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The official publication of the Structural Insulated Panel Industry
Winter 2019

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Calculation Tool for Industry Nearing Completion
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Thank you to everyone who provided photos for this issue’s cover and for inside the magazine. If you want to know more about any of the images showcased, please get in touch with Shannon Savory, Editor-in-Chief.
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The President of SIPA
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Lee Bergum
President
Structural Insulated Panel Association

Taking SIPS to the Next Level

I recently attended the 2018 Energy & Environmental Building Alliance (EEBA) High Performance Home Summit in San Diego and came away with renewed enthusiasm on energy-efficient homes and the progress that is being made in this growing segment of the industry.

Yes, sustainable, residential construction has a long way to go, however, the progress that has been made since I last attended the last EEBA conference three years ago is wonderful. As stated, “The Future is Now.” We, as a SIP industry, need to embrace this way of thinking even more than we already do. We need to become the disruptor; the one that leads the way – the “thought leader” of energy efficiency homes.

SIPA congratulates two such “thought leading SIP builders” from all the DOE Zero Energy Ready Home award winners at EEBA with a special recognition to the Grand Winner in the Innovation in Custom Homes (For Buyer) Category. This project, built by High Performance Homes, Gettysburg, PA, had a HERS score of 35 before PV (the lowest of all this year’s winning homes) and 1.1 ACH50 air leakage rate. The other notable entry included Winner for Innovation in Custom Homes (For Buyer) Category by TC Legend Homes, Bellingham, WA, boasting a HERS rating of 41 and an 0.48 ACH50 air leakage rate; well below Passive House Standards. SIPs, as we know, greatly enhance high-performance construction across the market, and these two projects illustrate it very well.

Even more exciting news is the soon to be released Structural Insulated Panel (SIP) Engineering Design Guide. This guide will enable architects, engineers, and builders to understand the nuts and bolts of panels leading the way for a larger presence of SIPs in the marketplace. Better understanding = more designing = more SIP structures = more efficient buildings. This tool needs to be something we build from and enable our great industry to get to the next level.

Together, we can break past the mere two percent SIP market penetration ceiling. As my buddy, Buzz Lightyear, would say, “To infinity and beyond!”

Better understanding = more designing = more SIP structures = more efficient buildings.
More than ever, the push towards greater energy efficiency and the overall reduction of a building’s carbon footprint has been driving modern building design. Launched this past summer, Getting to Zero with SIPs is a live, instructor-led SIPA/AIA Continuing Education (CE) course that fully explores this trend, while also teaching the fundamentals of structural insulated panels (SIPs) and their use in passive, integrative design.

Each course is 50-minutes long and geared towards design professionals, engineers, and architects. Attendees gain valuable knowledge of how to use structural insulated panels for walls, roofing, and flooring, and they’ll discover how SIPs can help achieve the many performance contributions that combine for near zero energy performance. Professionals who complete the course will fully understand the role SIPs play in contributing to faster, better, and environmentally sensitive commercial construction, as well as how SIPs can work side-by-side with other high-performing systems to provide positive results.

While the course does provide some insight into the history of SIPs and covers some of the basics, the Getting to Zero with SIPs course is not meant to be an introductory program. As Jack Armstrong, Executive Director and COO of the Structural Insulated Panel Association (SIPA) explains, “As a Net Zero Energy Building & Design course, Getting to Zero is considered to be a more advanced course. SIPA has two other AIA CE course offerings; one that’s more basic for residential SIPs, and a more intermediate course for commercial SIPs.”

Each of these courses are AIA certified for one learning unit of the highly sought-after Health Safety and Welfare classification.

Benefits Illustrated by Showcasing the RMI Innovation Center

The Getting to Zero with SIPs course takes the Rocky Mountain Institute’s (RMI) Innovation Center and uses it as a best-in-class case study. RMI’s successful use of SIPs helps to illustrate the many benefits of structural insulated panels and how they can provide a repeatable and cost-effective path toward Passive House and LEED New Construction design goals.

Located in Basalt, Colorado, the RMI Innovation Center was chosen as the case study for several reasons. The building is a 15,610 square-foot, state-of-the-art convening center that was specifically designed to demonstrate precisely how a net-zero carbon building can be contracted, constructed, and then occupied. The building is the highest-performing building in one of the United States’ coldest climates and produces more clean energy than it uses on an annual basis. RMI uses approximately three quarters less energy than the average building found in the same climate zone.

