

PORTTRAITS

FRIDAY, MAY 8, 2002

DAILY CAMERA

SECTION D

PANEL VISION

INSULATION 'SANDWICHES' MAKE UP EARTH-FRIENDLY MOUNTAIN HOME

Story by Julie Marshall
Photos by Jon Hetch
Daily Camera

HOME & GARDEN

Andy Fitzgerald runs his knuckles on a living moment wall that was power-washed together hours ago. Traces cut in the walls show where windows will soon be set to offer a lifetime view of snow-capped mountains rising above a gleaming lake surrounded by dense forest.

The scenery is stunning, but the wall is a marvel, too. Fitzgerald says, poking his finger into a wedge-shaped piece of Styrofoam tucked in between two solid boards, comprised of wood chips. The technology is called Structural Insulated Panels (SIPs). Manufacturers say the recycling-rich building method is 50 percent more energy efficient than traditional construction.

"It's so stable, quiet and airtight," says Fitzgerald, who is building a two-story, Swiss chalet-style retirement home for a hill in Ward. "That's important, because we get folks up here like a son-of-a-gun."

Fitzgerald, who has a 30-year career as a counselor in the older Valley School District, never thought himself a handy man or an environmentalist. But as it is out, he's both. The married is rich in fact — he has wife, Jean, bought the lot in 1978 for \$10,000. He's become a fan of Earth-friendly action, and the roof and walls of 200-square-foot home, fitting the garage still be out of SIPs. The panels are made of scrap wood that is much of it virgin wood used in traditional framing.

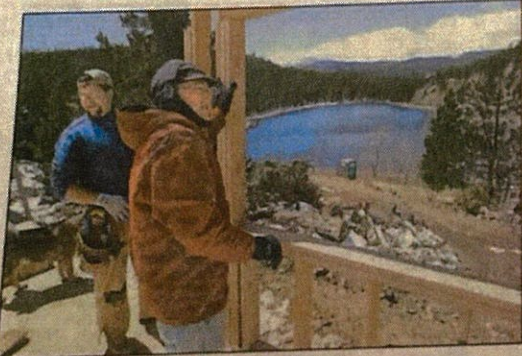
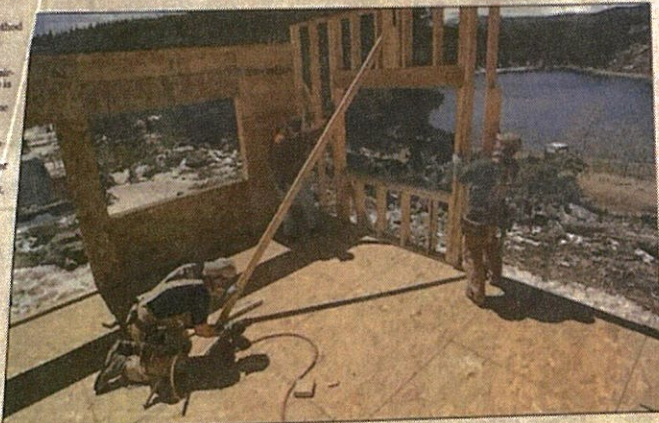
aren't free & easy, however. Some of the builders say in the oriented board that sandwiches the, as well as glue the panel together, by using toxic chemicals. And if the case of which are glued and laminated, be an extended danger. But industry enter but traditional ing requires similar and manboard is in those homes as e seants can e chemicals from t, they say. less, breezy day at the job site with a hammer work to help out. A ago, he helped to haul two 6,000 pounds of panels onto the homeowner

"They look like a white Swiss cookie," Fitzgerald says. The panels cost more than lumber, Fitzgerald says. But SIPs builders, such as Premiere Building Systems, say he will save money in the long run, based on energy bills. It makes sense, says Matt Lucy, part owner of Dore Wright Builders in Boulder County. "Heat will be trapped if you have a wall of solid insulation inside its panels," he says. In the summer, SIPs stabilize cool temperatures indoors.

Home on WARD on 42



Window and door openings are pre-cut in the Structural Insulated Panels that make up this home near Ward.



Above, James Nasty, left, and Matt Lucy of Dore Wright Builders work on the home of Andy Fitzgerald, center, at Hidden Lake near Ward. The home uses Structural Insulated Panels technology, which reduces energy bills. The SIPs, left, are manufactured to architectural specifications. The partial wall with studs, right, is the only part of the house built in the traditional way.

Left, Andy Fitzgerald, right, holds up a framed wall in his home being built with SIPs. James Nasty, behind, is one of the builders working on the home.

SECTION D

Friday, May 8, 2002

FROM PAGE 1D

Ward home built with SIPs

Continued from 1D

Around 1 p.m., Lucy and his partner, James Nasty, take a lunch break in the sun with their dogs. This is their fifth home project using SIPs.

The technology probably hasn't caught on yet, the builders say, because people fear the bottom line and don't see the big picture.

