

# Champion Enterprises, Inc. Puts the Latest Construction Technology to the Test With the U.S. Department of Energy

## New SIPs home proves stronger, greener and cheaper-to-own. Auburn Hills, MI

Champion Enterprises, Inc. (NYSE: CHB), the world's largest homebuilder, and the U.S. Department of Energy (DOE) partnered in producing the first manufactured HUD-code home constructed entirely with structural insulated panels (SIPs). Off the production line at the end of June, the home is now undergoing rigorous testing thus far indicating superior strength and superb energy efficiency.

"We're constantly exploring technology and building materials that help us enhance the quality and energy efficiency of the homes we build," says Walt Young, Champion's President, Chairman and CEO. "We felt it was our responsibility as the industry leader to participate in this demonstration project and explore how SIPs technology might be adapted into production building."

SIPs are one-piece building panels that consist of a solid core of expanded polystyrene foam sandwiched between oriented strand board (OSB) panels. The technology has been around for more than 50 years, but has been slow to gain popularity in the building industry - an industry that has a reputation for being resistant to change.

"Manufactured housing is about 20 to 30 percent of new U.S. home sales, so there is a great potential for energy savings," said Energy Secretary Bill Richardson. "Homes built with this technology will also allow their owners to save \$550 to \$690 each year on their electric bills. Homeowners who heat with natural gas are expected to save \$146 to \$181 annually."

The 1,384 sq. ft. home, built at Champion's Redman plant in Silverton, Ore., used SIPs in the walls, floors and ceiling. The energy efficiency of the home is being tested by Champion and by energy specialists from DOE's Pacific Northwest National Laboratory. From an environmental perspective, the home, which has already received certification by the Oregon Department of Energy as an Energy Star and Super Good Cents home, is expected to reduce heating and cooling costs by up to 50 percent. Other environmental benefits of SIPs include:

- \* Use of fast-growth harvested farm trees rather than old growth forests,
- \* Use of up to 35 percent less raw timber,
- \* Lower heating bills translating to lower energy/fossil fuel consumption and
- \* Less job site/construction/manufacturing waste.

"In addition to the environmental aspects, we've found the SIPs home to offer great efficiencies in the building and production processes," says Ron Sparkman, Director of Engineering, Champion Enterprises, "which in the end means it is a win-win situation — for the consumer and the industry."

The home recently completed a 300-mile road test and exceeded all expectations. The structural integrity of the home was maintained after more than five hours on roads of varying conditions.

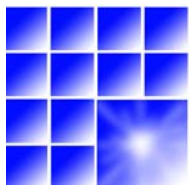
Structurally, the home is superior in terms of wind and seismic resistance, snow load, and soundproofing.

The construction efficiencies included:

- \* Time and labor savings - the traditional framing method of the shell would have involved more than 1,000 parts - with SIPs that number was reduced to 60 panels.
- \* As a manufactured product, the quality of SIPs panels is consistent, as opposed to the varying quality of dimensional lumber. The fact that OSB is cured before construction results in straighter walls, as opposed to 2x 4's that often dry and warp inside a completed wall.
- \* The structural superiority will translate into fewer customer service issues after installation.

**For a consumer, the possibility of purchasing a home constructed with SIPs has many benefits. It is more affordable to own in the long term - it's more efficient, less expensive to heat and cool, and requires less ongoing maintenance. From a livability standpoint, the home is quieter and the interior design is enhanced by the lack of ceiling trusses, which allows for full cathedral ceilings.**

"We are proud to have created the very first SIPs-constructed manufactured home," says Young. "Sturdier, safer, greener and cheaper-to-own, it is worth exploring as an addition to our product offerings. Together with the DOE, Champion's production and tests on this home may prove to make SIPs a staple of our industry."



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