



INSULSPAN®

Structural Insulated Panels

Better building ideas from PFB 

Structural Insulated Panels: **AN INNOVATIVE, ENERGY-EFFICIENT ALTERNATIVE TO TRADITIONAL CONSTRUCTION METHODS**





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Written by William Young

Insulspan Structural Insulated Panels was founded in the early 1980s, and has been an industry leader in the development and production of structural insulated panels (SIPs). Insulspan was one of the first SIP manufacturers to obtain third-party testing and code-listing reports, cementing their leadership and expertise in the industry. To date, Insulspan has produced over 20,000 residential and commercial structures. »

► SIPs are made from two sheets of performance-rated oriented strand board (OSB) that are structurally laminated to either side of a continuous core of expanded polystyrene (EPS) insulation. SIPs can be used for exterior walls and roofs—to create the structural and thermal “envelope” of a home or structure.

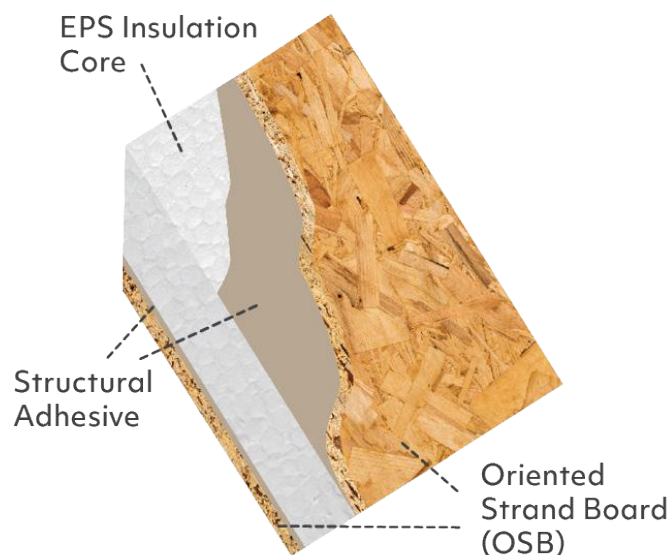
The core of the Insulspan product is EPS that is manufactured by sister company, Plasti-Fab. Insulspan and Plasti-Fab are both part of the parent company, PFB Corporation. Insulspan General Manager, Stephen Munn, says that this vertical integration is unique within the industry, because not only does Plasti-Fab make the EPS that is integral to SIPs, but it also manufactures the resin used to create the EPS foam.

When asked about Insulspan’s largest competitor, Munn states that their main competitor is not another SIP manufacturer, but

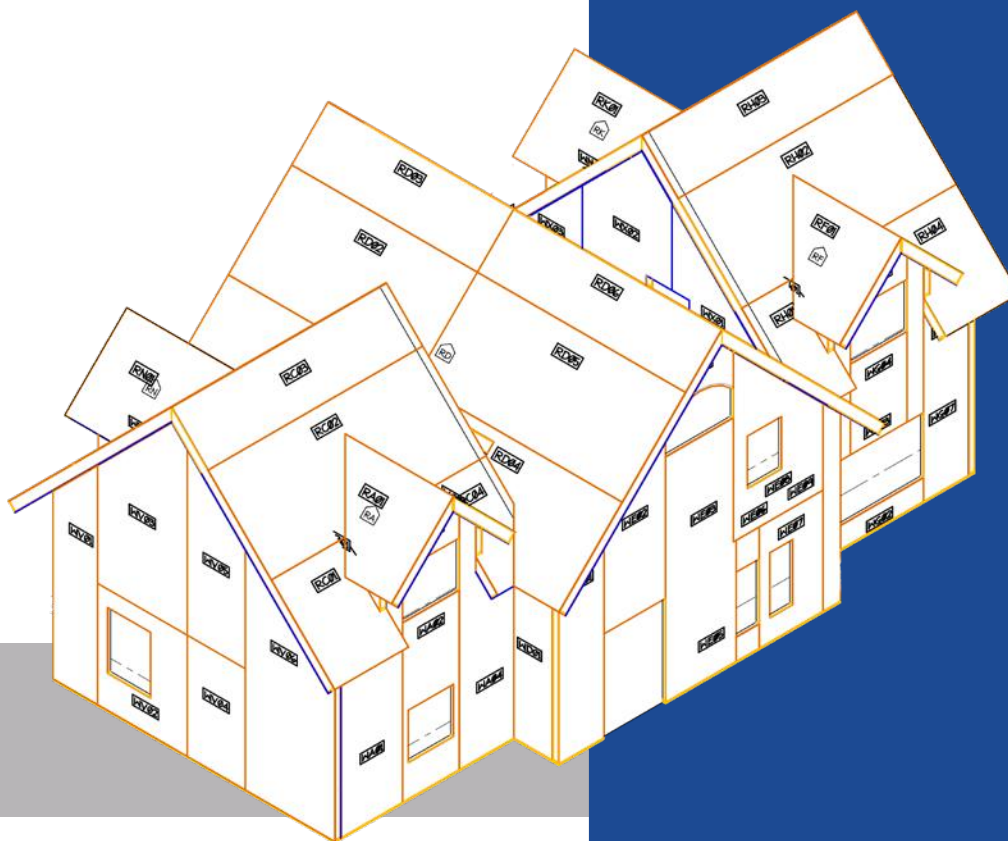
rather they compete mainly against conventional stick framing construction. Traditional framing and insulation methods still hold the majority of market share, while the entire SIP industry is a small but growing percentage of the residential and light commercial construction business.