The RMI Innovation Center maintains an airtightness value of 0.32 ACH at 50 pascals – almost doubling the Passive
standard – and is considered to be one of the most airtight commercial buildings in the country; 97 percent more airtight than a conventional commercial building. In addition, the Center also meets (or exceeds) the stringent standards set by LEED Platinum and the Architecture 2030 Challenge. The Center is also classified as a PHIUS+ Source Net Zero Project, having earned all 19 LEED energy points.

“The designers were determined to shift reliance away from fossil fuels and, as a result, focused their energies instead on generating energy through renewable resources,” says James Hodgson, General Manager at Premier Building Systems. “Given the extremely high-performance standards that the designers of the RMI Innovation Center wanted to attain, SIPs became the obvious choice. This remarkable building shows us what can be accomplished through the careful and conscious design of new buildings. This is so important because buildings are considered to be the highest users of energy in America.”

The RMI Innovation Center also received the SIPA 2016 Building Excellence Award in the Commercial (over 10,000 square-feet) category and has been recognized as the largest Passive House certified office building in the U.S.

**BECOME A SIPS EXPERT**

In addition to the RMI Innovation Center, the Getting to Zero with SIPs course also highlights the Bagley Outdoor Classroom at the University of Minnesota Duluth and the Native American Center at the University of Montana as SIPs projects of note.

So far, the course has been highly sought after as part of the in-person Lunch and Learn programs conducted by SIPA member company experts. SIPA is also looking at making the course available online sometime in 2019.

Those interested in learning more about the Getting to Zero with SIPs course can contact the SIPA main office by phone at (253) 858-7472, by email at info@sips.org, or through any SIPA member company representative. More information can also be found online at www.sips.org/training/aia-continuing-education.

“Given the extremely high-performance standards that the designers of the RMI Innovation Center wanted to attain, SIPs became the obvious choice. This remarkable building shows us what can be accomplished through the careful and conscious design of new buildings.”

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**Kits include SIP wall and roof panels.**
After much hard work behind the scenes, the Structural Insulated Panel Association (SIPA) is on the verge of releasing its long-awaited online design tool. Over the course of the last year, the SIPA/NTA task group has labored diligently to complete several aspects of the online tool in anticipation of a launch later this winter.

The design examples that currently serve as the basis for the design tool have been presented and are now under final assessment. The tool includes a total of 12 different calculations. With the needs of end-users in mind, the tool has been structured with flexibility in mind and, for those situations that are not pre-generated, advanced users will be able to create their own personal templates for use on particularly complex projects.

“This design tool will accompany the Structural Insulated Panel (SIP) Engineering Design Guide, which contains all the references and original equations used by the tool,” says Corey Nigh, Account Manager at NTA, Inc. “The 12 interactive examples will represent the most common calculations that are generally used with SIPs, including such things as accounting for wind loads on walls and roofs, compression loads on walls, in-line shear loads for diaphragms and shear walls, and the use of SIPs with lumber or I-Joist reinforcements.”

When complete, the online design tool will provide engineers and designers with a quick and interactive method to apply the principles of the design guide. The tool will help users organize the guide’s many equations and directions into ready-made, adjustable examples that engineers and design professionals can then easily and quickly access and use. Additionally, the design tool will help designers tackle those oddball applications that require custom engineering to accomplish, allowing users to change input values and apply the design guide to their own projects.
“Most of what is needed to design with SIPs is commonly found in evaluation reports,” says Todd Bergstrom, COO at AFM Corporation. “But in situations where the engineer truly wants to engineer an application, the design guide — and the tools that go along with it — will help them do just that.”

Providing the best interface possible to enable this was a challenge that required creators to put themselves in the user’s shoes. “NTA, Inc., along with the SIPA-led task group, completed several webinars addressing this very issue,” says Nigh. “Together, we brainstormed the best layout and language in order to ensure the tool’s use was very clear and precise, particularly for those users who were perhaps unfamiliar with SIPs or who are new to designing with SIPs.”

“With this online design tool, we hope to reach more design professionals and quickly close the knowledge gap that may exist for designers working with SIPs.”

