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GOING GREEN

## It's Rastra, Mon

By JEREMY KAHN

The musicians who come to play at One World Theater, a 300-seat performance space in Austin, Tex., often say there's something different about the place. The way sound reverberates off the curved back wall. The fact that it always seems cool and quiet, removed from the traffic and broiling Texas sun outside. But what the performers never seem to suspect, says the theater's co-owner, Julian Goldstein, is that the place is built out of old coffee cups and packing peanuts.

Or to be more precise, it is made of Rastra, a composite of recycled polystyrene, cement and concrete that, thanks to the growing attraction of green living, has become one of the hottest building materials in the United States. More than 6,000 structures — ranging from a traditional three-bedroom house in the Poconos to a four-story block of loft apartments in Portland, Ore. — have been built in the United States using Rastra, the vast majority of those in the past five years. (Rastra was created by a group of European engineers in 1972, but it has taken a long time to catch on here.) The material is popular among the environmentally conscious for two reasons. All the polystyrene foam used in its production is recycled. And because foam accounts for 85 percent of its volume, Rastra is a remarkable insulator, greatly reducing energy costs.

The stuff is also practically indestructible. It is fireproof, resistant to high winds and in laboratory tests has withstood a simulated earthquake of 8.5 on the Richter scale. Termites can't eat it, nor can mold grow on it. "Katrina and all these brush fires have been great advertising for us," says Karl Holik, the president of the Rastra Corporation.

A standard Rastra block is 10 feet long, 10 inches thick and 15 inches high. These porous, pumicelike blocks are stacked, either horizontally or vertically, and held in place with urethane glue or metal staples. Steel rebar and poured concrete are then inserted into the form at 15-inch intervals. Despite its blocky beginnings, Rastra can be formed into almost any shape using simple tools, so making rounded walls, niches, pop-outs and circular windows is much easier than with wood framing or cinder block.

Rastra has a few downsides: it can be about 10 percent more expensive to build with than wood, although proponents say it more than covers the price difference within a decade through savings on energy bills and insect-proofing. And while it's far lighter than pure concrete, a standard Rastra block still weighs 150 pounds, which can make it expensive to ship. But perhaps the biggest concern with Rastra is obtaining it at all: the material has become so popular that the company — with just one North American plant, in Pima, Ariz. — can't keep up with demand. Deliveries can take up to 12 weeks. (The company hopes to open two more plants, in New Mexico and Ohio, by next summer.) Still, to many who care about green building, the minor inconvenience is worth it. As Goldstein, of One World Theater, says, "There's an intrinsic value in a building that is also helping the planet."

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