The house costs \$250,000 to build with SIPs. A similarly designed house with traditional stick framework would cost approximately \$5,000 less in materials, the builders say. However, the owner saves about \$12,000 in labor. So in the end, Fitzgerald saves an estimated \$7,000 in overall construction.

Framing a roof, for instance, tends to be very labor intensive, Lucy says. A SIPs roof takes four hours; a framed roof can take more than a week.

"The fact the home came fully insulated in all its exterior walls and the roof is another major savings in labor," he says.

The process works like this: An architect sends a blueprint to Premiere or another retailer, which then sends back what is essentially a home-building kit. Doors and windows are pre-cut. Holes are pre-drilled through the Styrofoam to serve as electrical channels.

"You end up just pulling the wires through," Nasty says.

Each panel is made with a channel or groove on all four sides. The entire wall of a home ends up straddling a 1-foot by 4-foot continuous plank that is glued, nailed and screwed to the floor. Individual panels are locked together by a piece of strand



Panel called SIPs or Structural Insulated Panels, wait to be installed on a home outside of Ward. The 10-inch-wide frames panels are made with an 'R' for the roof.

Photo by Jon Hetch
Daily Camera

board, called a spline, that clips into the side grooves.

"You get one big clear panel that has structural integrity," Lucy says. "It's very solid when done."

Nasty can't emphasize enough the recycling angle.

"At most jobs when the waste is incredible. In this case, there's nothing being cut so there's drastically less dimensional lumber going to the landfill," he says.

The environmental angle is what inspired Julie Herdt to use SIPs when building her north Boulder home last year.

SIPs have been around at least

50 years, says Herdt, a Boulder architect. "It's been slow to get onto the construction market because it goes against traditional wood-framing methods," she says.

Herdt lives in "The Farm House" — the culmination of her dream to create a home made of agricultural-based materials.

Some of her wall panels are insulated with wheat straw instead of Styrofoam, but not all, because the Tennessee company that supplied it went out of business before her home was completed.

"The technology is there, I hope it comes back," she says.

"As an architect, my job is to show the public how to use, and make profitable, alternative materials."

It seems of making SIPs into Herdt painted Salsford — a clear, low-toxicity material — in the middle being into her home. "You can seal the stuff so it won't leech out," she says.

It would be nice if the industry chose to use safer products from the beginning, Herdt says. "They glue and other, kinder products exist, but people are just a little afraid."

Her home has generated much interest. A tour group from Vietnam is scheduled to visit next month. There is a growing interest in finding alternative materials that are healthier to the consumer and more environmentally friendly, she says. Fitzgerald found out about SIPs from a neighbor who was asking them to build a home. He pointed around and asked questions. They're glad to have found a product that will get his home built fast, before his 50-year wedding anniversary on July 5.

Just six months ago, the Fitzs were calling, asking if he had any wood to sell. The couple could have gotten 20 times what they paid for the land. If they remembered the days I visited the spot for pictures of their four kids, and the choice came easy.

"This is such a neat spot, planning on this house but here for my family Herdt. For details on a home in Andy Fitzgerald, (303) 491-4911. Contact Julie Marshall, (303) 479-1205 or marshall@dailycamera.com

PANEL VISION - INSULATION 'SANDWICHES' MAKE UP EARTH-FRIENDLY MOUNTAIN HOME

*By Story by Julie Marshall, Camera Staff Writer May 3, 2002 Publication: Daily Camera
(Boulder, CO) Page: D1 Word Count: 1245*

Andy Fitzgerald raps his knuckles on a living room wall that was power-nailed together hours ago. Holes cut in the walls show where windows will soon be set to offer a lifetime view of snow-peaked mountains rising above a glistening lake surrounded by dense forest.

The scenery is stunning, but the wall is a marvel, too, Fitzgerald says, poking his finger into a 6-inch-wide piece of Styrofoam tucked in between two solid boards comprised of wood chips. The technology is called Structural Insulated Panels (SIPS). Manufacturers say the recycling-rich building method is 58 percent more energy efficient than traditional construction.

"It's so stable, quiet and air-tight," says Fitzgerald, who is building a two-story, Swiss Chalet-style retirement home atop a hill in Ward. "That's important, because we get winds up here like a son-of-a-gun."

Fitzgerald, who has a 30-year career as a counselor in the Boulder Valley School District, never thought himself a wealthy man or an environmentalist. But as it turns out, he's both: The 70-year-old is rich in luck -- he and his wife, Joan, bought the area's most pristine lot in 1978 for \$10,000. He's become a model of Earth-friendly action because the roof and walls of his 2,000-square-foot home, including the garage, will be made out of SIPS. The panels are made of scrap wood that replaces much of the virgin timber used in traditional house framing.

SIPS aren't free of controversy, however. Some architects and builders say adhesives in the oriented strandboard that sandwiches the panels, as well as glue holding the panels together, can slowly release toxic chemicals. And in the case of SIPS, which are tightly compressed and laminated, there may be an extended period of danger. But industry experts counter that traditional wood framing requires similar adhesives and strandboard is often used in these homes as well. Proper sealants can prevent toxic chemicals from leaching out, they say.

