

Against all elements

■Architect Russell Johnson set out to build a house that could withstand fires, earthquakes and even termites. And in the process, he created a home with livability and style.

By Tina Daunt, Times Staff Writer

Termites by the thousands were chewing through the frame of architect Russell K. Johnson's Santa Monica condominium. Even a hefty dose of pesticide couldn't kill the destructive insects. "They just kept eating away," he said. Frustrated, he decided to do what many might consider impossible: build a stylish, modern home immune to the damaging effects of pests and the elements, a place tough enough to withstand fires and earthquakes.

Johnson, 55, considered an array of alternative building materials, searching for permanence in a place where nature and society often render architecture disposable. "There had to be a better material than wood," he said. "I looked into straw bales, rammed earth, rubber tires, you name it." None of those made sense.

Finally, while researching his problem on the Internet, he stumbled upon a material that seemed to meet his goal: 12-inch-thick building blocks made of recycled Styrofoam mixed with cement. The system, called Rastra, had been invented in 1972 by a mechanical engineer in Austria. Although builders were using the large bricks extensively in Arizona and New Mexico to replicate thick adobe walls, no one had used Rastra to build a house in Los Angeles. Johnson decided to be the first.

Three years later, Johnson and his wife, Maryann Fraser, reside on the Westside in a home that they believe is impervious to almost any malady to befall a house, especially fire. "There is no wood in the construction of the house," Johnson said. "There's nothing to burn."

With tough materials and a simple design, Johnson was determined to create a structure that will stand the test of time.



Inside story
(Robert Gauthier/LAT)



Serene and secure
(Robert Gauthier / LAT)



Built to last
(Robert Gauthier / LAT)



Personal touch
(Robert Gauthier / LAT)

"In a typical house nowadays, there are 20 different sizes of wood, 10 different kinds of nails and screws," Johnson said. "With Rastra, you use five or six materials.... In Europe, homes are built to last centuries instead of 50 to 80 years, like they are here. That was one of our basic concepts here: Build a home that will survive 500 years."

One thing is certain: No termite will ever make a meal of these walls.

The house, located in Westside Village near Overland Avenue, is the architectural equivalent of a Hummer. It's a solid, boxy-looking place that stands out yet somehow fits into its neighborhood of 1940s single-family homes. Inside, it's spacious, with high ceilings and a wall of double-glazed windows that frame a backyard shaded by mature poplar trees.

Everything about this place reflects Johnson's sensibilities. He's a practical man who grew up on a farm in Minnesota, learning how to use every tool in his father's shed. He fixed tractors, built barns and dabbled with contemporary art, creating sculptures out of metal scraps. Trying to meld his artistic side with a love of building things, he headed off to study architecture at the University of Minnesota. After graduation, he apprenticed as a cabinetmaker.

"I always believed in the European concept that says you should work in the trades for a while to learn things for yourself," he said. Looking for a warmer climate, Johnson made his way to Los Angeles in 1979. He earned a reputation as a top kitchen architect and designer, working for a celebrity clientele that included movie producer Joel Silver and chef Wolfgang Puck.

Inspired by Frank Lloyd Wright, the first U.S. architect to blend the functionality of buildings, interiors and furniture into a single concept, Johnson wanted to design and build his own home. He also admired R.M. Schindler's work, but Johnson found it troubling that some of the architect's structures were badly weather-beaten. "Schindler had done a lot of work on the outside of his buildings with wood. Some of that is all rotted away and termite-eaten. I thought, 'Something needs to change here.' "

After his own termite debacle at the Santa Monica condominium, Johnson decided to act. He learned about Rastra on a Web site dedicated to environmental news. Determined to find out more, he drove to Redlands and Palm Springs to look at several houses built from the material. Next, he combed through test data and case studies.

"There was testing done at UC Irvine that showed that Rastra is about seven times stronger than a wood-framed wall," he said. Because it's tied more securely to the foundation, Johnson believes it will survive earthquakes better than conventional homes. The sturdy blocks also provided enough insulation to keep the house warm in winter and cool in summer. Although building costs would be about 10% more than they would with conventional materials, Johnson decided to move forward. "It just seemed like the right answer."



No wood
(Robert Gauthier / LAT)



Keeping it simple
(Robert Gauthier / LAT)



Quiet elegance
(Robert Gauthier / LAT)

Johnson and Fraser went looking for a lot to build their dream home. They considered buying an old house and tearing it down, but that seemed impractical. "Why spend hundreds of thousands of dollars on something that is just going to be bulldozed?" he said.