The importance of this online design tool for SIPs should not be understated. Many competing and complementary building materials and products have specific design tools tailored to their type of product, whether that is trusses, steel beams, dimensional lumber, or fasteners. Up until now, SIPs have been held back by the lack of a design tool, which has limited the product’s exposure and diminished the comfort level of those using SIPs. By having a readily accessible design tool available for use, there will be a greater acceptance of SIPs by the design community.

“With this online design tool, we hope to reach more design professionals and quickly close the knowledge gap that may exist for designers working with SIPs,” explains Nigh. “The online tool will also increase the speed of learning how to design with SIPs for those design professionals who have not previously worked with the product.”

Currently, the online design tool is available only through a closed beta site as the task group collects feedback from select SIPA members and smooths out the rough spots. Once complete, however, the design tool will be available online at www.SIPs.org.

“We think that users are going to really enjoy the new tool, and we’re happy with the outcome,” says Nigh. “Design guides and tools are always evolving as more people use them. We are fully expecting requests for new features, and we look forward to continuing our support to the SIP industry.”
Creating a future where SIPS are the preferred building system.

The use of structural insulated panel (SIP) tape is a relatively new occurrence for building with SIPs and, prior to the mid-1990s, the use of spray foam and caulking was believed to be sufficient in meeting the requirements for the majority of SIP manufacturers. Then, in 1995, a number of roof failures in Alaska demonstrated several issues stemming from the improper installation of SIPs, such as OSB rot caused by air leaks, along with poorly sealed seams. It was after these failures that many SIP manufacturers began to recommend the use of SIP tape in addition to traditional caulk and/or spray foam.

“These failures were caused by people installing SIPs who seemingly were not trained properly or who simply ignored the manufacturers’ recommendations on how to seal their panel packages,” says Al Cobb, Director of SIPschool. “And while traditional sealing methods can create an airtight boundary when the panel is put together, when it’s not applied properly, SIP tape can step in and become the ‘belt and suspenders’ approach to good panel installation.”

Although SIP tape can be used as extra security in ensuring “airtightness,” SIP designers and installers still require an understanding of basic building science, as well as air leakage and vapor performance, in order to ensure a proper installation. The geography, as it relates to weather, also plays a role in determining when and where to use SIP tape. What works in a cool, arid climate won’t necessarily work in a warm, marine climate, and there is rarely a one-size-fits-all solution when using SIP tape in high-performance construction.

“SIP tape qualifies as a vapor barrier, meaning that it has no permeability to it, and – as a vapor barrier – it should always go to the warm side of a structure,” says Cobb. “And while it’s easy to figure out the warm side of the structure when you build in Buffalo or Key West, when you build in other areas of the country where there is more of a mixed climate, the building science side of tape installation becomes a little more prickly.”

Because the SIP tape acts as vapor barrier, in certain situations it can virtually eliminate the panel assembly’s ability to dry, particularly at the joint where moisture is most likely going to accumulate. By removing the ability of the assembly to dry in one direction, it reduces the durability of the system should water get into it. Because of this, SIP tape needs to be applied only when there is no risk of trapping moisture inside the assembly. This is most critical when the SIP tape is going on the inside of the panel, particularly on a roof assembly. If the roof is not complete, the builder runs a serious risk of rainwater and moisture getting into the assembly and being trapped by the SIP tape. In short, SIP tape should never be installed until the roof is 100 percent watertight.

“I have seen numerous times where SIP tape was installed on the underside of a roof panel and then the roofer comes along and puts down a peel-and-stick membrane underlayment with zero permeability on the outside of the assembly,” says Cobb. “This creates a potentially catastrophic situation where you have a vapor barrier on both sides of the assembly. When moisture gets in, it’s trapped with no place to go and the assembly will never dry simply because it can’t.”

If the code requires tape on the outside (because the outside is the...
“warm side”) the tape should be applied accordingly and the roof assembly is then allowed to dry to the inside. In this instance, the SIP tape needs to be applied immediately after the panel is installed and before the roof installer arrives to the jobsite.

“Obviously, if tape is to go on the outside, it must be installed before the roofer gets there,” says Cobb. “In this case, the tape doubles as a means of protection from water and air getting into the assembly by virtue of the fact that it’s on the outside.”

The actual application of the SIP tape is a fairly straightforward task. Before putting up SIP tape, the installer needs to first ensure that the panel’s surface is clean, dry, and free of any contaminants so that the adhesive can adhere. Then installers peel off several inches of release backing and press the tape firmly into place.

