

## ICF Block Construction Taking Industry By Storm

Originally published by Razorback Concrete Company, June 2011 - <http://www.razorbackconcrete.com>

In a part of the country where violent weather is common, a wall-building technique that utilizes concrete to give walls tornado-resistant strength is taking the construction industry by storm.

The growing popularity of Insulating Concrete Forms (ICF) for both commercial and residential building projects is creating new opportunities for building safe, energy-efficient and quicker-to-assemble structures. Just as important, it's also creating new business opportunities for concrete suppliers like Razorback Concrete.

ICFs are typically made by using hollow forms such as ARXX that have varying thicknesses of expanded polystyrene on either side of an interior void. The frames are delivered to the construction site and filled with reinforcing steel and concrete. The blocks can be cut to size and shape and stacked to create walls of the desired dimensions. Once the concrete has cured, a crane hoists the finished frames into place.

Razorback has recently participated in two ICF projects in Arkansas. The Paragould plant supplied 180 cubic yards of concrete for ICFs for TaMolly's, a new Paragould restaurant built by Bell Corley Construction, Little Rock. Razorback's North Little Rock plant furnished 100 cubic yards to build walls for a new 5,000-square-foot retail center in North Little Rock, built by Hart-Lazenby Construction, also of Little Rock.

Smart Structures Distributing, the Little Rock-based regional distributor of ARXX brand ICFs, supplied the forms for the TaMolly's project. An estimated 250 blocks were filled to assemble walls ranging in height from 27 feet to 14 feet. The blocks' eight-inch cores were filled with Razorback's 3,000-psi, ¼-inch-to-3/8-inch aggregate.

Patrick Howell, president of Smart Structures, said Razorback was an ideal supplier because it understands the unique demands of ICF projects relative to aggregate consistency, the special pouring and pumping challenges and the importance of synchronized teamwork in filling the forms.

"You must have just the right size aggregate so it can move through the pump used to fill the forms, and on pump day it's critical that the timing and flow of concrete is controlled and that the slump is kept around a five or six so it will pour properly," Howell said. "It was important to have a company like Razorback that makes sure the trucks are there when needed on a job like this. It's a team effort to get an ICF project done."

The Hart-Lazenby retail center job is the first of several similar ICF projects in which Razorback will have a hand. Joey Stevens, a Hart-Lazenby partner, said ICFs are going to be seen in more commercial and residential projects in Arkansas, where storm-resistance is a high priority.

"In Arkansas, wind codes for buildings are now around 90 miles per hour; ICF blocks are rated to withstand winds of up to 200 miles per hour," he said. "Basically, you're getting a tornado shelter when you build with these panels."

But storm resistance isn't the only attractive feature of ICFs, Howell said. The polystyrene and concrete construction delivers a high fire-rating and resists the formation of mold because there are few voids that can trap air and moisture. Plus, the method of assembly saves considerable time over traditional wall construction. "It's like working with Lego blocks," he said. "They stack together and go up quickly."

While commercial applications account for the greatest use now, Howell projects the use of ICFs in Arkansas residential construction could grow from around 1 percent now to 7 to 10 percent in a few years. If that happens, it will be a boon for concrete suppliers like Razorback. "The emergence of ICF means a need for more concrete," he said. "On a typical project, walls mean a couple hundred yards more of concrete."

Clearly, Razorback is excited to have a role in the emergence of ICF construction. It has worked closely with Smart Structures to develop a customized mix for ICF applications designed to be pumpable and to cure to between 5,000 and 6,000 psi. Razorback sales manager Joey DeRoe said there's a great opportunity to sell more concrete and be on the cutting edge of new construction technology.

"It's a versatile building product that can be used with a great deal of success to address everything from storm resistance to energy savings to reducing exterior.