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Support Those Who Support You:)

FALL IS BEGINNING AND FOR the construction industry that translates to trade show season. Looking at the schedule of our shows and the others we attend, I realized how easy it is to take the organizations that support our industry for granted.

We work with most of the significant trade shows, from Fabtech to METALCON and support these shows. They are competitors in many ways, but the support (both ways) helps grow and strengthen the industry.

To that end I would ask that you take a minute and reflect on the benefits that the shows and magazines that service the industry provide. Without them where would you find product information/suppliers, best practices and get inspiration to make your customers dreams reality?

Please support all of the publications, shows and resources that support you. If you need a new product, tell the manufacturer you saw it at METALCON or read about it in Frame Building News. If there are short surveys to gather industry data, take one or two minutes and respond. The fees to walk a trade show floor are usually minimal and our magazines are free to professionals



in the industry. The manufacturers pay your way. Let them know their investment is worthwhile.

If you value the industry metrics, networking or resources the media and event companies provide to you, take the small steps to support the entities that serve you.

Thank you for your support.

Gary Reichert **Publisher**









Going Old School; Staying Relevant

IN NEARLY EVERY ONE OF our 2022 editions of *Rural Builder*, we've included a "Flashback: 1974" article. That's going back as far as our archives permit; the magazine began in 1967, but those copies are unavailable. Paging through the old magazines has made me realize that we have come a long way from our roots. The magazine was originally called *Farm Building News* and with good reason. Better than 80% of the contents of those publications were about farming...farm construction, farm equipment, farm improvements.

Somewhere along the way this magazine's focus changed, whether by chance or by choice. This allowed for an expanded horizon; residential projects and light commercial projects, information, and resources showed up and the name was changed to *Rural Builder*. We enjoy providing coverage of a variety of

construction topics that our readers tell us they find relevant and interesting, and yet, we wonder, with our diminished coverage of agricultural building, are we missing something?

Don't worry; if you like Rural Builder the way it is, you will still find coverage of the residential, commercial, and more. We just want to bring you more...more cow barns, more corn cribs...more ag coverage.

Can you help us? If you have an agricultural project, a topic you would like to see covered, or an interesting anecdote related to farm building, share it with us!

Linda Schmid, managing editor linda@shieldwallmedia.com



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Photo courtesy of Premier Building Systems

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Unrelated third parties often attempt to sell mailing lists for what they say are our publications. You can be assured that WE DO NOT, HAVE NOT, AND WILL NOT EVER SELL OUR SUBSCRIBER LISTS. We will also NOT sell the attendee or exhibitor lists from our shows. We do provide attendee lists to the exhibitors free of charge and as a courtesy for their support, but we NEVER provide this or any other information to independent vendors.

> Garv Reichert. Publisher, Shield Wall Media

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Small Town College; Two Winners!

Green Technology is the Biggest Winner with These Dynamos On Board.

BY LINDA SCHMID

HOW DID TWO APPLICANTS FROM a town with a population of about 12,000 people come to receive the mikeroweWORKS Foundation scholarship in one year? Victoria Knight was one of those scholarship winners. She went through the Southwest Michigan College program on Green Technology because she liked working with her hands and learning eco-friendly practices. Carlyn McLelland, a scholarship winner previously covered in this article, was the other winner.

At the time, McLelland and Knight said to each other, "If you win, cool." They were so surprised to find that they *both* won.

The two applicants looked up to Mike Rowe. Knight said that Rowe reminded her of her dad. "Dad was often gone, working, hauling semis. It was dirty work." So she watched Mike Rowe's show, "Dirty Jobs" and she felt closer to her dad.

Knight said that the application process for the scholarship included a video submission. Her video was about the remodeling job she did on her Great Grandma's house. "I was putting love back into it," she said. The project was special for her family. Her uncle now lives in the remodeled house.

Of meeting Rowe, Knight said, "If I had a choice of meeting anyone famous, he is the person I would pick. He was so humble and down-to-earth. It was incredible!"

It isn't surprising that Knight was awarded a scholarship; she showed great enterprise and leadership skills, even in college. This ambitious young woman started her business, H3 Home Designs while still a student and proceeded to solicit for and set up scholarship opportunities for her classmates.

So what is this Green Technology course that drew Knight in to to learn about the construction trade? She said she learned about solar panels, energy saving, widening cavities in the build for better airflow and greater efficiency. The program also covered more sustainable products for new builds or remodels, such as cork and bamboo flooring and windows with better R values.

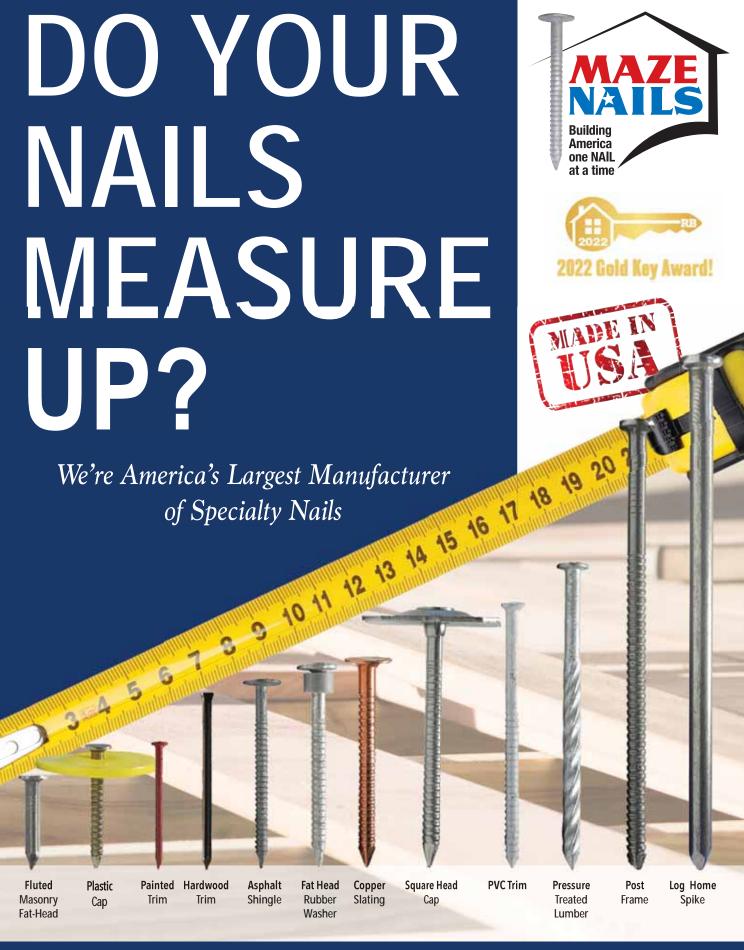
Knight feels that learning about sustainable products and



Knight posing with Mike Rowe



As a result of a collaboration with mikeroweWORKS Foundation (www.mikeroweworks.org), *Rural Builder* is featuring profiles of Work Ethic Scholarship recipients in each of its issues. Hundreds of scholarships have been awarded to trade-school students who value hard work and taking personal responsibility. *Rural Builder* applauds these students and wants to acknowledge their choice to apply their talents to skilled trades. Thank you, mikeroweWORKS Foundation, for your continuing efforts to close the skills gap and "reconnect the average American with the value of a skilled workforce."



components that have longevity would be good for all builders, but as is so often the case, people have done things a certain way for so long that there can be pushback when you try to show them another way.

That hasn't stopped Knight from trying to teach people good things and doing good things in the world. For instance she worked with Habitat for Humanity for a while. Currently she is organizing a group called Niles Neighbors to help people who have been cited for chipped paint or siding or other repairs that many of these homeowners are unable to accomplish because they are elderly or disabled.

H3 Designs, the company that Knight began while still in college, will be donating a lot of products, volunteers will provide the manpower, and Knight will provide the know-how and educate the volunteers while they work.

"I always allow people to ask me questions while I work," she said. She teaches people about the task at hand, and she talks about energy efficiency and how-tos on subjects like hiring a good contractor.

This willingness to give her time to help people and educate them is inspiring, especially when you consider that H3 Home Designs consists of one employee: Victoria Knight.

"Marketing, estimations, labor...it's all me," she said. "Running a business is not for everyone," she continued, "but there are so many opportunities and it depends on a person's drive and their willingness to take a risk." She believes the makings of a business owner is a combination of nature and nurture. "It's more personality than training, but it's also the people who surround you, for instance, parents, teachers...and Mike Rowe!"

Knight's final word on her work: "I love it; I absolutely love it!"



Knight's Habitat for Humanity Group



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Knight at Work

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BY LINDA SCHMID

Rigid Insulation

Wrap It Up with EPS!

THERE ARE MANY KINDS OF insulation available for builders to use; why, where and how would you make use of EPS?

BENEFITS OF EPS

To begin with, EPS is a small piece of silica sand, puffed up to a small ball, then steamed to meld the pieces together, like styrofoam. This is one form of rigid insulation, the one that maintains the temperature of the inside of your building longer than any other insulator, according to Jason Brown, Vice President of Sales and Marketing at NOFP, Inc. It generally has a rating of R4-R5 per inch, he says.

"It has the highest rValue while taking up the least amount of physical space," he said.

Usually a couple of inches of EPS is used. If the R-value of the EPS is 5, then

two inches provide an R-value of 10. For greater R-values, you can add some loose batt insulation.

A great benefit of EPS is that the R-value doesn't change over time per Jeremy Henson of Hershey's Metal Meister. There is no off-gassing so it doesn't lose efficiency with one exception: avoid crushing it.

EPS is good for any application including under concrete; in fact, some believe it is best under a foundation. It can also be used above grade for commercial, residential, industrial, and more. EPS is superior for roofing according to Henson. Shops and factories use it to keep a barrier between the ground and a slab. This is because it's waterproof. He said, "You could make a boat from it."

TIPS FOR EPS INSTALLATION

If you are laying insulation below the

foundation, you will need a vapor barrier. Some insulation has one pre-applied to each side of the foam board. For belowgrade installation you want to lay it flat and tape the seams keeping it as tight as possible for the ultimate efficiency. NOFP's The Barrier™ line is specifically designed as an underslab insulator and vapor retarder with film laminated to both sides as well as a patented self-taping edge and overlapping flange to make the entire installation seam-free.