Like any good tape, SIP tape must be firmly embedded into the outer skin of the panel. This action requires the use of a proper tool, such as a laminate roller or a putty knife, in order to apply enough concentrated load directly to the specified area so that the tape’s adhesive is effectively ‘pushed’ into the skin.

“OSB is probably the most imperfect surface you can apply the adhesive to and people will often apply the SIP tape just like they would Scotch tape, kneading it down with their fingers,” says Jonathan Early, President and Founder at SIP-SEAL, a company specializing in sealants and seam tape for the SIP industry. “But with your fingers, you just can’t get enough pressure to work the adhesive into the rough surface, which is why we suggest using something like a metal or plastic drywall blade. It’s not a long or particularly laborious thing to do, and it’s actually rather quick when it’s done properly. This is a very important part of the installation.”

In order to minimize wrinkles and air bubbles in the SIP tape, installers will need to push the SIP tape into the joint from the center, working outward with a smooth, clean motion towards the edges of the tape. At the end of a roll of tape, make sure to overlap at least three inches of the new roll over the previously installed portion of SIP tape to help ensure an airtight seal.

“If you just slap the tape onto the face of the panel without any attention to the condition of the skin or by not using a tool, there is a good possibility that your tape will lose its bond, especially if it’s cool, and you are going to come in the next day and find the tape you put on the ceiling is now on the floor because it didn’t stick properly,” says Cobb. “It’s not a failure of the tape; it’s a failure of the installer if they didn’t follow the instructions correctly.”

Ultimately, the use of SIP tape helps to mitigate the risk of building in parts of the country where the weather is harsher and in situations where the installer has less experience in building with SIPs, which is why many manufacturers have adopted the product. And while it’s true that SIP panels can perform admirably without this backstop and that SIP tape is not always necessary for each and every build, SIP tape – when installed correctly – can provide some peace of mind that issues concerning moisture accumulation will not occur.
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Structural Insulated Panels (SIPs) are increasingly becoming more popular as a product for engineers and building designers; this has led to an increase in questions about how to properly build with them. Because of this, SIPA maintains separate sections on its website devoted to both Technical Bulletins and Frequently Asked Questions (FAQs), so that the industry is able to remain informed and up to date as it relates to SIPs usage.

Larger industries, such as steel and concrete, all have large, comprehensive code books published every three to five years that will also often contain amendments issued between code cycles. For an industry like SIPs that does not currently have a regularly revised, all-encompassing code book, it is important to have some way to effectively disseminate information out to the design community as new data becomes available. Technical Bulletins are a great way to accomplish this and are a valuable tool that a design professional can refer to in the completion of a project.

“Prior to the SIPs Technical Bulletins, referring to a manufacturer’s website or the industry website was the only way to get new information,” says SIPA Educational Chair, Tom Moore at Pinnacle Engineering Inc. “But doing so wasn’t always something that could be considered ‘official’ enough for a designer to use in their design/analysis of a product. Having a technical document with testing and references to back it up really is the only way for the product to be accepted. Maintaining the status quo is not going to move our industry forward. It is important to have additional resources available as new information is developed.”

For an industry like SIPs that does not currently have a regularly revised, all-encompassing code book, it is important to have some way to effectively disseminate information out to the design community as new data becomes available.

A great deal of time, research, testing, and money goes into making sure the information contained within the SIPA Technical Bulletins is both accurate and reliable. The accessibility of the content within the Technical Bulletins is also critically important because this information is intended for everyone; from the experienced SIP designer who needs to have something on hand to refer to in the course of a project, to the first time SIP reviewer who has questions requiring immediate answers.

The topics that make up the Technical Bulletins are often chosen to best address shortcomings in the industry that have been present for some time. These are the topics that currently are included:

1. Use of SIPs in Seismic Design Categories;
2. Fire Safety with SIP Construction;
3. SIPs and ENERGY STAR v3;
4. SIPs and the 2009 IECC;
5. SIPs and the 2012 IECC;
6. SIPs and HBCD Flame Retardants;
7. Wall Aspect Ratios for SIPs;
8. Durability of SIPs Exposed to Moisture; and
9. Use of SIPA Test Results.

