrete include shower surrounds, soaking tubs, room dividers, benches and furnishings, indoor water features and even wallcoverings and wainscoting. With creativity, you can find endless ways to put this versatile, inexpensive material to use in and outside of the home.

The home concrete sector has enjoyed fast growth largely because of aggressive, persistent promotion by people and groups in the industry. One of the leading advocates for concrete creativity is Fu-Tung Cheng, a designer from Berkeley, California. His book *Concrete Countertops* (Taunton Press, 2002) has quickly become a definitive reference on the topic. And his follow-up, *Concrete at*



Skillfully combining concrete textures and colors creates an effect that is rich and dramatic. The master bath area above displays a terrazzo-style floor embedded with troweled-in beach glass, turquoise and mother-of-pearl. The curb and soaking tub are also cast concrete; the curb has a steel-trowel finish, and the tub and walls are stamped. Adding warm wood tones, such as the teak duckboards and bench above, enhances the beauty of both the concrete and the wood.

Home (Taunton Press, 2005) reveals a new gallery of applications for residential concrete.

Designing your project

The number and types of options available when designing a concrete project can be bewildering. Besides deciding what to make, you'll need to choose whether to cast it in place or in a shop. Casting objects in a shop or garage is preferable for ease of cleanup and ventilation. But concrete is heavy — a 1-1/2-in.-thick countertop weighs about 20 pounds a square foot. Most professionals prefer to cast in their shops but won't transport or install projects larger than about 3 x 7 ft. Anything bigger is usually made in smaller sections that are joined on-site.

Other options you'll need to consider include:

Type of concrete — You can blend your own from portland cement, sand, aggregates and water; use premixed bags; or have ready-mix delivered to the pouring site. If you're using bags (the easiest option), a 5,000-PSI, high/early mixture



This concrete vanity was cast in two interlocking parts. Although interesting and beautiful, it is not for beginners. Like any other medium, concrete requires experience and skill to yield pleasing results. Try starting with smaller casting and finishing projects (see "Cast Away," May/June 2003, p. 46) and work your way up to more ambitious undertakings.



Like horizontal castings, vertical projects can be cast in place or cast off-site and installed. This divider wall was cast off-site and installed with the cabinets and counters it is integrated into. If you look closely, you can see a small seam in the middle of the wall, running at a slight angle. The angle makes the seam less noticeable and less susceptible to directional stress.

such as Quikrete 5000 is a reliable choice.

Admixtures — A host of accelerators, decelerators, air entrainers, plasticizers and more can lend concrete specific properties. But these products are difficult to locate for home use and should be used judiciously. Most fabricators agree that a water reducer is the most valuable admixture. It allows you to use less water while attaining good workability. Less water means less shrinkage in the form and stronger concrete.

Pigments — Most concrete is colored with powdered or waterborne pigments, not dyes. Building centers stock a couple of colors (usually black and brick red), but if you go to a concrete supplier you'll likely find at least 60 colors to choose from. Designers often use different concrete colors and finishing techniques such as acid washing to give a project depth and interest.

Inlays — Small decorative objects such as coins and seashells can be inlaid into concrete to give it a personal touch. Some objects can be set (or glued) into the form before pouring; others should be embedded after the concrete starts to set up.



To cast this colorful floor, Cheng's design team added pigment to the concrete mix and then applied an acid-wash treatment about a month later (see "Concrete Conversion," July/August 2004, p. 20). The tropical tones complement the bamboo drawer fronts and cabinet doors, and they blend nicely with the natural slate wall tiles. Grinding and polishing a floor exposes some of the concrete aggregate, giving it a more interesting, varied look and adding richness. The best tool for grinding and polishing a floor is a walk-behind grinder with a planetary drive operating system. These tools can be used wet or dry and are available at selected rental centers.



Creative concrete designers are constantly looking for new objects to inset, new colors and textures to cast and new applications for the material. Here a circulating waterfall is cast into the top of a 22-ft.-long interior wall.



The fireplace is a natural area to shape with concrete. You can use it to cast a hearth, mantel or surround — or all three. If you choose to make adjoining parts from concrete, incorporating complementary differences will make the design more interesting. For example, in the fireplace above, the hearth and surround feature different pigments and finishing techniques. The hearth has a smooth, ground finish typical of a countertop or floor, whereas the surround is less polished — voids and other irregularities are left unfilled to increase visual interest.



This highly polished raised slab elevates a wood stove while blending nicely with the buffed concrete floor below. For maximum sheen, concrete is ground and polished with a series of pads starting at 50 grit and running as fine as 1,500 grit. For safety, any change in elevation should be at least a 4-in. difference.

Form material — For slab-type home casting projects, white melamine-coated medium-density fiberboard makes suitable forms that require no release agent and impart a very smooth surface on the finished project.

Whatever your design preferences, it's

best to gather as much information as possible and avoid getting carried away with too many fancy options. As Cheng writes in *Concrete at Home*, "Though there are no limits to the imaginative combinations of the practical and the aesthetic, applying a philosophy of restraint is a good idea."

Concrete Vanity Top

Inspired by the new and appealing uses for concrete that have been developed, we took a stab at creating with concrete ourselves. With the input of noted designer Fu-Tung Cheng and his associate Jeff Osteen, we designed and cast a unique concrete vanity top here at the *HANDY* workshop. Then we built a

no-weld metal vanity base to go with it. Both projects were surprisingly easy and they turned out great. Watch for them in the Handy Projects and Metalshop departments of your May/June 2005 issue of *HANDY*. — MJ



PHOTO BY DAN CARY

Products and information

When we've published information about concrete casting projects in the past, we've had difficulty helping members find sources for the necessary products. Most concrete materials suppliers sell only to contractors and in volumes that far exceed the amounts of pigments, admixture or reinforcement fibers needed for even a major kitchen countertop project. But as the interest in DIY concrete work has grown, mail-order and Internet-based companies have begun offering

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— Fu-Tung Cheng,
from *Concrete at Home*

materials such as water reducer and mold-making urethanes in consumer-size quantities and even kits.

Fu-Tung Cheng's design firm, Cheng Design, operates an Internet site called The Concrete Exchange (see SOURCES ONLINE) that markets a full range of products and kits for DIYers and tradespeople. The site includes a useful project estimator that calculates how much material your project will require. Another good source for information and materials is The Concrete Network Web site, which includes a concrete calculator, a decorative-concrete photo gallery, a contractor locator and more. ♦

All images by photographer Matthew Millman are reprinted from Concrete at Home courtesy of Taunton Press.



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