Whatever substrate you are placing the EPS on below a foundation, whether it's pea gravel or sand or another substrate, make sure it is level. If it is not, the seams are not as tight fitting and if the ground heaves, efficiency can be compromised according to Henson. Hitz Halter, Hershey Metal Meister's below-grade insulation, comes fan-folded in smaller sections for easy installation once the substrate is leveled.

EPS insulation can be layered in the wall for higher R-values, and while naturally it provides no nutritional value for pests or mold, some may be treated for added protection.

Brown believes that the only time you need to consider another type of insulation is if it needs to be exposed above grade. If used on the interior it has to be covered with drywall or other covering for fire resistance. Henson adds that while EPS works great for walls, sometimes it is faster and easier to use blow-in insulation in difficult-to-get-to spaces.

Mark Aspenson of Thermal Building Concepts states that for the best energy efficiency you should wrap the roof, the walls, the foundation... wrap the entire building envelope in EPS.



EPS in the foundation. PHOTO COURTESY OF HERSHEY'S METAL MEISTER

The thicker the insulation, the higher the R-value. However, eventually you reach the point of diminishing returns. It would be pretty thick before that happens, Brown said. You would be building a different house with deep window sills if you went that thick.

Fasten EPS with a screw, washer, or nail and washer. If you use adhesive, it must be water-based; oil based adhesives will "eat"

Make installation easy with the right tools: a sharp saw blade or knife for clean cuts. RB



(RIGHT) EPS used beneath a concrete slab.

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XPS Insulation

XPS is another form of rigid insulation, but it is created differently than EPS. XPS stands for extruded polystyrene, which has cells tightly compacted to create a high-performing insulation. XPS generally has an R-value of 5 per inch.

One of the benefits of XPS is its flexural strength according to Jason Bollinger of Owens Corning; this means it flexes and bends without breaking as easily as some other types of rigid insulation. This is helpful in preventing damage on job sites where there is a lot of activity or in the case of high winds.

XPS also has very high water resistance compared to many forms of insulation, which is very

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important because water absorption is damaging to insulation's thermal performance, causing R-value to lower.

NGX Foamular XPS has very low water absorption and can maintain thermal performance even in the presence of water, so for projects where the water table is high or drainage is an issue, it can maximize insulation performance," said Bollinger. "Around the foundation, or beneath the concrete slab, Foamular XPS is extremely effective."

When used as a continuous insulation, XPS can also raise the temperature of the exterior sheathing, thereby reducing the opportunity of condensation on that surface.

Another benefit of XPS is that some of it cuts much cleaner than other rigid board.

"Clean cuts may not seem as important as the other benefits, but it becomes impactful the day

of install," Bollinger said. If the insulation breaks apart and pieces go flying, you can have a lot of debris to clean up.

TIPS FOR XPS INSTALLATION

Like EPS, you need to be mindful of how the seams are joined. Bollinger suggests staggering nail patterns to prevent overlap because if washers or cap nails overlap, they likely will not seal properly, allowing water to penetrate the board along the nail or screw.

XPS can be a highly water resistant barrier if properly sealed with the right tape, such as HomeSealR tape, and the windows,doors, and other penetrations are properly flashed.

XPS can be used as sheathing direct to framing or over OSB/plywood. If direct to framing, bracing requirements must be followed to provide

racking strength. Taping seams or making use of a housewrap can serve as the water resistive barrier for either option.

To achieve a higher R-value, builders can choose thicker XPS product, which ranges from as thin as 1/2 inch to as thick as 4 inches.

The most common way to fasten XPS is with cap nails. If you are screwing it, use the screws with plastic fasteners to help avoid over-driving.

KEEPING UP WITH CODES

One thing builders want to know is why the codes keep changing. Bollinger says that it is due to our desire to not only hold down utility costs, but to move forward to net zero energy usage. Insulation is a big part of that, he maintains, and as the data shows, heat flow directly impacts our energy consumption. RB



Working With Your Banker

What You Need To Know About Credit Lines

THE EVIDENCE IS DIFFICULT TO

dispute at this point. Whether you choose to call it recession, "stagflation", or the end of the world, the business climate is slowing in general and for many segments of the construction market. Home starts are down. Supply chains are questionable. Energy and transportation prices are up. Consumer confidence is down. The technical financial description of the current business climate is "a mess".

In tough business situations the idea is to first survive, and second arrange a good position to move into when the event ends. Part of that is recognizing the resources that are available and finding a way to utilize them to your best advantage.

The primary resources for any business are people and money. Both should be managed differently in difficult times. Volumes have been written about attracting and

keeping good personnel, while handling money is often taken for granted. It shouldn't be. Every business needs money to operate. Whether it is yours or someone else's it is a necessity; without it everything stops. If the money is of the OPM (operating profit margin) variety, chances are it comes from a bank as some form of credit.

We are currently in a recession, and in times of uncertainty or turmoil, how you manage your money and cash flow can determine if your business survives. Builders and contractors typically work with banks and credit facilities in one of three ways:

- 1. Construction loans that are rolled into a mortgage for the home owner
- 2. Financing for spec homes or developments
 - 3. A credit line for the business

This article will cover some of the basics involving credit lines and how to use them.



A credit line is essentially a preapproved loan from the bank. There is a set amount of capital waiting for you to use. Getting approved for a credit line is similar in many ways to being approved for any traditional loan.

An applicant typically needs real property that the bank can use as collateral. It can be real estate, vehicles or construction equipment, but banks prefer to be the only entity with a claim on the property. If you have an existing relationship with the bank, they may be

willing to make exceptions or find a way to use what you have available.

In addition to a real and tangible asset, you would need 3 years of business and personal tax returns and probably a personal guaranty.

The mechanics of a credit line are simple, but be certain you understand the terms and conditions at the outset as some banks handle the details differently.

The line of credit will be for a pre-

approved amount at a specified interest rate. You will not be charged interest until you use (draw down) the credit. When you do, the interest must be paid every month. You are not required to make any set payment on the principle.

There is a catch: a credit line needs to be zeroed out once per year. The interpretation of "zero" is one of the potential differences between banks. Zero always means the principle amount needs to be paid off; the

difference lies in the interpretation of how payments are applied. As an example, if your business draws down on the credit line every month for \$100 dollars, and pays the \$100 plus interest at the end of the month, a banker could say either "the old principle is paid off so the account is at zero" or "you have \$100 outstanding in new credit so the account is not at zero". The bank policy on "zero" should be understood at the outset so you can plan how to use the credit line.

The draw downs can occur in one















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of two ways. The first is that the credit can be linked to your account and act as automatic overdraft protection. You make payments and write checks as normal. The bank does what is called a "sweep" and the credit line is activated and covers any shortfall in the account.

The other way to draw down is by notifying the bank. If you wish to use the credit, call your banker and tell them to draw down your credit by \$100. They will deposit it in your account.

The trick is to match the way you use your credit line to your business philosophy and situation. This is a decision you must make. Consider the advice of your banker and accountant, but this is your decision.

One potential use is to take advantage of supplier discount terms while holding on to your own money. Many suppliers offer additional discounts if invoices are paid in advance. Payment terms of "Net 30, 2% net 10" mean the bill is due in 30 days, but if you pay within 10 days you receive an additional 2% discount.

The challenge is how builders and contractors get paid upon completion of a project. If you build a new house, the payment process is typically several steps. The builder submits a draw request or invoice to the title company. The title company verifies and inspects the work. When the work is approved the title company pays the builder. The total time for the process varies between title companies, but can easily stretch beyond the 10 days to receive the additional discount.

In this instance a line of credit could help. If the terms are 2% net 10 on a \$10,000 order, the additional discount is \$200. Credit lines are typically approximately prime +1%, so as of writing this article the rate would be +/- 7.25%. One month of interest on \$10,000 at 7.25% is \$61. By utilizing a credit line to meet the payment terms required for the discount, you would spend \$61 to save \$200. A net savings of \$139.

This is similar to using a credit card, but

has less risk after the 30 days. Credit card rates are often 15% or higher. If there is a risk of delayed payment, having the lower interest rate is a plus.

Look at your options and prepare

in advance. A credit line that is ready and waiting to be used could help you maximize discounts or be the difference between making payroll or not in the case of a slow pay or pays. **RB**





■ LP NOVACORE™ THERMAL INSULATED SHEATHING NOW AVAILABLE

LP Building Solutions (LP), a building products manufacturer, has announced that LP NovaCore™ Thermal Insulated Sheathing is now available.

After making its debut at IBS 2022 earlier this year, this is the latest offering in the LP® Structural Solutions portfolio. These sheathing insulation panels are dual-layered and designed to minimize temperature fluctuations within structures, helping to make them more energy-saving and cost-efficient over time.

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■ TFC EXPANDS ITS LINE OF 304 STAINLESS STEEL SELF-DRILLING SCREWS

Triangle Fastener Corporation has announced the addition of two new sizes to its line of SD300™ stainless steel bi-metal self-drilling screws. Now available in a #12 diameter in 1" and 2" lengths. The self-drilling screws come with a pancake head and #2 square recess and can drill and tap up to .210" thick steel or aluminum. They provide exceptional corrosion resistance and ductility, minimizing the chance of screw failure caused by stress corrosion cracking or hydrogen embrittlement.

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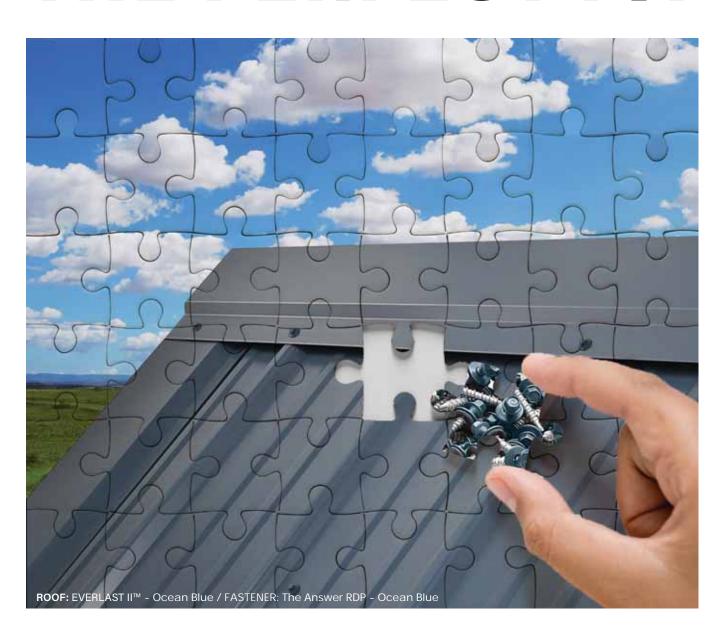
New Brass Knuckle® Slingshot™ (BKFLEX-4050AFP) loads up on eye-protecting features and puts them in a package that manages to be sporty and stylish, yet affordable and functional. Fog and UV rays are ever-present bullies to workers in extreme plant conditions and out in the elements. Much like David and Goliath, this Slingshot fights back against these bullies and levels the playing field.