Eventually the couple found a small, tree-shaded parcel near the 10 Freeway. "We immediately liked the lot because of the trees," Johnson said. After closing escrow, he went to work on designing the house. He wanted a two-story, modern-looking structure, but he didn't want the building to overpower the traditional ranch-style houses in the neighborhood.

"I wanted to stay fairly conservative," said Johnson. "As you get older, things that you thought were really far out in the '60s suddenly look kind of dated in 2003. I didn't want anything too wild."

He did, however, want a wall of windows facing the backyard, "something with a lot of natural light," Fraser explained. The windows — all double-glazed to block out heat and harmful ultraviolet rays — could also be retrofitted to include roll-down steel shades, to protect them from fire. "This house became a prototype of sorts," said Johnson, who designed the house so it comprises three large rooms and two baths. "We were inventing it as we went along."

With plans in hand, Johnson headed to downtown Los Angeles to obtain building permits. At first, city officials weren't sure what to make of the proposal. "This was new to them," Johnson said. But they gave the architect the go-ahead to build the 2,000-square-foot structure. Acting as his own contractor, Johnson hired two construction workers to help him put the house together.

"I had worked with them on another project," he said. "One of them was 23 and the other was 24. They wanted to learn how to build a house like this. They became my right hand and my left hand."

The architect ordered hundreds of hollow Rastra blocks, which were delivered on a flatbed truck from a production facility in Arizona. The men stood on scaffolding, pulling the heavy bricks up with ropes. They stacked the blocks nearly two stories high and then reinforced the material with rebar. "I got a lot of blisters on my fingers," Johnson said. The hollow centers were then pumped full of concrete, forming a thick, solid wall.

While he was building the house, he was also running his own architecture firm. Suddenly he was inundated with work. He would have to delay construction on the house for days, even weeks. The neighbors started wondering what was going on. "They were very curious about it all," Johnson said. "They would come out to watch and ask questions. Luckily, they were all very patient and understanding."

The residents weren't the only ones interested. Firefighters from a nearby station heard about the project and decided to visit the site. "They thought it was very unusual and wanted to know more," Fraser said. "After that, they came by maybe once a month — a whole firetruck filled with firefighters — to see how things were going."

At last, after two years of sporadic work, the roof was sealed with a thick coat of polyurethane foam. The exterior of the house was finished.

The couple hired a landscaper to design a drought-resistant garden in the front and back yards while Johnson went to work on the interior. The residence became a laboratory of sorts, where the architect could mix modernistic design with cutting-edge appliances and sleek furnishings.

A simple cream-colored couch from Plummerts softens the hard surfaces in the house's large main room, a free-flowing space with a 14-foot ceiling and a 30-foot-wide wall of windows. "We really wanted an indoor-outdoor feel," Johnson said. A black leather Le Corbusier lounge chair adds contrast to the neutral-colored living room.

An open kitchen takes up a far corner of the room; four black office stools are placed next to the breakfast bar. "Instead of getting uncomfortable kitchen stools, I decided to get the steel-encased Criterion stools, which are very comfortable," Johnson said.

He designed a glass and marble dining room table and built the kitchen cabinets himself, using a plywood made of compressed maple. "You could drive a car on this and it wouldn't break," Johnson said.

As an added luxury, he placed a small hot water tank under the kitchen sink, so steaming water is always on tap to make tea.

In the house's first-floor bedroom, decorated in golden earth tones, a large glass door opens to an enclosed patio, covered with black slate and draped in foliage.

On the walls of the house are paintings, architectural photos and geometric line drawings, most of them created by Johnson. "I decided I was going to try to master realism," he said, pointing out a large painting of ocean waves.

There are few knickknacks in the house. "I try to keep things fairly simple," Johnson said. "The more complicated things get, the easier it is for them to break down."

The floors on the first level are lined with cream-colored limestone. On the second level, where Johnson runs his architectural business out of a single room, the floor is colored concrete — greenish brown with a red tinge. "Again, we didn't want wood floors because we wanted something that wouldn't have to be replaced," Johnson said. The walls throughout the house are coated with a thin layer of stucco, painted white.

"I think of contemporary homes as not always being the warmest environments," Fraser said. "But Russell did a great job creating a house that feels warm and inviting. It shows that you can have something forward-thinking that is also beautiful and comfortable to live in."

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