The order of the topics addressed by the Technical Bulletins is not written in stone and what SIPA sees as being the next most pressing issue helps to determine future topics. Guiding SIPA
through this is the SIPA Technical Committee, which is made up of individuals from a number of different SIPA member companies. SIPA’s Technical Committee deftly manages the priority list of technical issues, while also taking instruction from the SIPA Board of Directors.

“The SIPA staff does a great job of assembling all of the information that is available and compiling it into a presentable form, while also leaning on the technical committee for any questions that they might have,” says Moore.

“These two groups together produce the technical bulletins, as well as populate the Frequently Asked Questions section found on the SIPA website.”

For the more common queries posed by SIPs users, the Frequently Asked Questions regarding Structural Insulated Panels (SIPs) webpage has them covered. There are currently 34 FAQs on the page, ranging from the basic, “What are SIPs?,” to more specific questions, such as “Can recessed lights be used in SIPs?” or “How do I attach siding or other exterior cladding to SIPs?”

The Technical Bulletins and the FAQs can be found under the Technical pull-down menu when visiting www.SIPs.org.

“I am a regular user of the Technical Bulletins and the FAQs, and I would say they are both extremely valuable for anyone working with SIPs,” says Moore. “My own experience with them has been very positive and I refer people here all the time because I know they contain good information.”

What the FAQ Can Teach You!

Here’s a sample of questions from the FAQ on SIPA’s website:

- How much faster can I build with SIPs?
- How much money can I save with SIPs?
- How green are SIPs?
- How important is ventilation?
- How do SIPs improve indoor quality?
- How do SIPs react to fire?
- Can SIPs be modified onsite?
- Are SIPs susceptible to insects?
- Can SIPs be replaced or repaired if damaged?
- How much do SIPs cost?
- Are SIPs accepted by the building codes?
- What is the R-value of SIPs?
- Do SIPs block sound transmission?
- Can plumbing be installed in SIPs?

Learn more at SIPs.org!
For years, Dr. David Chapman had been lecturing and studying New Urbanism, a movement in urban design that promotes environmentally-friendly habits through the improvement of an urban community’s walkability, connectivity, and mixed-use diversity through sustainable city planning. In 2017, Dr. Chapman and his wife, Julie, decided to “walk the talk” and move in from the suburbs, building a home that could espouse a low-carbon lifestyle in the heart of Edmond, Oklahoma.

Earning the 2018 SIPA Building Excellence Award for a Single Family Home under 3,000 square feet, the Chapman residence is a 2,400 square foot, three-story house that sits on a lot just 30 feet wide. The scale and design of this infill building lent itself well to the use of SIPs, which were manufactured by Enercept, Inc.

The six and eight-inch EPS foam walls not only brought SIPs’ extensive insulative properties to the project, but the panels also acted as an extremely effective sound dampening system. This was an important factor for the Chapmans since the house is situated only 500 feet from train tracks. In addition, the eight-inch EPS foam panels for the roof and third-story deck worked perfectly because of the superior strength of the panels.

“The building is characterized by straight, square walls and a straight, square, flat roof,” says Roberta Bartel, Marketing Coordinator at Enercept, Inc. “It was just a perfect design for an easy SIPs structure that was very economical and efficient to build, yet would stand out as an extremely stylish and modern building for the City of Edmond.”

The building is heated and cooled with a four-ton electric, conventional forced air furnace/air conditioner. A fresh air return was also installed, and ceiling fans can be found in every room to improve upon the air circulation.

The home’s tall narrow design and red brick exterior help the contemporary appearance of the home blend in well with the surrounding cityscape, as well as with Edmond’s historic downtown. The nearby walkways are made with locally harvested crushed granite that permits rain water to drain into the ground as nature intended, rather than running off through the city drainage system. Rain containers have also been purchased and were installed to capture and reuse rain water.

“SIPs are such a fantastic product to build with and the things you can do with them are virtually unending. We have always said that if you can dream it, we can build it with SIPs.”

In addition to receiving the SIPA award, the Chapman Residence has also been featured in a September 2017 article found in the pages of the Edmond Outlook titled “Urban Aspiration,” highlighting Dr. Chapman’s efforts to promote downtown revitalization and urban sustainability through his home, as well as the role played by SIPs in making it all happen.

“SIPs are such a fantastic product to build with and the things you can do with them are virtually unending. We have always said that if you can dream it, we can build it with SIPs,” says Bartel.