These safety glasses are part of Brass Knuckle's new anti-fog collection, which features groundbreaking BK-Anti-Fog+technology. Fused directly to the lens, rather than simply sprayed on like others, it delivers better and longer-lasting fog-free protection. BK-Anti-Fog+ also beats the toughest anti-fog standard in the world, EN 166/168. It also adds ANSI Z87.1/U6 ultraviolet protection, the highest standard in the world, to eliminate 99.99% of damaging UV rays.

Wearers enjoy extra-chunky molded nosepieces for added comfort, earpieces that fit snugly at the ears without putting the squeeze on temples, and a lighter weight that helps prevent nose divots and keeps glasses in place.

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THE ANSWER

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■ MORSE METAL DEVIL BLADE

The fourth generation of Metal Devil circular saw blades from The M. K. Morse Company sets a new precedent for cutting performance. The Metal Devil line features a versatile family of blades for cutting steel, stainless steel, and aluminum/non-ferrous materials.

With multiple blade sizes for each application, the line can partner with any tool, from handfed to chop saws, to make faster, cooler, cleaner cuts with a smooth, burr-free finish with virtually no rework.

Premium grade materials improve blade durability and maximize blade life. A thin kerf blade creates less heat for a faster cut and less battery drain when using cordless tools. Optimized tooth geometry reduces vibration for improved surface finish, less rework and enhances blade versatility.

Each of the three blade applications offer unique features and benefits. The steel cutting blades have a 220 percent longer life in steel plate than the previous generation of Metal Devil blades, and last more than 30 percent longer than competitors when cutting Unistrut and square tubing.

The aluminum/non-ferrous cutting blade boasts 153 percent longer life than competitors in 80/20, and 48 percent longer life in aluminum plate.

The stainless steel cutting blades have 328 percent longer life than competitors when used on stainless steel tube.

All blade life information is based on internal product testing results.

www.mkmorse.com



■ COMMERCIALLY-RATED SMART LOCK & TECHNOLOGY

INOX introduces its first smart lock, the ISM7000 Series Smart Mortise Entry Set. Available in any finish, trim or lever set, the Series Smart Entry provides a hardware solution for owners of mixed-use properties to customize lock settings at multiple locations.

Qianyan Cheng, INOX cofounder and Vice President of Product Research and Development said, "INOX innovated to provide the first hardware solution for users who need multiple smart locks spread across different properties such as: multifamily unit entries, boutique hotels, gyms, laundry rooms, or any situation where a user may need to secure their property with their smartphone. The ISM7000 Series Smart Entry is the best of both worlds, form and function that seamlessly secure your property."

Key hardware features of the ISM7000:

- Patent pending 3-hour fire rated mortise lock that supports locking and unlocking using mobile phone or remotely via low energy BLE/WIFI gateway.
- Entry function complete with programmable Passage and Privacy modes and optional mechanical key override. The lock's Passage mode can be activated with an interior function.
- The lock provides premium performance with ANSI Grade 1 commercial mortise construction.

This hardware can be controlled with the accompanying smartphone application anywhere in the world, as well as a backend access control system. Users can grant additional access with secure RFID e-keys.

www.inoxproducts.com



■ LARGER NAILS, MORE POWER: 2-1/2" NAILERS FROM KYOCERA SENCO

KYOCERA SENCO Industrial Tools, a global leader in professional power fastening technology, has introduced two new, powerful metal connector nailers that fire 2-½" nails commonly required in hurricane and seismic zones.

The JN91P1 and JN91P2 pneumatic metal connector nailers are used for fastening pre-punched metal structural connectors like joist hangers, seismic/hurricane straps and rafter ties. They deliver 10% more power than competing nailers and previous-generation tools. Increased power allows consistent, complete sinking of nails in ultra-dense engineered lumber used for structural beams.

Both tools shoot 1-½" to 2-½" nails ranging from .131 to .162 inches in diameter. The JN91P1 features a short magazine that holds a single rack of 34° paper tape-collated nails, offering a high degree of mobility between joists and rafters. The JN91P2's extended magazine can accommodate two racks of nails, allowing users to maintain higher production rates with fewer reloads.

These nailers feature innovative nosepieces that lead with a point for accurate placement into pre-punched holes, overmolded grips for comfort and control, adjustable exhaust ports that direct blowback away from the user, heavy-duty steel belt/rafter hooks, and lockouts that prevent dry firing and signals the user when it's time to reload.

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Snow Guard Challenges

The Experts Respond.

SNOW GUARDS ARE LITERALLY LIFESAVERS and preservers of foundations, but they are not without their challenges. Some of those challenges are addressed by the snow guard pros.

THE SNOW GUARDS SLIDE OFF THE ROOF ALONG WITH THE SNOW

One of the most-heard challenges is that snow guards do not always stay put. There can be a number of reasons for this.

One issue could be that you are trying to adhere the guards to a "non-stick" system. A Kynar paint system is one molecule removed from Teflon, and if the guard is held in place by an adhesive, sunlight can break it down. This is especially true of clear guards. Further, a climate in which the freeze/thaw cycle is continuous is hard on adhesive.

Sometimes the problem is that the installer didn't use enough adhesive.

The solution to these adhesive problems is to attach the guards with mechanical fasteners. Some experts recommend that you use adhesives *and* a screw; the combination is pretty strong.

A Shield Wall Media survey showed



PHOTO COURTESY OF QUALITY EXTERIORS



This beautiful copper roof shows the proper, staggered snow guard spacing. PHOTO COURTESY OF A.B. MARTIN

that approximately 13% of installations involve adhesive alone. If you hesitate to use mechanical fastenings because you don't want holes in your metal roof, there are clamps that can be used; the set screw will pinch the panel and dimple the rib of the standing seam, but there will be no hole or leakage.

If you have affixed the snow guards to the roof with screws, it could be that the screws are too small and do not have enough grip so they will easily fall out. For instance, a size 10 does not create enough surface tension or have enough shear strength; a #12 or #14 should do the trick.

A more unusual challenge could be that there is not enough under-roofing. Snow guards need 1/2" or 3/4" plywood. Some experts say you should fasten to dimensional lumber rather than plywood for mechanical fastening.

Another scenario is that the installer

may not have used enough guards. They should be spaced no more that 12" apart. Also, the screws need to be tightened appropriately. The resolution to these problems are simple: consult with the manufacturer regarding the number of guards needed before installation.

If the guard left adhesive residue behind, clean it up with alcohol wipes, reglue and/or re-screw the guards and beef up the system to avoid a recurrence of snow guard failure.

WHAT WARRANTY?

Some snow guards are sold without a warranty or with a very negligible one. Our experts are split on this. On the one hand, some say that a warranty is a gauge of how long the guards are expected to last and you are assured that if you have followed the manufacturer's directions, then liability is on the manufacturer.

Others say that if you have followed the manufacturer's recommendations, a reputable company should stand behind the product anyway.

Over 90% of the time when claims are checked out, it ends up that it is installer error. However, all experts agree that even if you have followed the manufacturer's specifications, an unusual weather event can take its toll; therefore you may want to plan for more extreme weather than the average. Work with your manufacturer to decide what is right for your project.

One thing warranties do not cover is the roof's coating, so you will want to be cognizant of that as you apply snow guards.

GUARD DETAIL

How many guards does it take to



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are using. But errors can be costly.

The good news is that you don't have to figure it out on your own. In fact, you shouldn't. The manufacturer will most likely have a calculator online into which you can enter dimensions, location (you may need the snowload), and type of roof and the calculator will tell you what you need. Even without a calculator, a phone call to the manufacturer should clear up any questions about how many snow guards a job requires. In fact, you should be able to get a layout for a custom job.

LAY IT OUT FOR ME

While the pros tend to agree that how many guards you need should be pretty straightforward if you've measured your roof properly and worked with your snow guard manufacturer, they also say that placement can be a little trickier. Some installers believe they have followed the manufacturer's directions and yet they come to find out that the guards were incorrectly placed.

One aspect of snow guard placement is how to lay them out: at the eave, in the middle of the roof, nearer the ridge? Traditionally at least one row is installed at the eaves, but there can be debate if there should be multiple rows distributed evenly up the roof and, according to some, that can be preference or aesthetic. Generally, guards are placed between the ribs, but whether they are placed between or on the ribs, no rib should be skipped.

Confusion can result when manufacturers talk about staggering. Staggering means going across the roof, place one guard 2 feet from the eave, then at the next rib place it 4 feet from the eave, and continue down the roof in this way: 2 feet, then 4 feet, then 2 feet, then 4 feet for a staggered or zigzag effect.

Experts are in agreement that you should plan your snow guard system based on information from the manufacturer. Our industry survey showed that about 80% do so and about another 5% use an

THANK YOU TO OUR PANEL OF EXPERTS FOR SHARING THEIR KNOWLEDGE WITH US!

- · Shad Eash, Creative Director at A.B. Martin
- · Howie Scarboro, National Sales Manager at SnoBlox-SnoJax
- · Stephan Mohler, Marketing Director at Quality Exterior
- · Mike O'Hara, National Sales Manager at Levi's Building Components



PHOTO COURTESY OF SNOBLOX-SNOJAX

engineer's plan or their own software.

HOLEY ROOF

Sometimes when builders replace old snow guards, they discover that the old snow guards left holes in the roof. This can happen because the system was underdesigned, either there weren't enough guards or they were improperly placed, so they gave out when a heavy snow pulled on them, lengthening holes as the screws fell out.

When you come across this, the best thing to do is to fill those holes with an appropriate adhesive to avoid leaks. However, filling the hole with caulk is just a short-term solution. Follow up with a screw one or two sizes larger for gripping power and add a washer, thereby filling and covering the hole.

Another piece of advice: If you are installing a snow guard system in a geographic location that experiences a lot of snowfall, use a higher-quality product. Further, you should always work with a reputable company. Ask for their testing standards and look for a company with a history of standing behind their product.

