

■ **Verti-Crete, Sandy UT, 84091, USA**

Standing up and standing out

The balancing act in any concrete production involves quality and cost. To achieve higher quality you have to be willing to incur higher costs of production, right? Like Newton's third law of motion: "For every action, there is an equal and opposite reaction." Increase the quality and you will increase your costs. Most of us have come to accept the natural tradeoff between quality and cost. But Verti-Crete, out of Salt Lake City, Utah

(USA) has taken that conventional wisdom and turned it on end, literally. The company has developed a mold and form system for precasting multiple walls in a vertical gang form. The result: a molded stone pattern on both sides of the wall and a production system that turns out more walls in less time and with lower costs than traditional methods.

Anmaree Osmond, Connect, USA

Like most precasters, Verti-Crete's founders began precasting wall panels in horizontal steel beds. Their process "evolved", however (excuse the pun) into a vertical position, at first to accommodate customer demands for a double-sided wall. What they developed, in the process was a system that not only achieved the desired

"look" but did so in an extraordinarily efficient way.

The key to the system's efficiency lies in its unique design. Mike Sharp explains the process: "The form is self-supporting, with the strength coming from the heavy-duty steel frame around the perimeter. The steel and polyurethane divider sheets provide the molded stone pattern - a proprie-

tary seal makes it water tight. The panels are poured at the same time allowing the pressure to be evenly distributed and then captured ultimately by the outside frame. This does away with any need for tie rods (common in pour-in-place walls) that leave unsightly holes that require patching afterwards. The double-sided pattern is what we really wanted, but it's the system's efficiency that knocks this one out of the park." The entire process takes about 30 minutes, and when complete, you have 8-10 double-sided walls ready for installation.

What would otherwise take a football field of flat beds can now be produced on a 3 x 4 meter area. The space savings alone can mean the difference in being competitive for many precasters around the world where production space is at a premium. Consider this: in the time it takes to prepare, pour and finish just one panel in a steel bed with a liner you can produce 8 to 10 panels in this system. You may also be able to strip sooner since vertical panels won't endure the stress of being raised from horizontal to upright.

To be fair, the development of this System was not cheap, it took years of research and development and countless iterations. However, the result is a well proven, patented and proprietary set of molds that's turning the industry on end, one wall at a time.

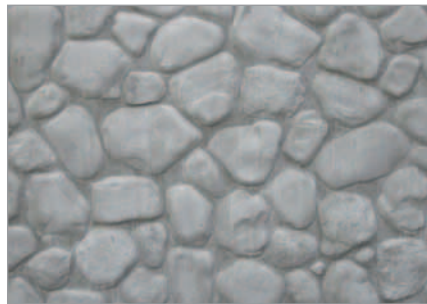
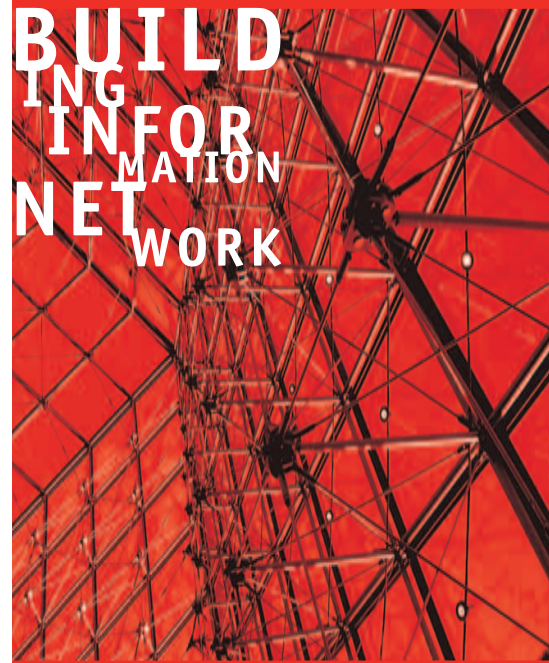
Today, Verti-Crete has one patent, and several other patents pending. The company is licensing its technology to various precasters who use the mold/form systems in their respective areas. There



Molded stone pattern on both sides of the Verti-Crete system



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are currently 25 Verti-Crete licensed producers around the world, most of which are in the United States (including Puerto Rico). Internationally, Verti-Crete has licenses in Potenza, Italy, Algiers, Algeria, Carlow, Ireland and London, England.

Color Matters



The devil is in the final detail. What makes or breaks the final appearance of any textured concrete is the final coloring and finish. Verti-Crete's molds are fashioned from real stone and possess the most realistic textures available anywhere. Even the grout joints look real from only inches away. Add then the sensory quality of color and you achieve a high-end look and feel matched only by true masonry.



The coloring procedure employs a high quality concrete stain that seals the concrete with a moisture barrier and includes an ultraviolet ray inhibitor to minimize fading in direct sunlight. The color application will make or break you in the final assessment. Make sure you apply the right stain and the right method to achieve the most realistic look for your project. Also, when selecting colors be sure to stick with colors indigenous to the region.



