Marty Welch pauses outside his York, Mont., house built with concrete material formed to resemble logs Tuesday, May 20, 2008. Welch says he wanted to build a house in a forest setting and chose the materials partly because of their fire resistance. (AP Photo/ Susan Gallagher)

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Faux logs trim homes' fire risk in woodlands

Susan Gallagher - THE ASSOCIATED PRESS

YORK, Mont. -- Marty Welch hopes the Montana forest near his new house doesn't burn during the summer wildfire season, but if it does, the Indianapolis man is optimistic his retirement getaway will be left standing.

The four-bedroom house a stone's throw from the Helena National Forest has the look of hewn logs and suits its rustic setting. But the walls of Welch's house, built in 2006, are made of concrete. The roof is green metal.

"I wanted a house I wouldn't have to worry about during the fire season," said Welch, who spent part of his boyhood on this property. Now retired as a regional sales manager for a tool company, he divides his time between Indianapolis and York, about 20 miles from Helena.

The faux logs that Cultured Log Systems of Missoula began producing commercially in 2004 form the walls of 30 houses around the country and are in a couple of golf buildings at the ultraexclusive Yellowstone Club north of Yellowstone National Park. Work on a Louisiana hunting lodge is nearly finished.

Dick Morgenstern of the Missoula area designed the patented, concrete log after 25 years of precasting concrete for stadiums, parking garages, bridges, sewer manholes and other projects. He set about developing the log when forest fires in the Bitterroot Valley south of Missoula burned 356,000 acres and 70 houses in 2000.

"They were wrapping homes in tinfoil," Morgenstern said. "I'd had this log-home thing in the back of my head for years, and I started experimenting."

He made a rubber impression off of real wood, then transferred that impression to concrete. Tinting to achieve wood's color came later.

"I didn't want something out there that look like rock or plastic," Morgenstern said. "I wanted it to be believable."

The logs, produced in Missoula, have a polystyrene core encased by concrete reinforced with metal rods. Cultured Log Systems has produced a log as long as 28 feet.

For the consumer, cost runs 10 percent to 20 percent higher than the price of milled, wood logs but is comparable to the price of handcrafted logs, said Stewart Hansen, the company's president.

Besides the hand-hewn look in Welch's home, the products of Cultured Log Systems include a round log and a square-timber style. Knots, saw marks and tree rings are replicated. Off-white lines of caulk, or chinking, band the concrete houses, as they do homes built with traditional wood logs.

"One of the reasons I chose this was low maintenance," said Welch, whose wife, Susan Shallabarger, joins him at the house when her work commitments in Indianapolis allow. "I kept saying I'd love to have a log home, but there's so much maintenance. Once I had the house built, I wanted to enjoy it, not feel like I had to come out here and work on it."

Hansen said Cultured Log Systems sells to people concerned not only about fire risk and maintenance, but about wood logs' shrinkage over time.

"You will get some shrinkage as the logs dry," said David Gray, vice president at Montana Log Homes in Kalispell. But in modern construction, shrinkage is "well addressed" by builders who factor it into their plans, Gray said.

Cultured Log Systems also touts faux logs as a defense against termites.

Tests have found the construction exceptionally energy efficient, according to the National Center for Appropriate Technology, a nonprofit that works on sustainability issues from its Montana headquarters and five field offices nationwide.

If there's a drawback, Welch said, it lies in remodeling.

"If you were going to add a room, that might be difficult," he said.

Hansen acknowledges the environmental concerns surrounding production of concrete. Cultured Log Systems is experimenting with use of fly ash, a byproduct of coal production, as a replacement for cement, which requires considerable energy to produce and is a key ingredient in concrete.