It will save you money in the long run. **RB**

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Pre-Fab Components Work for You

Gain Efficiencies Your Competition Can't Match!

THOUGH BUILDERS MAY CONSIDER

THE pre-fab components manufacturing industry to be a fairly new, untried development in construction, it actually started back in the 1950s with prefabricated trusses. According to Sean Shields, Director of Communications of the Structural Building Components Association (SBCA), metal connected wood trusses have been more tested than most components out there. This was necessary to overcome builders' distrust of something new; a distrust that Shields says is natural. "If a builder has a process and products that work for them, they will be hesitant to move to something new, thereby taking the chance that these new processes and products could fail. However, nowadays components are required to be code compliancy tested, so a builder can be confident that the components offered by established manufacturers will perform as they should," Shields said.

TIME SAVINGS

Dwayne Borkholder and Todd Meinhold, the Presidents of Borkholder Buildings and H&D Quality Builders respectively, have developed The Rapid Framing System, which includes a wall system, wall panels, trusses, and roof panels, with fascia and everything in one package. They have found that it is quite efficient.

Meinhold recounts the experience of a builder in the Bahamas who had no postframe experience, but was able to frame a building in less than a week with this



Wall Panel placement. PHOTO COURTESY OF DREXEL BUILDING SUPPLY

framing system.

Depending on the size and complexity of the job, Jason Blenker, Off-Site Solutions Leader of Drexel Building Supply, has seen a 50-75% reduction in framing time with their component package that includes all exterior walls, interior walls, windows, and window flashings.

LESS LABOR REQUIRED

Pat Schwieters, General Manager at JL Schwieters Building Supply &

Construction said that the reason for these efficiencies is that 60% of the work has been transferred from the field to the manufacturing facility. This in turn means that your construction crew will stretch further. Meinhold relates that some crews that had 4-5 guys now operate with 3 guys.

Mike Ruede, Executive VP and COO at A-1 Industries said that they have done a lot of hiring and in-house training in order to bring some of the labor requirements into the factory and out of the field. He

says, "Experience is not preferred. We hire on character and train employees." A-1 trains new employees at A-1 University where they have beginning, intermediate, and continuing education for lead workers and supervisors.

NO EXPERIENCE NEEDED IN THE FIELD

Not only are pre-fabricated components time-saving, they also require less skill on the part of the field worker. Consider a package that has all the planning, measuring, and cutting complete. "It reduces the level of skill required because it is like an erector set," said Blenker.

"Consider the volunteers at Habitat for Humanity," Meinhold added. "Some have no construction knowledge and they probably shouldn't use a power saw, but with this type of build, they can help and be efficient."

PHYSICAL REQUIREMENTS ARE MINIMAL

Shields observed, "The industry has moved away from master craftsmen. If you have people with higher level skills you want them supervising or focusing on the more difficult tasks.

Meinhold said, "With pre-fabricated components, we can extend the time that a builder can contribute on the jobsite. It is physically less tasking as the components are lifted with cranes or lifts." A 75-year-old can operate that machinery and continue to be productive.

Meinhold summed it up like this, "This leads to affordable housing and skills being learned. Now you can do the same work with fewer people and you can bring in people who don't think they can do the physical aspect that stick builds require. You can bring in kids who don't know anything about construction, and get them excited about it while they learn."

He added that these things could have a huge impact on your business, as you can keep the workforce you currently have while developing a new one.

SAFETY IS THROUGH THE ROOF!

Schwieters noted that there is an added safety factor with a floor panel system. It takes away from the leading edge danger because there is something solid in place to attach your lanyard to, so your fall protection just went way up! Also, the bending and lifting has been limited, leading to fewer injuries.

Other safety gains are in the job site, according to Blenker. If there is less waste sitting around, the site becomes more organized so that if the site owners, neighbors and passers-by enter the site, they are less likely to get hurt.

QUALITY AND SUSTAINABILITY ARE UP

Quality is likely to improve as well. Ruede said that their process results in a higher quality floor and roof because they are pre-engineered, pre-designed, and pre-fabricated to 1/16 of an inch. CNC precision, automatic cutting machines and assembly



The Rapid Framing System can be placed with a telehandler or skid steer. PHOTO COURTESY OF H&D QUALITY BUILDERS

machines take on much of the work previously done by builders. Further, because of the minimized timeframes that jobs take, the framework is exposed to fewer weather events, like rain and wind stresses, thereby avoiding mold, mildew and warping.

With computerized planning of material use, comes greater efficiencies. There is less waste because the software will figure out how to get the most out of the raw materials. With less waste comes less cleanup and fewer dumpsters required.

AVAILABILITY

Like many other products, supply of prefabricated components could not keep up with demand and lead times were long for a while. Shields said that is a bygone problem; supply and demand is reaching that strived-for equilibrium and those unhelpful lead times are a thing of the past.

(BELOW) Pre-fabrication at the Plant. PHOTO COURTESY OF A-1 INDUSTRIES





THE BOTTOM LINE

Shipping is, unfortunately, less efficient with prefabricated components. After all, the components are no longer small bundles; they are now much larger, bulky shapes, so it can take more truckloads to deliver everything. Naturally this will cost more, so shipping is not one of the efficiencies of prefabricated components.

Further, you may have to have skid steers, telehandlers, or even cranes to move larger pieces around, and components may cost more up front than raw material.

Blenker said that using pre-fabricated components isn't about saving money. However, if you are able to complete more jobs because of time savings, you may end up making more money overall.

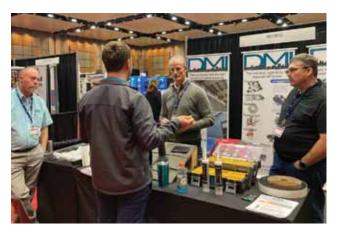
The crews who work with pre-fab components find that the efficiencies created in time, safety, and reduced waste make it well worth while. The experts all agree that if you give pre-fabricated component framing a chance, and you experience the efficiencies, you will not want to go back. After all, pre-fabricated components could be the answer to your employee shortage. **RB**



Pre-fabrication at the Plant. PHOTO COURTESY OF A-1 INDUSTRIES



PHOTO COURTESY OF JL SCHWIETERS BUILDING SUPPLY & CONSTRUCTION INC.





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Sand Scarcity

Addressed by a Geographer and Environmental Scientist

THE ONGOING SURGE IN DEMAND for sand has made it a scarce commodity. This natural resource is commonly used in computer microchips, construction, and is an active ingredient in cosmetics. But the current supply of this material has not been able to keep up with the speed of global urbanization. Now, sand is approaching a cost of \$10 a ton, while it was just under \$4 a ton 31 years ago.

While sand can be found in almost all countries, there is a specific type of sand most desired by society — sand with an irregular shape. This kind of sand enables products to be stronger than smooth and symmetrical grains of sand, but such sand is only found in certain environments, like the bottom of rivers and streams.

To address the shortage, alternatives such as glass or M-sand — manufactured sand — have been deemed to be a suitable substitute for those unable to access natural sand. Even with all the interest in various alternatives, Stanford geographer and environmental scientist Eric Lambin emphasizes that, "a complete physical sand depletion globally is unlikely."

IMPACTS OF A SAND SHORTAGE ON BUILDINGS

The sand found in deserts is unsuitable as construction material because it has been eroded by wind, making its sand grains smooth and they do not bond well together. That is why the tall buildings of Dubai, a desert city, were built with sand imported all the way from Australia — as skyscrapers require extremely high-quality aggregates. High-income countries will continue using high-quality materials by importing them from distant places, thus offshoring mining impacts and increasing transportation costs.

In countries with high demand for sand and poor regulations, once high-quality deposits become exhausted or inaccessible due to urban growth, nature protection, or farming, sand extraction shifts to low-quality materials with organic matter or salt that, when used for the wrong applications, increase the probability of construction failure and building collapse. Construction failures have been linked to poor sand quality in Haiti following the earthquake, Nigeria, Morocco, Thailand, South Africa, and Italy.

Big picture, it's important to remember that it's unlikely we'll deplete sand on a global scale. What we do observe are regional sand scarcities — with both physical scarcities ensuing when demand exceeds physical availability, and economic scarcity resulting from loss of access to sand deposits due to competing land uses or local opposition to mining due to environmental impacts.

COST EFFECTS OF SUSTAINABLE MATERIALS

The problem is that sand extraction is largely unregulated. It is, therefore, a rather cheap resource, even though its extraction causes damaging impacts on land, freshwater, and coastal ecosystems. For more sustainable construction materials to be competitive, regulations on sand extraction need to be more stringent and better enforced. In several countries, organized criminal groups, known as sand mafias, have taken control of the sand trade and they don't hesitate to use violence against anyone opposing their destructive extraction practices. These illegal activities distort sand markets and stifle innovation.

Some have proposed using recycled glass as a replacement for sand, but is this a viable alternative?

The technology to crush glass into a material equivalent to sand does exist and is already in use, for example as an alternative to sand for pool filters. However, it is more economical and environmentally friendly to wash glass bottles and reuse them as many times as it is possible rather than transforming them into sand. Even if all recycled glass were transformed into sand, it would produce nowhere near the 40–50 billion metric tons of sand, gravel, and crushed rock used every year around the world.

SAND ALTERNATIVES

Instead of mining unconsolidated sediment deposits, fine-grained sand and coarser products can be produced artificially by crushing rocks or by recycling construction and demolition waste such as concrete or masonry. Crushed rock can be equally suitable or superior for some applications, thanks to better control over mineralogical composition and shape. It is already the main source of aggregates in the United States, Europe, and China.

Engineered timber is another promising alternative construction material, which also contributes to carbon storage, but it is only suitable for low- and mid-rise buildings.

These alternatives will only be deployed at a scale once sand extraction is better regulated, and the price must include the environmental externalities associated with its extraction and transport. **RB**

As told to Maddi Langweil, Stanford University by Eric Lambin, Geographer and Environmental Scientist, Stanford University

Eric Lambin, Stanford University
PHOTO COURTESY OF STEVE CASTILLO

BY LINDA SCHMID

Ritchie...

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101 YEARS...THAT'S A LONG TIME for a company to be in business. A history that long means a business is doing something right. In fact it means they are doing many things right.

Ritchie Industries Inc. was started in 1921 by Thomas Ritchie. He patented a device which connected underground running water to automatic watering equipment. This provided a constant fresh flow of water on-demand for livestock – a great breakthrough for farmers and ranchers who previously had to manually water all of their animals!