“Insulspan SIPs have many advantages over other construction methods.”

According to Munn, Insulspan SIPs have many advantages over other construction methods. First and most notably is the superior energy efficiency. The Insulspan SIP System provides wall and roof assemblies with higher effective thermal resistance (R-value) than other construction methods. The R-Value



Panel Thickness	EPS R-Value
4 1/2"	15.4
6 1/2"	23.2
8 1/4"	30.0
10 1/4"	37.8
12 1/4"	45.6



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of an assembly is a measure of its ability to resist heat flow through it. The higher the R-Value of your wall assembly, the lower your energy costs for heating and cooling your home. SIPs increase energy efficiency by nearly eliminating air leakage, through the use of sealant at all the connections.

Secondly, the speed of construction with SIPs provides a distinct benefit over conventional framing. By utilizing the Insulspan SIP System, dry-in and cycle time can be reduced by around 50 percent or more. Constructing an SIP home can require less skilled labor on the job site, and the building envelope can be completed and ready for other sub trades sooner. Installation

of the windows and doors can occur sooner, thus securing the structure against theft and keeping costs down.

Insulspan pioneered the approach of installing lumber in the factory, and offers a wide range of package options including a complete ready-to-assemble (RTA) package. Compared to other SIP manufacturers, Insulspan offers one of the most complete, ready-to-assemble packages in the industry. "Our RTA package option maximizes efficiency on the job site by further reducing installation time. This package includes the lumber splines, end plates, and window and door bucks factory installed into the panels," says Munn. »



► Insulspan always has exciting projects in the works, but one recent project made headlines. The nonprofit organization, Citizen Robotics, partnered with Insulspan to build the first 3D-printed home in Michigan. Insulspan supplied SIPs for the project, which helped to create a more energy-efficient home. In fact, the home scored a Home Energy Rating System (HERS) rating of 46 for its energy consumption, which is well below the average rating of traditionally constructed homes.

Another recent project Insulspan provided SIPs for is a large corporate office and training facility in Kent, Ohio. This substantial project is composed of 110,000 square feet of

wall and roof panels. The customer is seeking Leadership in Energy and Environmental Design (LEED) certification for the project, and the project itself involves multiple buildings with three inter-connected phases and over 70,000 square feet of interior space.

“This is an exciting project,” Munn says, “because of its sheer size and scope. It demonstrates Insulspan’s capabilities to support such a large commercial project.”

A final project that received a lot of attention from social media is one where Insulspan partnered with social media influencer,

“Insulspan partnered with social media influencer, Third Coast Craftsman, to supply SIPs for his hand-cut timber frame home.”



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Third Coast Craftsman, to supply SIPs for his hand-cut timber frame home. The customer documented his entire journey online through Instagram, YouTube, and Facebook. Hundreds of thousands of people have watched him build his home from the ground up. Insulspan was excited to be part of this social media phenomenon.

With housing and labor shortages in most of North America, homebuilders are seeking to find ways to build homes that meet more stringent energy codes in a more efficient and cost-effective way. Although SIPs have been around for over 40 years, sometimes it seems like they are still considered to be the “new kid on the block.” SIP manufacturers, including Insulspan, are working to increase awareness of the benefits of building with SIPs. As a result, SIPs are becoming more widely recognized and accepted across the industry, by architects and builders alike.

Insulspan continues to educate architects on commercial and institutional projects like banks, restaurants, community centers, and churches to bring awareness of how SIPs can help improve the design of these types of buildings. In addition, Insulspan partners with builders who are interested in adopting the SIP building methodology to set them apart from their competition by building with this up-and-coming construction product. ■





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9012 East US Hwy 223, Blissfield MI 49228 United States | P: 800 726 3510
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