“The energy efficiency, the strength, and the nice, clean straight lines you get when you build with SIPs, all of this was clearly demonstrated by the Chapman residence. It was a very exciting project for us and so much fun to be part of.”
Completed in 2017, the Glenwood Area Fisheries Minnesota Department of Natural Resources (DNR) building is a new 9,407 square foot, two-story facility that contains new offices, as well as a research lab that evaluates stocking, artificial spawning habitat, and genetic performance, while also monitoring for invasive species.

The DNR-designed facility was built with a zero-energy design to help promote and highlight sustainability in Minnesota. In this, the use of SIPs played a tremendous role. The SIP walls are 10.25 inches thick and the roof panels are 12.25 inches thick, with an R-value of four per inch. The use of SIPs created a very airtight and comfortable building, with blower door test results showing an airtightness value of 0.36 ACH at 50 pascals.

Although SIPs were the specified product of choice in the design of this building, there was some initial apprehension. The state had a previous negative experience on a different project that used structural insulated panels.

“If it didn’t go well, the State of Minnesota wasn’t going to specify SIP panels anymore,” explains Perry Penske, Sales Manager at Extreme Panel Technologies, Inc. “This just goes to show how important it is that our industry take care of our jobs and make sure that everything is going well on the jobsite.”

“The project has truly been a win-win-win for everyone involved; for the State, the SIP industry, and for our company.”

In the end, everything did go well, and Penske says, “the project has truly been a win-win-win for everyone involved; for the State, the SIP industry, and for our company.”

The facility has several innovative features, including a geothermal ground-source heat pump and a solar panel system with single central air handling for HVAC. High-performance, triple-glazed windows were also used in the design, with proper SHGC and U-values to maximize the use of natural light sources. All artificial lighting systems are LED source fixtures.

“Because SIPs were used for the walls and roof, and because everything was sealed up so well, we are below the forecasted air infiltration numbers,” says Jancis Curiskis, Minnesota Department of Natural Resources Lead Architect. “This has allowed the DNR to reduce the quantity of solar panels that will be needed for the building to reach the desired net zero energy usage.”

Interestingly, Mother Nature provided one of the biggest hurdles for the project; “monsoon-like” weather conditions created a number of logistical challenges for Extreme Panel Technologies to solve. “Coordination of panel delivery was vital to the success of this project,” says Penske. “Because the weather was horrible during construction, and many areas of the jobsite were extremely muddy or even under water, we took extra care to deliver panels to the jobsite only as needed.”

In addition to this project receiving the 2018 SIPA Building Excellence Award, the Glenwood Area Fisheries Minnesota DNR building has also achieved LEED Gold Certification and has received the Minnesota Sustainable Building Guilders (B3) 2017 best of B3 2030 award.
Summit Station is a research platform located near the summit of the Greenland ice sheet; a mass of glacial land ice extending more than 20,000 square miles and about as far north as you can go. The station is part of the Greenland Ice Sheet Project Two, which involves drilling ice cores to study environmental changes.

The station consists of three permanent, primary structures and serves a seasonal population of up to 50 staff and researchers during the months of April to August, and a skeleton staff of five for the remainder of the year.

SIPs were the product of choice in protecting the foundation from any warmth seeping into the foundation.

The Summit Mobile Garage is a 32 by 98-foot building insulated with a floor that is made from Structural Insulated Panels (SIPs). Interestingly, it is designed and engineered to be somewhat mobile. Because of the amount of drifting snow in the region, it is simply easier to tow the entire building to a new resting spot instead of taking on snow removal.

Last October, the 200,000-pound garage was moved by sled a quarter mile from its temporary location to its long-term, snow-packed foundation.

“The hoop type of building that was placed on top of the SIP floor panels needed to be mobile so that it could be placed above the snow pack,” explains Neal Mack, Regional Sales Manager at Enercept Structural Insulated Panels. Interestingly, Enercept was involved in another SIPs-related project at the South Pole, which you can read about in the Fall 2017 issue of SelectSIPs, at www.SIPs.org.

For this North Pole project, Mack explains, “The floor had to be able to stay intact during any moves so the design called for a structural lumber grid system that could assist in holding the floor together as they moved the Summit Mobile Garage from location to location at the site.”