The waterers were so handy that the company grew naturally. However, in some climates, the temperature is below freezing much of the time and that means frozen water, so the farmers still had to go out to the field to break up the ice. In 1943, the company developed waterers that would keep the water from freezing.

The company has continued to grow to become the largest manufacturer and distributor of animal and livestock watering equipment in North America.



Goats drinking out of a Ritchie WaterMatic 150S. PHOTO COURTESY OF ANDREW EVERS

DOING SOMETHING RIGHT

Jeff Miller, the Sales & Marketing Manager at Ritchie has some ideas about why Ritchie has survived and prospered while many companies have not.

"First, the work ethic in people here in Iowa has allowed the company to thrive," Miller said. "Innovation has had a lot to do with it too," he continued.

"The company has been innovative in new and better designs, but Ritchie also began a tradition of innovation in marketing."

They were doing full color national advertising for a product that 90% of the population never even thought about, long



Cattle drinking out of a Ritchie WaterMatic 100.

before other companies were advertising nationally.

"Ritchie always maintained a sales force too. Whatever it took, Ritchie has always been ready to take the next step," Miller said.

The company gained a stellar reputation by producing a good product, offering the best warranty in the business, and then standing behind the warranty.

A TRADITION OF CUSTOMER SERVICE

In keeping with their tradition of treating customers the way they would want to be treated, Ritchie has a customer service center that is manned by real people.

"Farmers are busy," Miller said. "They don't want a manual to read; they want answers. They want to talk to someone who knows what they are doing, so when they call we give them someone with production and/or management skills who knows all about the products and maybe even how they are built. We get them answers and we get any concerns taken care of."

Further, the warranty process is taken very seriously with a tendency to err on the side of customer support. "That is partly because we don't have many claims against the warranty," so we tend to be generous Miller stated.

The call center often gets calls from people who have had the same waterer for 25, 30, 35 years or even longer and they are looking to replace parts that have finally worn out.

A CULTURE OF CARE

People at Ritchie take their work seriously; they understand the scope of what they are doing.

"Livestock have to have water daily and farmers need tools they can depend upon. When it gets cold, you can't have waterers freezing over. This is important; our products help feed the world," Miller declared. The company cares for their employees in return. The administrative employees own the company through an employee stock ownership plan or ESOP. Production is a union shop. All employees are well compensated with good benefits, bonuses, and great opportunities. Some of the employees have worked at the company for 25-35 years and Miller said they are grateful for them. Employees are not easy to come by these days, he continued, and when you find good ones you want to hang onto them.

AHEAD OF THE CURVE

One of the more recent challenges that many companies have to face is the growing pressure to make products that are more sustainable and earth-friendly. This is nothing new to Ritchie.

Their waterers are on-demand so there is no water waste. In contrast, waterers that are not on demand tend to be tubs of water that sit there and evaporate, and eventually they get dirty. Then the water has to be dumped and replenished, so there is a lot of waste.

Ritchie's units are heated when the weather is cold, but they are



Ritchie Industries employees outside of the Ritchie headquarters. PHOTO COURTESY OF RITCHIE INDUSTRIES

well-insulated so they are very efficient to run.

The waterers are roto-molded so little waste is created in the manufacturing process and there is no residue.

Since the product has such longevity, they are not filling up the landfill, either.

Planning a barn?

Plan on a Ritchie and add guaranteed value to your barn. Our automatic waterers are durable, easy to install, and carry an industry-best 10-year warranty. Your customers will thank you, and more important, so will their livestock.





Spotlight On: Ritchie

As the rules change, the company is well-positioned to show sustainability.

"We've always been ahead of that curve," Miller said.

MORE GROUND TO COVER

Ritchie makes one thing: automatic waterers. They are making them as fast as they can, and yet as fast as they make them, they sell out. This hasn't been a problem because they source all their materials from the U.S. and so they have avoided a lot of the supply problems that many companies have experienced.

Ritchie's products and service already cover most of the U.S., Canada, and Europe due to their many long-time



Horses drinking from the heated and insulated ULTRAFOUNT. PHOTO COURTESY OF RITCHIE INDUSTRIES

distributors, and now they plan to expand into the United Kingdom, and they see opportunities in South America.

Other changes include a bit of a rework of the business model.



Cattle drinking out of a Ritchie Thrifty King CT4.
PHOTO COURTESY OF RITCHIE INDUSTRIES

"We are starting to work with builders and contractors as they plan farms, ranches, and horse enthusiasts' barns and fields. We are working to be more in the forefront of planning stages. We want to be part of the package instead of an afterthought."

Ritchie is continuing with their tradition of innovation. They have a full engineering staff that is always working on improvements. Currently they have a new product in the works; they expect to be announcing it in the first quarter of the new year. The future is looking great – and well-watered. **RB**



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Dear Readers:

You may have noticed a change. This is the first issue of *Garage*, *Shed & Carport Builder* you have received where it was not included with another magazine.

With our 7 magazines we have a degree of overlap. If you build garages, you probably do similar types of construction covered in *Rural Builder* or *Frame Building News*. This overlap dominates how we launch new publications. We hope our existing subscribers will find the new magazine interesting and subscribe. Then we have outside advertising, presence at trade shows and digital promotions to grow subscriptions beyond our existing subscribers.

This is the first issue of *Garage*, *Shed & Carport Builder* that exclusively mails on its own. My baby has grown into a full-fledged magazine standing on its own merits.

Thank you to our advertisers and subscribers that have made this growth possible. I hope you like the magazine enough to share it with a friend and help us continue to grow.

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August Issue

Rural Builder

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Linda Schmid, managing editor

If you have questions, contact Linda Schmid at 920-659-6319.

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Please fill in all fields relevant to your project or scan QR code below to fill out electronically and send completed form to:

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Company Name on Project:
Company Website:
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General description of the project:

(Please include a couple of paragraphs including what the customer wanted; what special elements set it apart)



Both Builders & Homeowners Benefit

PERC's Propane Construction Incentive Program

BUILDINGS OF ALL KINDS-INCLUDING HOMES-ARE a

significant source of greenhouse gas emissions. In fact, homes account for nearly 40 percent of carbon pollution in the United States, according to the U.S. Green Building Council. Because of this, Zero Net Energy (ZNE) homes have become more popular with builders over the last few years. ZNE homes generate as much clean, renewable energy as they consume, thus having a "net zero" annual energy impact.

Todd Fitzgerald is a builder and owner of Father & Son Construction in New Hampshire. He's been building homes for 30 years and has participated in the Propane Construction Incentive Program since 2018.

The Propane Construction Incentive Program was developed by the Propane Education & Research Council (PERC) as an opportunity to encourage more builders and remodelers to incorporate clean, reliable propane into their projects. The Incentive Program awards qualifying and selected construction professionals a monetary incentive for building or remodeling homes using propane appliances in exchange for sharing their data and insights regarding their propane use. To be eligible, a construction professional must meet all program requirements

and the home must include at least one of the required propane appliances.

"Building and living in a sustainable home is growing more and more important to my customers, so that makes it part of my job, Fitzgerald said. "When we're out building and we can use propane, especially through this program, we do it."

One way to reduce emissions and help homes achieve ZNE status is by installing propane-powered appliances—and PERC makes that easy through its Propane Construction Incentive Program. In fact, the 2021 program resulted in the elimination of seven million pounds of carbon dioxide (CO2) in more than 950 homes across 33 states.

Eliminating seven million pounds of carbon dioxide is a huge win for the planet. It's equivalent to eliminating greenhouse gas emissions from:

- 684 gasoline-powered passenger vehicles on the road for one year.
- 7,881,367 miles driven by an average gasoline-powered passenger vehicle.
- Charging 386,233,234 smartphones.
- Total energy used by 400 homes over the course of one year.

Many people believe an all-electric home is the only way to reduce or eliminate carbon emissions. But electrifying everything is not the answer, instead builders need to consider a strong energy mix in the homes they build, and that energy mix should include propane. It will take decades and cost trillions of dollars to expand the country's electricity grid to be able to electrify everything. Not to mention, most U.S. grid electricity is produced by burning natural gas or coal. Propane is an immediate solution to accelerate decarbonization, and the findings from last year's program show that impact.

In 2022, the Propane Construction Incentive Program offers an impressive \$1,050,000 in funding and has budgeted to keep the program going for 2023.

The program offers a baseline incentive of up to \$1,000 to builders or remodelers who upgrade to propane appliances in a new build or a remodel. To qualify, at least one of these propane appliances must be installed:

- \$500 Incentive: boiler, furnace, hydronic air handler, combi boiler (not a heat pump).
- \$300 Incentive: water heater (tankless or storage tank).

- \$300 Incentive: hybrid heat pump with propane emergency
- \$100 Incentive (per appliance): cooktop or range, clothes dryer, standby generator, fireplace or gas Log set, and/or propane gas piping for outdoor equipment.

"Participating in this program means there is extra money coming in to offset costs, which is really good," Fitzgerald said. "Plus, it's easy to sign up. I choose propane over other energy sources because it's efficient and clean. It's good for the environment, and that's important to me and my customers."

Adding propane performance to homes is a win/win for builders and their customers. When they participate in the Propane Construction Incentive Program, builders help to

further reduce greenhouse gas emissions while satisfying customers. **RB**

Propane.com/ConstructionIncentive.

Bryan Cordill is the director of residential and commercial business development at the Propane Education & Research Council. He can be reached at bryan.cordill@propane.com.





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Working Toward Net Zero

BY LINDA SCHMID

INSULATION IS AN IMPORTANT PART of energy efficiency; the more the flow of air is regulated, the less energy is required for heating and cooling. Structural Insulated Panels or SIPs are a very good choice in that regard. They

are very large panels, up to 24' long or tall dependent on how you install them, with solid cores that can be used for walls, roofs, and floors. These panels feature insulation sandwiched within a solid, structural material such as OSB. Placed

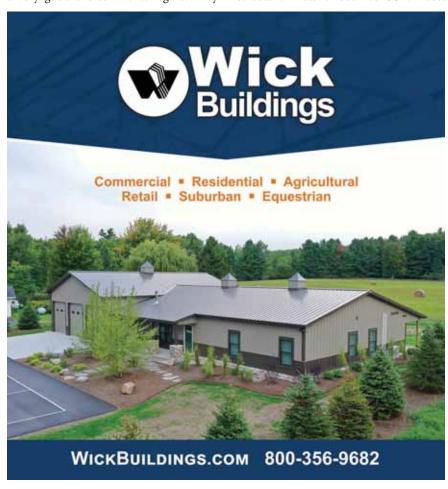
continuously on the envelope, they help make the building airtight according to Becky Susan, Marketing Director at Premier Building Systems.

