

**SlipStone Extruded Pattern Wall System**

Over the past 20 years, owners and architects have sought out different techniques and finishes for decorative walls. However, the high costs were always a factor, and traditional methods of decorative walls were too labor intensive and time consuming. In May 2001 Mike Allen, president of Allen & Sons Construction, began investing in research and development for a system that could impress any design onto all visible sides of a slip formed wall. Mike found the solution, a textured mold wrapped around a roller attached to one of his Gomaco machines. This was the birth of SlipStone.

The key was finding a soft and forgiving material that would leave an imprint. Metal wanted to indent the concrete and pop the aggregate out. A special soft rubber compound married well with the soft concrete. Developing the right concrete design meant working closely with the ready mix company.

Another challenge was combating the buildup of material on the roller. During the experimental phase for placing the walls, there was had a buildup of cement material on the roller which required a lot more labor and release agent. One day, the crew attached the thin mill roll of plastic of picnic table covering to the Gomaco machine. As it unrolled over the freshly extruded concrete, the textured finished rolled right over it. Plastic sheeting cut labor needs by two-thirds, because they didn't have to keep cleaning buildup off the decorative mold. After about an hour they peeled the plastic off and the perfect finish was achieved. Deep joints and control joints can be cut right through the plastic"

The Slip Stone system does not slow down the pace of the extruding machine. Speed depends on height, width and the concrete volume through the machine. Moving slowly and vibrating well is important to control slump. Even when using rebar, Allen adds fiber mesh to the mix to help bind everything together. And the Slip Stone system can imprint all visible surfaces on the extruded wall – front, back and top – whatever is needed.

On some projects integrally colored concrete is beneficial depending on desired final results. For dark-colored or green stones, it's better to use integrally colored concrete – three pounds of base color per yard of concrete. Liquid color works best, giving a wall an initial darkening on which stain colors can be applied quickly. Allen only uses acid stains on its Slip Stone projects.

After completing a few local projects, SlipStone, Inc. was contacted by the Department of Transportation. The new technology intrigued it, and it requested a demonstration. After much communication, testing by CA DOT, and research, a Federal concurrence supporting textured barrier walls was received from the Federal Department of Transportation in Washington, DC. SlipStone, Inc. now has a system that meets all DOT standards.

SlipStone is adaptable to most slip-forming machines, such as Power Curber, Miller, and GOMACO. The rollers are interchangeable and attach to an adjustable bracket. It takes 10 minutes to take one roller off and put another on. Stacking mold designs on a single roller offers additional possibilities highway sound barrier walls.

In a typical 9-hour day using traditional forms, Allen says his crew can produce about 36 feet of concrete wall. Using the Slip Stone system his crew accomplishes 600 feet in the same time. "Our goal is 1,000 feet in a 9-hour day using a Gomaco machine with our Slip Stone roller. --- producing a Slip Stone Extruded Wall at \$60 a linear foot is not a bad day's revenue."

Allen holds the patent rights to the process in the United States, Canada, Japan and several other nations. At the 2004 World of Concrete, Slipstone won the Most Innovative Product Award as the Experts' Choice in Concrete Placing and Finishing Equipment. The first project in the US to use the SlipStone extruded wall system, 8.26 miles on State Route 1 in San Luis Obispo County, California, was honored as a Notable Practice by the AASHTO Center for Environmental Excellence in its Best Practices in Context Sensitive Solutions (CSS) Competition. Dufferin Construction of Canada received the 2005 Canadian Construction Association Excellence in Innovation Award for constructing median and barrier walls with its new Slipstone Extruded Wall System.

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**"14" High Barrier Curb**



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