SIPs were the product of choice in protecting the foundation from any warmth seeping into the foundation from the building above and, before moving the mobile garage, temperature sensors were placed in the snow foundation of the garage’s new home in order to record temperatures at its new location. This allowed researchers to monitor heat loss through the floor and head off any building settlement.

“SIPs were chosen for this project because of their great structural strength and the insulation quality that the panels provided,” says Mack. “The SIPs created incredible R-value for the garage with panels that were rated greater than R-56.”
The Benefit of Membership
SIPA is making sure industry realizes that there is a better way to build!

The Structural Insulated Panel Association (SIPA) has a goal to significantly increase the SIP market over the next five years. We want you on board as our association leaders work to create a future where SIPs are the preferred building system. Learn more about SIPA’s mission at www.SIPs.org.

SIPA HAS ALREADY MADE HUGE STRIDES IN DOING THIS. A FEW OF OUR ACCOMPLISHMENTS TO DATE INCLUDE WINS IN THESE AREAS.

EDUCATION
✓ New Getting to Zero Energy with SIPs AIA Course available for in-person training and coming soon online.
✓ SIP educational sessions at the International Builders’ Shows (IBS) in Las Vegas and Orlando.
✓ Building Education with SIPs Training (BEST) ten, one-hour videos at www.SIPs.org and YouTube (search this title to easily find them all).

TECHNICAL
✓ New online companion calculator for the SIP Engineering Design Guide (mentioned earlier) to be released in 2019. It allows for easy storage, printing and data input, and is customizable for each guide example.
✓ Working towards inclusion of SIPs in the 2024 International Building Code.

COMMUNICATIONS
✓ An internet newsletter delivered biweekly to over 17,000 screened and relevant builders/designers and stakeholders.
✓ A new mobile-friendly SIPS.org website that had 482,000 page views from 143,800 unique visitors in 2018.
✓ Online map of almost 800 SIP North American projects with detailed info; more posted monthly.

NETWORKING / MARKETING
✓ Refreshed strategy to provide improved resources for architect and builder adoption of SIPs.
✓ SIP Building Excellence Awards announcements at the SelectSIPS Expo Expo & SIPA Annual Meeting in Phoenix, AZ, March 5, 2019, which creates national interest.

Membership gives you access to all of this, and more. Open up this valuable network of industry contacts, colleagues and opportunities for your business; SIPA represents over 80 percent of the SIP industry volume!

HERE ARE JUST A FEW REASONS WHY BEING A SIPA MEMBER WILL BENEFIT YOUR ORGANIZATION.

✓ The SIPA website can be credited with bringing SIPA members leads and impressions from over 143,000 potential buyers visiting www.SIPs.org yearly who are reviewing our member directories and logo ads. Members even have the ability to screen leads based on their service area. Membership gets you a spot on the site.

✓ SIPA’s marketing plan focuses on continued residential growth along with increasing commercial market share through a combination of new, refreshed tools and resources provided both nationally and regionally. Key alliances continue with the Forest Product Labs, APA-The Engineered Wood Association, National Association of Home Builders, Home Innovation Research Labs, Building Systems Council, and Energy & Environmental Building Alliance.

✓ SIPA is heavily involved in technical research; the organization has sponsored numerous programs for testing and verifying the performance of panels as an industry, instead of individual companies. We are working towards inclusion in the IBC, an ASTM SIP standard is under development,
Find SIPs

Are you looking for a SIP expert, whether it be a manufacturer, dealer/distributor, designer or builder? SIPs.org has the perfect tool to make this search easy!

- Our SIPA member directory is searchable by name, location and membership category.
- The map feature makes it easy to enter your zip code and find members right in your area (or the area of your project).
- Locate almost 800 completed SIP projects with a search feature that enables you to find residential, government/institutional, commercial, and “other.”

How easy is that?

and conversion of a recently finalized ISO standard for SIP roofing and walls, specific to North American ASTM/ANSI local standards, is underway. **Membership ensures your voice is heard when these important guides and rules are being created.**

Members of SIPA have access to a valuable resource that no one else has access to – networking with other members of the industry! The association provides a forum for interaction between members in different segments of the SIP industry, including the Annual Meeting and other regular industry events. **Membership gives you easy access to seminars and workshops that make learning from industry experts easy.**

JOIN SIPA TODAY!
Connect With SIPA at These Events

The International Builders’ Show (IBS)
FEBRUARY 19-21, 2019
LAS VEGAS, NEVADA

Visit the SIPA Booth (Location N413) located next to the High Performance Building Zone featuring live how-to presentations from building industry experts. Be sure to stop and chat with SIPA staff and SIP manufacturers staffing the booth to learn the latest in SIPs news and technology.