Susan hears happy customer stories all the time. One example is the family with a Washington 2,600 square foot, 2-story home whose heating and cooling costs for the whole year were under \$400. "SIPs test at 40-60% more efficient than fiber batt and have tested that way since the 70s," Susan said.

Making the building envelope efficient is important in getting to Net Zero, but it isn't the whole thing. Incorporating one or more forms of energy generation is important too. Solar panels, windmills, and geo-thermal energy generation are the common forms that owners incorporate into their buildings.

There are other things you can do to move a building's energy consumption down Susan says. For one thing, changing the HVAC system can help. Some go from forced air to radiant floor heat or minisplits.

An important consideration to improve energy efficiency when working with SIPs is to plan in advance for the various tradesmen involved in the build. Know that in some cases you may have to educate tradesmen about SIPs. They feature prebuilt electrical chases, which will likely make the electrician's job easier, but until the electrician or other tradesman is familiar with it, a new system can feel



daunting.

Not only can SIPs help get your build to Net Zero, they reduce waste, using raw materials more efficiently as they are cut to suit thereby reducing your dumpster fees by 30%.

This product is can be very sustainable too. Premier brand sips are made with OSB board which is made from fast-growing trees. The OSB is enhanced with EPS or polystyrene which includes no chemical hazard for health or the environment; it's silica expanded with steam. EPS is completely recyclable too. New SIPs are made with around 10% reclaimed EPS.

When SIPs are well-joined at the seams, they can improve a building's air quality. EPS does no offgassing and, of course, it helps keep outdoor air out. **RB**





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More Than A Cover-Up: The Right Floors Matter

Trends and Solutions

PHOTOS COURTESY OF SHAW FLOORING

LIFESTYLES HAVE CHANGED OVER THE past several years. Whether living or working in the city, suburbs or countryside, our homes, workspaces, gyms and other spaces continue to evolve to adapt to re-envisioned lifestyles. This evolution encompasses new construction projects, in particular. As such, helping your clients choose the right flooring is the foundation to creating spaces designed to last and that homeowners or business owners will enjoy for many years to come.

A number of factors should be considered when selecting flooring for modern spaces. While flooring is expected to be beautiful, it also serves many practical functions—sound control, density, softness, and durability are just a few of the elements that matter when specifying flooring.

Floors today need to be designed for multifunctional living. While busy lifestyles are here to stay, there is no need to make compromises when it comes to flooring. It is possible to enjoy attractive floors that are also durable and comfortable to live on. A good flooring partner will provide a large selection of products that offer a robust mix of style, function, and performance.

HELPING CUSTOMERS DECIDE ON FLOORS FOR EVERY PROJECT

Hardwood flooring is a timeless choice that brings charm and style to a variety of spaces while boasting longevity. Fortunately, with the introduction of products designed with splash-proof technology, it's no longer necessary to shy away from installing hardwood in areas such as kitchens. In fact, hardwood flooring has become one of the more popular choices for kitchens,





especially in open floor plans. Helping a customer to choose hardwood is a smart choice as it adds value to a structure.

It's important in all flooring applications to consider durability and performance characteristics, especially in homes with kids and pets, and in agricultural and other workplaces. Today, it's possible to get the organic look of hardwood in products that also resist water and dents. Additionally, vinyl and laminate flooring are typically easier and faster to install than hardwood flooring, which saves time and money.

For added design versatility, tile and stone options offer classic appeal that will endure over time. Well-suited for floors, along with statement backsplashes in kitchens and bathrooms, tile and stone products are available in a range of striking patterns and trend-forward and classic colors—bringing elevated style to any space. This is especially important in the bathroom where people are looking for rest and relaxation.

When it comes to comfort, nothing compares to the feeling of a soft carpet underfoot. Carpet adds an element of warmth and peace that is perfect for bedrooms and offices. In addition to its inherent cozy factor, nylon and high-performance polyester carpet selections are designed for longevity. Ideal for rural homes and offices, nylon carpet is treated with stain-resistant technology, protecting against spills and staining. It is also engineered to resist abrasion, fraying, crushing, and matting, helping to ensure that the carpet maintains its looks and comfort over time.

Pet owners don't have to miss out on the comfort carpet provides. Many of today's carpets are designed specifically for households with pets. These options feature high-performance polyester and



nylon to help prevent fading along with elevated stain and soil resistance and the ability to repel pet hair for easy clean-ups.

As more people are working from home, sound control matters more than ever before. Whether a "cloffice" (office in a closet), a desk in the bedroom, or even a new addition to the home, it is crucial that home offices are designed to minimize distractions. Carpet muffles sound, helping to mitigate unwanted noise so that people can work in peace.

In addition to selecting the right flooring for homes and offices, it's important to consider flooring for workshops, barns, and other common rural buildings. In these types of applications, commercial-grade products could be the best option.

CHOOSING THE RIGHT FLOORING PARTNER

It is advantageous for builders to work with a business partner that sells all product categories and flooring accessories, enabling the builder to access everything needed for a project—including installation and aftercare—from a single source. Floor prep products, cushions, adhesives, trims, and cleaners are just a few of the essential items that a large supplier offers, providing a one-stop shop for flooring installers.

Whatever the project—a new home build, garage gym, office space, workshop, or barn—choosing the right flooring solution for each space will ensure the longevity of the flooring investment. From the product selection process to installation to aftercare, a world-class flooring provider will have every step covered with support along the way to make projects easier throughout the process.



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Flooring Install Tips

Hardwood Installation

The key component to the successful installation of hardwood is maintaining a controlled environment. A few factors to take into consideration are moisture, relative humidity, and temperature.

The recommendation is that all hardwood products should be installed within specific ranges for these parameters for a successful installation. Refer to product installation guidelines for these parameters.

Engineered hardwood flooring is the predominant platform sold in the market these days. The construction consists of cross ply, HDF, and a few hybrid platforms. Engineered hardwood can be nailed, floated, and glued.

Given the vast range of this category each product may have specific requirements for fastener sequence and staple/cleat size. With the wider products on the market today it is recommended to add glue to the fastening protocol of products 5" or wider.

When gluing an engineered hardwood over concrete, there are specific adhesives that provide moisture protection from the concrete. These adhesives have specific trowels and directions that need to be followed for a successful installation. One key tip for any glued down engineered hardwood is making sure the flooring is rolled with a 100-150 lb. roller during the installation. This enables the adhesive transfer and bond to the hardwood.

Resilient Flooring Installations

Traditional resilient types can be floated or glued. The most important tip for successful installation is acclimation and maintaining temperatures specified per product, along with understanding and properly testing and mitigating any moisture concerns if installing over a concrete substrate.

The resilient category has grown significantly with new and innovative products that have specific install directions. The advancement in the

resilient category leading into WPC, SPC, and mineral core products have led to more stable products that may not specify the product be acclimated prior to installation, but the environment needs to be controlled and

Key importance with these products is understanding the moisture of the concrete and properly mitigating any risk prior to installation. For new concrete this can be in the form of installing the HVAC system prior to installing the flooring in order to start pulling the moisture from the concrete to a relative value that is within range of the product specifications. If installation is over older concrete substrates that have moisture issues. moisture mitigation is recommended to negate any potential for failures.

Carpet Installations

To have a successful installation of residential carpet, all carpet seams should be row cut, seam sealed, and stretched 1.5 percent every 12 ft. Padding also plays a role in the proper installation.

A good quality 7/16 inch 6-8 lb. pad will increase the life and quality of the carpet.

All commercial pattern carpet has a manufacturing tufting pattern tolerance for skew, bow, and pattern run-off of 1.5 percent, which should be measured, documented, and any issues addressed before installation. Pattern carpets should be installed by sequence and pattern size, to help with installation. Proper trowel size and premium adhesive is needed as

Carpet tile's biggest install concerns are floor prep and drying time of the adhesive. All old adhesive residue should be removed before installation and new concrete should be checked for moisture and porosity which can be corrected with either moisture mitigation or latex primers. HVAC is instrumental for a proper install.



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COMMITMENT TO SUSTAINABILITY

Sustainability and wellness are more important than ever, especially when it comes to a home. Check out your flooring partner's commitment to keeping homes, health, and the planet a priority. Homebuyers will have the assurance that all products are backed by health and sustainability certifications, enabling them to make the most informed and health-conscious decisions possible, resulting in valuable peace of mind.

THE IMPORTANCE OF A CUSTOMER-CENTRIC CULTURE

Flooring is one of the most important surfaces in any structure, suffering more wear and tear than most. That's why choosing a partner that delivers customer-centric service each step of the way is critical.

In addition to offering attractive products, it is also essential that a flooring partner is always innovating to provide trend-forward designs that are not only sustainable but also promote health and wellness. Pay attention to whether the products you consider purchasing are backed by a team available to help identify solutions when challenges arise. They should be ready to extend expert guidance and the support needed for seamless installation, and they should be able to offer advice on long-term care—for any project.

Well-designed flooring is more than beauty and durability. It's about providing the solutions that today's customers desire. **RB**

Tracy Daves is Director of Design and Marketing for Shaw Floors for the East Coast.



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BY RURAL BUILDER STAFF

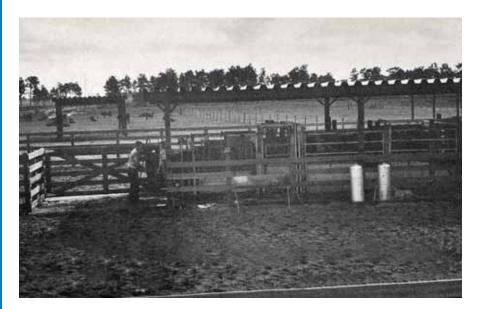


November/December 1974— This article makes a point that is just as valid today as it was in 1974: A well-planned and built space means business efficiencies.

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Reach out to me: linda@shieldwallmedia.com or 920-659-6319.

-Linda Schmid, managing editor



Building Design is Key to

Good Ranch Management

By Rural Builder Staff

EASILY-ADAPTABLE, PRE-ENGINEERED STEEL BUILDINGS ARE a management feature in the operation of the Golden Rainbow Ranch outside Myacca City, Fla.