Accent colors can then be applied with a sponge to create the final illusion of true masonry



Anmaree Osmond is Managing Editor for Lumin Publishing in Salt Lake City, Utah. Lumin publishes Connect Magazine, which, in 2004 and 2005 was named "Best Business, Finance, Management or Retail" publication west of the Mississippi, by the Western Publications Association.

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The challenge of integral colors

Adding some type of dye or pigment to the concrete prior to casting may lend itself to some decorative concrete applications but not so well to precast wall panels. The problem lies, in part, with color uniformity. Any number of factors can affect shades of integral colors from moisture to heat. Then add the bearing of what various form release oils might do to the raw finish and a clean uniform base color becomes unlikely. It will be spotty at best.

Applying an acrylic concrete stain with an airless spray gun generally produces the most attractive and cost effective solution. The acrylic stain will also function as a water sealer to add longevity to the concrete. Accent colors can then be applied with a sponge to create the final illusion of true masonry.

One skeptical Verti-Crete wall customer insisted on integral pigment to reduce the potential appearance of light grey spots if the wall were to ever become chipped. The merits of staining after installation were duly explained, but to no avail. Then, after completion of the job, the customer paid for the wall to be stained as originally suggested.

Verti-Crete does supply its own line of concrete stains but there are several suppliers of good stains these days. Just make sure to select one that both protects against moisture and has a good ultraviolet ray inhibitor to minimize color fading from direct sunlight.

Onsite verses at the shop

Even when working with standard modular columns and panels, it is generally best to apply your color after the wall is installed. You'll reduce the number of times each piece is handled and you can ensure a more random color layout on the final job. Handling panels already stained can also scuff the finish, requiring touch up after installation anyway.

Marbling vs. individual stone application

Two coloring methodologies prevail. One creates a marbling effect where accent colors are applied over each other to create a continuous color theme. The other applies accent colors to individual stones in a random pattern that draws attention to distinct stones. Each method begins with a solid base color applied with an airless spray gun. Two coats are often required for full coverage, especially when staining textures with a deep relief.

To achieve a marbling effect, select two or three accent colors. After your base coat is dry begin applying your first accent color with a large flat sponge. Start with your lightest color. Using long strokes brush your coloring sponge across each stone with medium pressure. Do not color the entire surface of each stone. Deep cre-

vices look better untouched. Next, apply your slightly darker accent color using slightly less pressure. Do the same with the third accent color applying even less pressure to the sponge. With the last, usually darkest, color, touch only the tops of each stone. Applying progressively lighter pressure with each accent color creates depth in the pattern and leaves a more realistic finish.

To achieve individual stone accents select at least three accent colors and begin applying each in random order to individual stones. Use a smaller sponge to reduce the chances of inadvertently touching adjacent stones. Remember, each stone does not require accent color since the base color can be the final color of some stones. The sponge should be fairly dry and allow some crevices to get missed. Complete coverage of each stone is not only time consuming but also doesn't look as natural. To add dimension, some stones

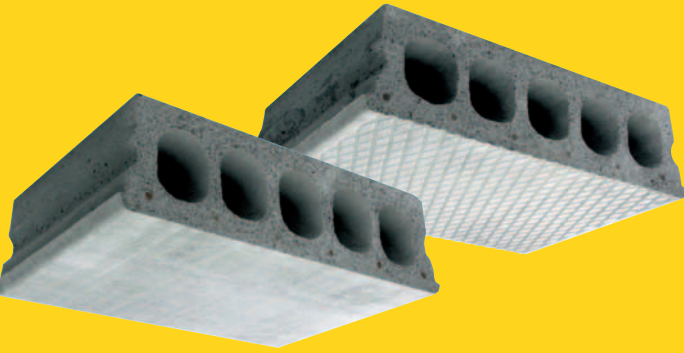


Individual stone



Marbling effect

Production lines for reinforced hollow core slabs



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can receive two colors, one over the other. Stand back and make sure the layout is both random and balanced. Have fun with it. The wall is your canvas. If you are right brain challenged you may find comfort in counting stones with each color to ensure consistency throughout the project.

Dilution

Stains vary almost as much as personal preferences. Some find a more translucent stain more aesthetically pleasing. Others like colors more opaque. Compare the quantity of solids in your stain and test it with varying levels of dilution to find the right balance. You'll probably find it best to dilute with water 50/50 the base colors. Add even more water to the accent colors.

Textured concrete has certainly come along way. Polyurethane liners have taken otherwise boring surfaces and turned them into majestic stone walls. Now, the leap from horizontal to vertical has broken through another barrier that is giving a molded look on both sides of those walls. Perhaps we have seen the last of single sided sound barriers and perimeter fencing. With the efficiency of forming systems such as Verti-Crete's, which eradicate plain surfaces, it may not be long before that becomes a reality.

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