LEARN MORE ABOUT SIPA’s INVOLVEMENT AT WWW.SIPS.ORG/IBS2019

RESNET 2019
FEBRUARY 25-27, 2019
NEW ORLEANS, LOUISIANA

The 2019 RESNET Building Performance Conference is the premier national forum on home energy ratings, existing home retrofits, building codes and energy policy. The event offers strategic options to the business challenges and provides a venue where you can obtain usable solutions in an evolving industry. Nowhere else will you find the exceptional range of original content and fresh information for the home performance industry.

LEARN MORE AT HTTP://CONFERENCE.RESNET.US

Annual Meeting and SelectSIPS EXPO
MARCH 4-6, 2019
PHOENIX, ARIZONA

The SelectSIPS Expo, A Better Way to Build, will connect the industry with expert speakers, trade show participants and colleagues at this notable event. Each year over 100 SIP manufacturers, suppliers, design professionals, installers and those looking to learn more about this important product come together to discuss and learn about industry trends, the latest technologies and techniques, and to celebrate the best of the best at the SIPA Building Excellence Awards.

LEARN MORE AND REGISTER AT WWW.SIPS.ORG/AM2019
Attention Engineers and Architects!

Download the *Structural Insulated Panel (SIP) Engineering Design Guide* Today!

A draft version is now available with the finalized guide coming soon!

This comprehensive manual:
- Is tailored to support design professionals who are relatively new to SIPs.
- Provides clear and easily accessible engineering design basics for SIPs.
- Captures industry standards as developed/reviewed by SIP experts.
- Makes it easier to design with structural insulated panels for a wide range of structures.
- And much more!

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Final Reflections from the Executive Director of SIPA

Jack Armstrong
Executive Director & COO
Structural Insulated Panel Association

Partnership is the New Leadership

A new year brings renewed perspectives. Going on 29 years now, the Structural Insulated Panel Association (SIPA) has forged technology and educational partnerships promoting SIPs – A Better Way to Build.

The prevailing emphasis on different aspects of sustainable construction changes over the years, but SIPs keep delivering the features and benefits the market values: energy efficiency, speed of construction, durability, comfort, resilience, resource efficiency, ease of installation, to name a few. Looking over the total building life cycle, the SIP building envelope is most often the lowest cost solution.

Why is “the better way to build” so slow to be embraced? Change. Change is hard. Change is painful. Change disrupts. Change is inconvenient.

Why is “the better way to build” so slow to be embraced? Change. Change is hard. Change is painful. Change disrupts. Change is inconvenient.

New codes, climate mandates, and public desire are all leading towards zero net energy building (ZNEB) with high-performance building envelopes – many using SIPs with many more on their way. Helping with all aspects of support, SIPA members include professional engineers, architects, builders (including SIPA Registered Master Builders with proven SIP expertise), dealer/distributors, SIP manufacturers, and suppliers. You can reach out to them all or the ones nearest you by visiting www.SIPs.org.

The time has come! Learn more about using SIPs in your next project. Ideally, this SelectSIPs twice yearly (Winter/Summer) magazine piques, and confirms your interest. Look online (www.sips.org/projects) to the new catalog of SIP projects mapped across North America. It currently includes almost 800 projects, but hundreds more are being added.

Are you already using SIPs in your projects? Consider submitting your project to the Building Excellence Awards Competition conducted annually across all building types (www.sips.org/building-excellence-awards). If not, look back at over 17 years of winning projects or view others in the project gallery at www.sips.org/gallery. Be sure to read this magazine’s “Project Profiles” for case studies on two 2018 winning SIP projects.

Want to dive deeply into education about SIPs? Two residential and commercial free, one-hour AIA continuing education courses with credit are available online. A new third zero energy with SIPs course is also available for face-to-face “Lunch & Learns”. For builders, 10 free one-hour video courses step through every aspect of SIPs from fabrication, logistics, and framing to electrical and plumbing. After completion and testing, builders can receive a Registered Builder designation.

www.SIPs.org
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