"Design," that's the key word according to ranch manager John Hunt. "We designed our central work area in one fell swoop, and at the same time allowed for future expansion, instead of expanding piecemeal like most ranchers do.

"This central work core concept gives us the best possible traffic pattern so that when grain trucks come in or we're shipping steers out, there's no tie-up. It also allows us to get maximum utilization of our facilities.

"Our two pre-painted, pre-engineered galvanized steel buildings are a major part of our effort to optimize the efficiency of the operation.

20.000-ACRE OPERATION

"With more than 3,000 head of cattle — mostly commercial stock with about 250 Red Brangus for breeding purposes — on our 20,000 acres, it became increasingly important for us to design a facility that gave us maximum efficiency and one that gave us versatility, an ease of expansion and long life. The two galvanized steel buildings fit the bill nicely."

Hunt keeps his office in a 36 x 72 x 10-ft., 26-ga., pre-engineered steel building, which also serves as a tack room and a stabling facility for the ranch's eight horses.

The other metal building serves as a machinery storage facility as well as for feed storage and a shop area. It is an unusual $30 \times 144 \times 10$ -ft. building in the machine areas, with a 14-ft. eave height

BY RURAL BUILDER STAFF



in the feed storage areas. The feed storage section has floors raised 40 in. for added protection of the feed.

Golden Rainbow Ranch's master plan — which spawned the central work area concept — calls for an eventual herd expansion to 6,000 head. For the time

being, however, John Hunt breeds, raises and sells the ranch's commercial steers — when they're six to eight months old and weigh 400 to 600 lbs. — to order buyers from as far away as California and Oklahoma.

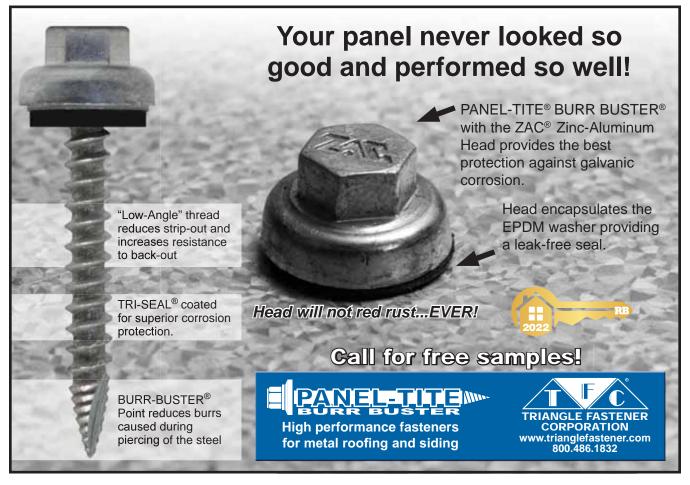
Hunt's use of galvanized steel does not end with the two systems-built buildings. He has a number of unusual galvanized steel roofed shelters on the ranch for protection of the ranch's cattle from Florida's wind and rain.

"Those Butler-built Panelframe roofs are 24-ga., corrugated, galvanized steel," explains Hunt, "and they eliminate the need for posts and trusses every few feet. They are nearly self-supporting, and because we're the first ones in these parts to erect shelters of this type, we've become local attractions of sorts.

"In addition," Hunt says, "we are getting much better air movement with these shelters because of their 20-ft. ceiling height."

Hunt's use of metal buildings has resulted in time savings which he feels are most important to a rancher. "Our complex was designed and built in six months," states Hunt.

"I decided on those two buildings for all of the reasons you usually associate with metal buildings," says Hunt, "neatness of appearance, long life, ease of construction and so on. I also wanted buildings that could grow along with us — ones that could be expanded easily without disrupting the day to day routine of the ranch or the master plan we have for the future." RB









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Shou Sugi Ban Siding

The History and Characteristics of Japanese Style Burnt Wood

WHAT IS SHOU SUGI BAN, you may ask. The 2022 Source Book's very first project (page 6) featured a shou sugi ban sided home, from John Nevadomski of Pioneer Millworks, and what a beauty it was! (See above.) *Shou sugi ban* is Japanese for "burnt cedar board." It is believed that originally shou sugi ban was made from driftwood, sun and salt dried wood which was charred to create a fire-, rot-, and insect-resistant piece of wood.

WHY SHOU SUGI BAN?

Today, many people choose shou sugi ban siding because they find the aesthetic appealing. Contemporary design trends have moved toward more natural choices with rich visuals. The wood is burnt to create a lignin layer which may or may not be brushed away, depending on preference, to reveal an enhanced natural grain, toasted tones wood grain, or a jet-black carbon



tone. The effect depends on the length of time the wood is left to burn. Some shou sugi ban is also color treated for a unique look.

Since the wood is generally only burned to approximately 1/16 of an inch, the insect-, fire-, and rot-resistant properties acquired by burning are minimal. However, a top coat is applied to the wood to enhance those effects.

If a customer is interested in building "green," shou sugi ban is a viable choice. As a piece of wood, it is inherently sustainable, acting as a carbon sink, requiring less energy to create than many other materials like steel or concrete, and of course, it is renewable.

The process of shou sugi ban does not add toxicity to the product or the environment and the products can be treated with a Zero VOC finish.



Shou Sugi Ban can add beautiful character to a project. PHOTOS COURTESY OF PIONEER MILLWORKS



HOW IS SHOU SUGI BAN CREATED?

Common wood choices for shou sugi ban are larch, cedar, pine, spruce, Douglas fir, Accoya®, and oak. Nevadomski says that Pioneer Millworks offers larch, Douglas fir, and Accoya. Larch and Douglas fir are naturally unappealing to insects, and Accoya





has no sugar left to nourish pests after treatment, so it is especially insect resistant.

There are different methods of burning the wood, from setting it up outdoors in a teepee-type shape and applying fire to it by hand in the traditional manner to mechanized processes. Nevadomski says they have modern production equipment with a chamber that focuses the heat allowing them to burn more wood in an efficient and consistent manner.

HOW IS SHOU SUGI BAN MAINTAINED?

Shou sugi ban is a wonderful example of the Japanese concept of *wabi sabi*, finding beauty in the imperfect and the impermanence

The History of Shou Sugi Ban (Yakisugi)

by Megan Avila, Pioneer Millworks

Shou sugi ban charred wood originated in Japan. A cursory Google search will show varying claims for the date of origin, but the focus is usually on shou sugi ban's extraordinary longevity. One hurdle to research is language. English-speakers know this charred wood as shou sugi ban, but in Japan it's called yakisugi, yakisugi-ita, or yakiita.

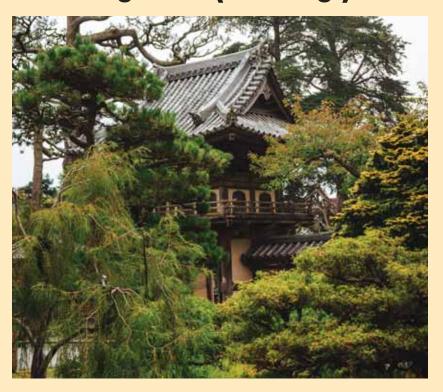
Researchers from the University of Tokyo found that the earliest written record of the word "yakisugi" is from a dictionary published in only 1930. Centuries-old structures clad in charred wood and oral tradition dating back to the Edo period (1603-1867) is compelling evidence that "yakisugi" is a fairly new term. If shou sugi ban was known by other names in the past, those older names may be lost to antiquity.

Prior to 1970, shou sugi ban had a reputation as a poor man's building material installed on storehouses in industrial zones and on residences in areas not easily visible to passersby. Today, shou sugi ban is being used in high-end, modern spaces.

Our research suggests that shou sugi ban was developed sometime between 1603 and 1868, during the Edo period. It was during this time of unification that Japan experienced a huge population boom and a new, rigid social stratification system was put in place. By the 1750s, Edo was likely the most populous city in the world. The bottom rung of the social ladder was the merchant class, a populous group in the dense urban center of Edo. They built and occupied machiya, traditional wooden townhouses, and stored their goods in warehouses known as kura.

Aside from being the new center of political power and the cultural mecca of Japan, the dense urban center of Edo was ripe with these traditional wooden townhouses. Susceptible to tragedy of flame, nearly 1,800 fires were recorded during this period—destroying countless structures and killing thousands of people.

It is not hard to imagine that using a fireresistant material was a priority, especially among those that couldn't afford to build with stone or stucco. Enter shou sugi ban. By the end of the Edo period, many of the merchant



class had amassed considerable wealth and status despite the rigid class system imposed on them. The shou sugi ban on their warehouses protected their goods, and on their homes it protected their families.

The charred wood that protected those structures waned in popularity as the populace began to favor new materials and pre-existing technologies became more affordable. Shou sugi ban regained popularity in Japan in the 1970s, giving rise to mills specializing in large-scale manufacture of shou sugi ban. Architects like Yoshifumi Nakamura are internationally known for projects featuring charred wood, and have bolstered its popularity by holding special exhibitions and workshops around the world demonstrating traditional manufacturing techniques and experimenting with different wood species. Architect Terunobu Fujimori is featured in a number of YouTube videos

speaking about the more traditional aspects of manufacturing shou sugi ban (yakisugi).

Shou sugi ban is often made with more modern and efficient techniques today, but they are based on the traditional lessons taught by Fujimori et al. One of them is that many woods are suitable for burning. Pioneer Millworks uses sustainable Larch, Douglas fir, and modified wood like Accoya®, depending upon the project needs and client wishes.

We've been fascinated by charred wood for its look and texture plus its resistance to rot, insects, and fire. Moving beyond the traditional "alligator" char, we've developed new surfaces and tones.

Enhancing the grain, adding a pop of color or a strong neutral, there is nothing quite like charred wood. Call it shou sugi ban, yakisugi, or yakiita—this technique remains relevant and celebrated centuries after its introduction. RB

of nature. The looks of shou sugi ban will weather and change over time, fading back to the original patina of the wood. However, the wood can be refinished to maintain its unique look. **RB**







UNLOCK YOUR POST-FRAME POTENTIAL

Perma-Column is engineered for efficiency, strength, durability

Recent surveys at NFBA show that post-frame builders are increasingly building on permanent foundations, abandoning the old methods of embedding wood in the ground.

- Permanent foundations maximize building life
- ICC-certified for quicker permits and approvals
- Columns and brackets are readily available

Build better. Build stronger. Build to last.Contact your distributor today!







