

Plant Practices: SelectCrete Uses New Ink Jet Printing Technology

SelectCrete, Inc. specializes in cement backerboard, a mix of cement aggregate and fiberglass which is used as a water-resistant subsurface for tiling in commercial and residential building applications.



SelectCrete, launched in 2006 by Phil Miller and his father, Bob, has a current focus on capitalizing on national and international markets for cement backerboard.

When SelectCrete, Inc., was faced with a new customer mandate, there were myriad details to consider. This Bakersfield, Calif.-based manufacturer specializes in cement backerboard, a mix of cement aggregate and fiberglass which is used as a water-resistant subsurface for tiling in commercial and residential building applications. In late summer 2006, a few weeks after the company had formed and before it had even started formal production, SelectCrete got a mandate from its primary customer, a Japanese firm, to place variable-data codes on the back of cement backerboard pieces.

One option was to employ a process of rubber-stamping product after backerboard pieces had cured, but that would have been far too time-consuming. Instead, the company went to an innovative process to apply the codes during production of the pieces, using a Videojet® 1120 small-character continuous ink jet printer from Videojet Technologies, Inc., to print codes on a laminated ribbon.

The format has allowed SelectCrete line operators to maintain steady manufacturing speeds. In addition, the low-maintenance printer allows line operators to avoid costly downtime and focus efforts on producing quality backerboard.

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In SelectCrete's 25,000-square-foot warehouse, cement backerboard is developed on a 60 foot long line, using reusable fiberglass carrier sheets. The development process begins by placing cement mix, aggregate and water on top of a fiberglass sheet. The layers are then dispensed with the proper density and thickness. A final sheet of fiberglass is placed on top of the layers to guide the cutter at the end of the line.

The coding process takes place at the start of the production line. An 8,000 foot white ribbon label is printed with black ink via the stationary ink jet printer. The ribbon is coated with a thin laminate to protect the label stock from dissolving during the production process.

"I have a limit switch I use to print the labels," SelectCrete co-owner Phil Miller says. "Roughly every 24 inches there is a signal to print, resulting in three prints per backerboard panel. There are three or four prints every six seconds." He adds a single line of print is approximately one inch tall. When two lines of print are required, each line is about 3/8-inch tall.

The ribbon is placed on the fiberglass sheet face down and the cement layer is placed on top of it. After product has been removed from the line and has cured, pieces are flipped over and the laminated ribbon, now flush to the product, is face up so the code information is easy to view during shipping and distribution. "Even after going through the production process, the codes are consistently crisp and clear," Miller says.

"Without the printer, one of my production crew would have had to stop stacking the cured product to roll a code on each panel. We hand-sort, so we can't afford to slow the production process down."

Currently, business from SelectCrete's overseas customer is keeping the company humming, but there's definitely room to grow as the market demand for cement backerboard continues to accelerate.

"Right now we are operating at half-speed and producing about 15,000 square feet of backerboard a day, or 60,000 square feet a week," Miller says. "We are capable of producing 10 million square feet a year, but we're not up to that volume yet. However, when we vary the line speeds now, the printer is able to accommodate the change and it will adjust when we increase the line speeds in the future as well."

As for the future, the Millers are planning to automate SelectCrete's sorting process, which is currently done manually. At that point, the printer will be transitioned to printing large characters directly on cured backerboard at the end of the operation line. Printing directly on the board will allow for printing more than two lines of text. "When we move to printing directly on the board, we will include the product code and date along with our company name, our website and additional variable data we, or a customer, may want," Miller says.

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