On a cloudless, breezy day, Fitzgerald is at the job site, wearing his red flannel work shirt and ready to help out. A couple weeks ago, he helped his two builders haul two truckloads of 43,000 pounds of SIPS (about 100 panels) onto the ground. The homeowner points to a stack of SIPS behind the house, which are destined to become his roof. Each roof panel appears as a 10-inch thick slab of Styrofoam sandwiched between two 24-foot by 4-foot slabs of wood.

"They look like a white Oreo cookie," Fitzgerald says.

The panels cost more than lumber, Fitzgerald says. But SIPS retailers, such as Premiere Building Systems, say he will save money in the long run, based on energy bills.

It makes sense, says Matt Louy, part owner of Done Wright Builders in Boulder County. "Heat will be trapped if you have a wall of solid insulation inside its panels," he says. In the summer, SIPS stabilize cool temperatures indoors.

Around 1 p.m., Louy and his partner, James Nasty, take a lunch break in the sun with their dogs. This is their fifth home project using SIPS.

The technology probably hasn't caught on yet, the builders say, because people fear the bottom line and don't see the big picture.

The house costs \$200,000 to build with SIPS. A similarly designed home, with traditional stick framework, would cost approximately \$5,000 less in materials, the builders say. However, the owner saves about \$12,000 in labor. So in the end, Fitzgerald saves an estimated \$7,000 in overall construction.

Framing a roof, for instance, tends to be very labor intensive, Louy says. A SIPS roof takes four hours; a framed roof can take more than a week.

"The fact the home came fully insulated in all its exterior walls and the roof is another major savings in labor," he says.

The process works like this: An architect sends a blueprint to Premiere or another retailer, which then sends back what is essentially a home-building kit. Doors and windows are pre-cut. Holes are pre-drilled through the Styrofoam to serve as electrical channels.

"You end up just pulling the wires through," Nasty says.

Each panel is made with a channel or groove on all four sides. The entire wall of a home ends up straddling a 2-foot by 6-foot continuous plank that is glued, nailed and screwed to the floor. Individual panels are locked together by a piece of strand board, called a spline, that slips into the side grooves.

"You get one big sheer panel that has structural integrity," Louy says. "It's very solid when done."

Nasty can't emphasize enough the recycling angle.

"At most job sites the waste is incredible. In this case, there's nothing being cut so there's dramatically less dimensional lumber going to the landfill," he says.

The environmental ethic is what inspired Julie Herdt to use SIPS when building her home in Boulder last year.

SIPS have been around at least 50 years, says Herdt, a Boulder architect. "It's been slow to get onto the construction market because it goes against traditional wood-framing methods," she says.

Herdt lives in "The Farm House" -- the culmination of her dream to create a home made of agricultural-based materials. Some of her wall panels are insulated with wheat straw instead of Styrofoam, but not all, because the Texas-based company that supplied it went out of business before her home was completed.

"The technology is there, I hope it comes back," she says. "As an architect, my job is to show the public how to use, and make profitable, alternative materials."

In terms of making SIPS safe, Herdt painted SafeSeal -- a clear, low-to-no-toxin sealant -- on the panels facing into her home. "You can seal the stuff so it won't leach out," she says.

It would be nice if the industry chose to use safer products from the beginning, Herdt says. "Soy glue and other, kinder products exist, but people are just a little afraid."

Her home has generated much interest. A tour group from Vietnam is scheduled to visit next month. There is a growing interest in finding alternative materials that are healthier to the consumer and more environmentally friendly, she says.

Fitzgerald found out about SIPS from a neighbor who was using them to build a home. He poked around and asked questions. He's glad to have found a product that will get his home built fast, before his 50-year wedding anniversary on July 5.

Just six months ago, the Realtors were calling, asking if he and his wife wanted to sell. The couple could have gotten 20 times what they paid for the land. But they remembered the days they visited the spot for picnics with their four kids, and the choice came easy.

This is such a neat spot. I'm planning on this house being here for my family forever.

For details or a home tour, call Andy Fitzgerald, (303) 459-3000.

Contact Julie Marshall at (303) 473-1305 or marshallj@thedailycamera.com.

Window and door openings are pre-cut in the Structural Insulated Panels that make up this home near Ward. Above, James Nasty, left, and Matt Louy of Done Wright Builders work on the home of Andy Fitzgerald, center, at Hidden Lake near Ward. The home uses Structural Insulated Panels technology, which reduces energy bills. The SIPS, left, are manufactured to architectural specifications. The partial wall with studs, right, is the only part of the house built in the traditional way. Left, Andy Fitzgerald, right, holds up a framed wall in his home being built with SIPS. James Nasty, behind, is one of the builders working on the home. Panels called SIPS or Structural Insulated Panels, wait to be installed on a home outside of Ward. The 10-inch-wide foam panels are market with an 'R' for the roof. Photos by Jon Hatch/Daily Camera

Daily Camera (Boulder, CO)

Date: May 3, 2002

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