

Fire victims at home with steel framing

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By Marty Graham

When Dave Aguilar got a second chance to build his family's dream house after the 2003 Cedar fire swept through their Blossom Valley neighborhood, he and his wife, Nanci, decided to take a step they had considered and rejected the first time: They built the home with steel framing instead of wood.

"I'd looked into it and decided against it the first time because of the cost," said Aguilar, 48. "The fires really brought the safety issue home, and we decided quickly to rebuild with steel."

Many fire victims have made

similar choices.

"Of the steel-framed homes we've seen, the majority are fire rebuilds," said Darren Gretler, chief of the building division for San Diego County. "It may just be that the time is right to look at steel framing. We haven't seen any tract developments with it."

It took longer and cost more to build, but Aguilar's insurance company dropped his rates to one-third of what his neighbors pay. And the Aguilars don't worry much about the things other homeowners do.

"It's five times stronger in an earthquake and much less like-

ly to burn in fires," Aguilar said. "And the termite issue goes away forever."

It's more expensive, however. Framing in steel costs about 10 percent more than wood, said Aguilar, a landscaper. "It's heavier and more labor-intensive," he said.

The family's 2,900-square-foot, two-story home doesn't look much different from the neighboring houses, with stucco walls and lots of windows to enjoy the hillsides of Blossom Valley.

The wide valley, with sweeping views of rock formations

Inspectors from the county took some convincing

and mountains to the east, is verdant from the recent rains. Most of the houses appear new. That's because 12 homes visible from Aguilar's hillside burned in the Cedar fire.

The Aguilars salvaged little, starting over in a rented home while they slowly rebuilt a house they had built eight years ago.

They decided to go with steel framing because wood framing is what caught fire in 2003. Houses commonly ignite during wildfires when embers enter homes under the eaves and burn the framing.

Steel framing has been common in commercial buildings for years. All tall buildings have steel framing rather than wood. But it has remained rare in the home-construction arena, said Robert Bolles, a longtime green builder.

"You don't want to say the buildings are unburnable, like the Titanic was unsinkable," Bolles said. "If you get it hot enough, the concrete can crumble and the steel can bend, but they sure don't burn as readily."

Bolles said the framing is

made with at least 70 percent and as much as 97 percent recycled steel.

"It requires a little engineering because steel does handle stress differently than wood," he said. "But there's plenty of knowledge and experience to call on since people have built buildings and bridges and such with it for many years."

Like wood framing, the steel studs are centered at 16 inches, and extra support is added at the windows and doors.

Besides the sealed eaves and the lack of brush near the four-bedroom house, there's nothing to suggest the home stands ready to resist fire. While his insurance company loved his steel house, the county building inspectors weren't so sure, Aguilar said.

"They weren't too familiar with it, so I had to get letters from the steel engineer to get the inspectors to sign off on it,"

Aguilar said.

Matt Olson, a structural engineer with San Diego County who inspects similar projects, said the department expects to see engineering reports to approve steel frames.

"It is less conventional than the standard wood framing, so we tend to need different detailing and almost always require engineering to make sure it's structurally sound," Olson said.

In 2005, Dave and Nanci Aguilar and their son, Eli, 9, and daughter, Andi, 6, moved back in — 18 months to the day after the first house burned — and they plan to stay.

"We feel safe here," Dave Aguilar said. "I want other people to know about the steel framing and how to build a house that improves your odds so they can have the feeling of safety, too."

