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He Used A Welder To Build Their Dream House

By Dee Goerge, Contributing Editor

When it comes to welding, Gary Taber has tackled all kinds of unusual jobs for himself and his neighbors. But there's no question that his biggest job was the 3 years he spent welding together his 7,000 sq. ft., three-level home.

"There are 210 lbs. of welding rods in here," says Taber of Lake Park, Iowa. "I put lightning rods on the roof and nine grounding rods around the house."

The house is a blend of steel I-beam studs and rafters, with thick insulated concrete walls, finished with wood and brick. Taber and his wife, Judy, spent years looking for ideas and drawing up plans.

Judy explains that she wanted an open kitchen, living room and dining room area

without support beams. That's when Gary first suggested using steel. In addition to the main structure, many other items in the home were welded together. The kitchen light, for example, is an old scissor-type casket carrier. The living room chandelier is made from the wheel of a church bell ringer, hung from an old chain hoist.

Gary also made an exhaust fan using drain spout pipe with a hog pit fan on the outside of the house so it's quiet. He built a stainless steel countertop and cut the rim off a regular sink and made an undermount sink, molding the stainless steel in one smooth piece.

He plumbed a hand pump into the half-bath with a steel bucket sink. He bent stainless steel for the outdoor deck railing



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Pulley mounted on 24-in. I-beam over garage (left) comes in handy for unloading heavy cargo. Kitchen light was made from an old scissor-type casket carrier.

and stretched cable for the horizontal rails.

"We wanted a railing that we could see through," Judy says. "And this is no-maintenance."

Even though the walls of the house are up to 19 in. thick, thanks to layers of concrete, Styrofoam and brick, he built a "safe room" under the fireplace. It has a door from one of the farm's old walk-in egg coolers, with a vent over the top to ensure there is fresh air.

He mounted a pulley on the end of an 80-ft. long, 24-in. I-beam outside over the garage.

It comes in handy to unload heavy cargo.

The Tabers' home showcases their eclectic interests from preserving old pieces from the farm, such as a De Laval separator case that held spare parts, to a basement with rooms

with different themes from Western to fishing to the Southwest.

It's also practical, Judy adds, built to be virtually maintenance free and completely handicapped accessible on the main level. Well insulated, it has the same energy costs as homes up to half the size.

Though they live and entertain in the home, it's still a work in progress. Judy has stained glass projects to finish and an endless stream of ideas.

"She thinks of projects and then expects me to do it," Taber laughs. So far she hasn't come up with anything he can't make.

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"Home domes" were created using airforms – big polyvinyl balloon-like shells inflated with air. Main dome is 32 ft. in dia. by 20 1/2 ft. tall.



Photos by Fran Maunder

Connected by covered walkways, the domes house a large kitchen with a balcony, library, 3 bedrooms and a great room.

Many Domes Make Up Their Home

Seven domes make up Eldon Shetler's home on a piece of property near Clay Center, Neb. Connected by covered walkways, the domes house a large kitchen with a balcony, library, three bedrooms and a great room. Another dome serves as a hangar for an experimental plane built by Shetler.

The domes were created using airforms — big polyvinyl balloon-like shells that are inflated with air, sprayed with foam, strengthened inside with rebar both vertically and horizontally, and then coated with gunite concrete. The structures are fire-resistant and able to withstand high winds.

Shetler recalls seeing a photo of a dome home that survived Hurricane Katrina unscathed except for exterior steps, and he has been impressed how his domes handle strong winds.

"This is a much more inexpensive way of building than standard wood construction, and the domes are several times stronger. But there's a big learning curve to the process," says Shetler, who has also built stick houses in the past.

Except for hiring professionals with equipment to blow the foam and concrete, Shetler and his wife have been doing all the work themselves over the past 7 years.

The Shetlers wanted a unique and efficient design for retirement and were intrigued by an HGTV program featuring a California dome home. After visiting the home and talking to the owner, they returned to Nebraska and drew up their own plans. They liked the idea of building several domes connected with beautiful arched passages rather than one big dome. The main dome is 32 ft. in dia.

and 20 1/2 ft. tall. Four domes are 24 ft. in dia. and the smallest dome for the pantry/storm shelter is 16 ft. in dia. The hangar is 38 ft. in dia. Altogether there is about 2,500 sq. ft. of living space.

Shetler is a former biologist/chemist who has had a variety of hobbies over the years. He notes that building the domes has kept him motivated to come up with creative solutions.

He managed to secure grade 60, No. 4 rebar up to 20 ft. long with a curve to fit the domes. He had to figure out how to build windows and doors into the dome. He placed eyebolts at the center of the top of the domes so he could work his way down with climbing gear to paint the foam on the exterior of the domes with Class A acrylic material for ultraviolet light protection.

But the challenges have been worth it.

Shetler recalls how his wife was awed when she first saw the high arches between the domes. A beautiful chandelier hangs from the center of the largest dome. The thermal mass and insulation of the 7-in. walls efficiently holds the heat produced by electric quartz infrared heaters and a woodstove backup.

"I have no plans to put in air conditioning," Shetler says, noting he may use a dehumidifier to deal with humidity if it's a problem.

Because he did most of the work himself, Shetler estimates that the cost for his dome home will run about \$60/sq. ft.

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