DO YOU HAVE A PROJECT TO SHOW OFF IN THE 2023 METAL ROOFING IDEA BOOK?

In addition to advertising opportunities, **The Idea Book** offers the chance to show everyone what you can do as a roofer or supplier. If you have a nice metal roofing project you'd like considered for inclusion, we're looking for finished projects, with information about the building, the roof, and the products used in its construction. If your project or product makes it into the magazine, you'll have bragging rights for all your promotional materials!



SEND PROJECTS TO:

karen@shieldwallmedia.com 715-513-6767

FOR ADVERTISING OPPORTUNITIES:

Contact missy@shieldwallmedia.com 920-216-3007

PROJECTS DUE FEBRUARY 15, 2023

The *Idea Book* is published by the team at *Metal Roofing Magazine* and mailed to more than 27,000 subscribers.



Do you have a special building project to share? Show readers what you can do!

We are on the hunt for special building projects to be considered for inclusion in our annual Idea Book.

The Idea Book is a special issue of *Metal Roofing Magazine* that features unique projects ranging from equine facilities to courthouses, schools to residential houses. The publication is sent to *Metal Roofing Magazine* subscribers, as well as distributed at industry trade shows.

The Idea Book will take into consideration: projects featuring metal as the main roofing material, to serve as inspiration for architects and builders.

What we are looking for from you is your best project, preferably one that has not already been featured in an industry trade magazine. If your project is chosen, you can use it as bragging rights to show prospective customers!

Feel free to contact us with any questions.

Thank you in advance!

PROJECTS DUE FEBRUARY 15, 2023

Please fill in all fields relevant to your project or scan QR code below to fill out electronically and send completed form to:

Karen Knapstein at karen@shieldwallmedia.com



What we need:

PHOTOS OF THE COMPLETED BUILDING

at least 3-4 photos (high resolution: 300 dpi)

For tips on great building photos read Jeff Huxmann's article: https://garageshedcarportbuilder.com/how-to-take-great-shed-photos/

ALSO NEEDED ARE THE FOLLOWING DETAILS:

Your Company Name:
Website:
Building type (home, school, etc.):
Roof size:
Location:
Architect:
Contractor(s):
Installer(s):

Roofing system manufacturer (if applicable):	
Roof panels:	
Coating:	
Ventilation:	
Fasteners:	
Snow/rain management:	
Underlayment:	
Insulation:	
Other:	

General description of the project:

(what did the customer want; what special elements set it apart; etc.)

GENERAL DESCRIPTION

PRODUCTS USED

BY RURAL BUILDER STAFF

■ SIMPSON MANUFACTURING COMPANY'S NEW CEO

Simpson Manufacturing Co., Inc., an industry leader in engineered structural connectors and building solutions, has announced that Karen Colonias will step down from her position as Chief Executive Officer as part of Simpson's succession plan, effective December 31, 2022. Simpson's Board of Directors unanimously elected Michael Olosky, 54, current President and Chief Operating Officer, to succeed Colonias as Chief Executive Officer, effective January 1, 2023, as part of a planned leadership succession. Mr. Olosky will also join the board of directors on January 1, 2023. Ms. Colonias will continue as CEO through the end of 2022, after which, she will remain as an Executive Advisor to assist with the transition until her retirement on

June 30, 2023. Ms. Colonias will continue to serve as a member of the board of directors until the 2023 annual meeting of stockholders.

Mr. Olosky joined Simpson as Chief Operating Officer in November 2020 and was promoted to President and Chief Operating Officer in January 2022. Prior to joining Simpson, Mr. Olosky spent more than 22 years in numerous leadership positions at Henkel, a global chemical and consumer goods company. He most recently served as the President, Henkel North America and Senior Corporate Vice President — Head of the Electronics and Industrial Division.

■ GARLAND PARTNERS WITH CLEVELAND NON-PROFIT

The Garland Company, a fullservice roofing manufacturer and building envelope solution provider based in Cleveland, Ohio, announced a 2022 partnership with local nonprofit University Settlement, highlighted by a recent "Spirit Week" employee charity drive that raised \$50,000.



Garland's employees' charity drive raised \$50,000 for University Settlement

University Settlement is a 501(c)(3) nonprofit that has been providing much-needed social services to the residents of the Broadway Slavic Village neighborhood since 1926.

Matt McDermott, President of Garland's US Roofing Division, said, "The opportunity to partner with University Settlement and support our neighbors across Broadway Slavic Village really galvanized our employees...The momentum has continued, as Garland team members have found a number of ways to support University Settlement with hands-on volunteering."

Added Earl Pike, Executive Director of University Settlement, "While the financial support is wonderful and appreciated greatly, our team also valued the discovery in Garland of a kindred spirit. As an employee-owned company, Garland's team is accountable to each other, they care for each other, and they have ownership of the work they do each day. Our goal at University Settlement is not just to empower our employees with that same feeling, but also the residents we serve."

The Garland Company was recognized as a "Top Workplace" from cleveland.com and the Cleveland Plain Dealer, and has been recognized as a NorthCoast 99 top employer for 22 years in a row.

www.garlandco.com



■ LP BUILDING SOLUTIONS ELEVATES YELLE AND SWEET TO VICE PRESIDENT ROLES

LP Building Solutions (LP), a leading manufacturer of high-performance building products, has promoted Jeff Yelle to Vice President, Chief Information Officer and Jeff Sweet has been elevated to the role of Vice President, Engineering.

Yelle, who succeeds retiring LP Chief Information Officer Don Walker, assumed his new duties September 19. Sweet succeeds Tony Hamill, who was promoted to Vice President, Siding Manufacturing earlier this year.

Yelle is a 26-year LP veteran, beginning as a siding regional quality manager in 1996. His previous roles at LP include plant manager at the former Silsbee, Texas mill, siding product and process development manager, corporate quality

manager, master data lead, IT manager, IT center of excellence director, and most recently as oriented strand board technology and quality director. Prior to his tenure at LP, Yelle served as a quality supervisor at Trus Joist MacMillan. Yelle

earned his bachelor's degree in forest products at the University of Minnesota and an MBA from Lipscomb University.

In his new role, Yelle will be responsible for all aspects of information technology and computer systems within the LP







information technology department.

Sweet joined LP in June 2018 as a corporate engineering manager and was soon promoted to siding engineering manager, a role he has held since January 2019. Prior to joining LP, Sweet held roles at Stantec, an engineering services firm, and Ocean Steel & Construction in Saint John, New Brunswick. He holds a civil engineering degree from the University of New Brunswick and is a registered engineer in New Brunswick, Canada, and Maine.

In his new role, Sweet will oversee the company's Corporate Engineering and Maintenance groups. His responsibilities include managing LP's capital investments and reliability improvement efforts.

LPCorp.com.



■ BUILDING HOMES FOR HEROES SEEKS TO EXPAND HOME-GIFTING PROGRAM

Building Homes for Heroes, a nonprofit that for 16 years has provided mortgage-free homes to military veterans, announced it is seeking to expand the nationwide program to police, firefighters and other emergency first responders.

The move to expand its mission to support first responders – a decision unveiled the day before the anniversary of the 9/11 terrorist attacks – came as the organization marked a milestone 300th home, gifted to Army veteran Jonathan Merchant. He had just returned from service in Bosnia when he suffered a quadriplegic spinal cord injury in a car accident.

Merchant has not let that 1999 crash define him. Doctors told him if he survived, he could not expect to be self-sufficient and would have a limited life. Instead, he regained some feeling in his arms, becoming a competitive cyclist, swimmer and triathlete.

Building Homes for Heroes founder, businessman Andy Pujol, said the courage and sacrifice of veterans is inspirational – as has been the work and dedication to community by emergency first responders. Adding that group to the program reflects the organization's commitment to honoring those who serve.

The organization, incorporated in New York, filed its plans to expand the home program with the state attorney general's Charities Bureau and expects to receive state approval soon, allowing fundraising for the new program by the end of the year. www.buildinghomesforheroes.org.

AKZONOBEL WHITEPAPER

POINTS THE WAY TO PVDF ALTERNATIVES

Coil and extruded metal manufacturers concerned about challenges in the PVDF supply chain can achieve a comparable finish and performance using non-PVDF alternatives in most applications, advises a new whitepaper from coatings and paints

manufacturer AkzoNobel.

Changes in global market dynamics, including increased demand from markets such as electric vehicle batteries and solar panels, have led to volatility in the cost and supply of PVDF resin commonly used in coil coatings. This, in turn, has affected the availability of some PVDF products.

The whitepaper, "Navigating the PVDF landscape: A market in transition," explains how coatings based on alternative technologies, such as silicone modified polyester (SMP), can often provide a comparable performance, without the drawbacks of PVDF coatings.

"PVDF coatings are particularly suited to environments that experience saltwater spray, extreme moisture or extreme humidity," explains Brent Fletcher, Product Marketing Manager Americas, Coil and Extrusion Coatings. "However, the vast majority of the Northern Hemisphere does not have such extremes, so PVDF coatings may not be necessary."

In many cases, Fletcher says, AkzoNobel offers a non-PVDF equivalent delivering the same quality required. At the same time, its research and development team, with decades of experience in the industry, is working to develop new offerings.

www.akzonobel.com

S-5! ANNOUNCES NEW **DISTRIBUTION PARTNER**

S-5!, the original inventor of engineered, manufactured. metal roof attachments, announces its new partnership with Salem-Oregon-based company, Taylor Metal Products. As an authorized distributor, the company will offer the complete range of S-5! snow retention solutions throughout the West.

Taylor Metal Products is a major manufacturer of metal roofing, siding, fascia and soffits serving residential, commercial and agricultural markets. The company is known for its patented nonsiphon lock seam available on standing seam and horizontally applied roofing.

Mark Hermans, Technical Representative of Taylor Metal Products, said, "S-5! is able to offer high volumes and automated manufacturing in their ISO 9001-15 manufacturing plant which translates to affordability, dependability and accessibility for our customers, not to mention high-quality, certified products that are warranted for the life of the roof. With ongoing supply chain issues, there is comfort in knowing S-5! products are made in the U.S.A. and readily available to customers."

www.S-5.com

RB



THE BEST WAY TO INSULATE METAL & POST FRAME BUILDINGS

Residential Metal Roofing
 Garages, Sheds & Carports
 Pre-Engineered Steel Buildings
 Post Frame / Pole Barns
 Agricultural Buildings

Benefits:

- **Prevents Interior**

- and Mildew

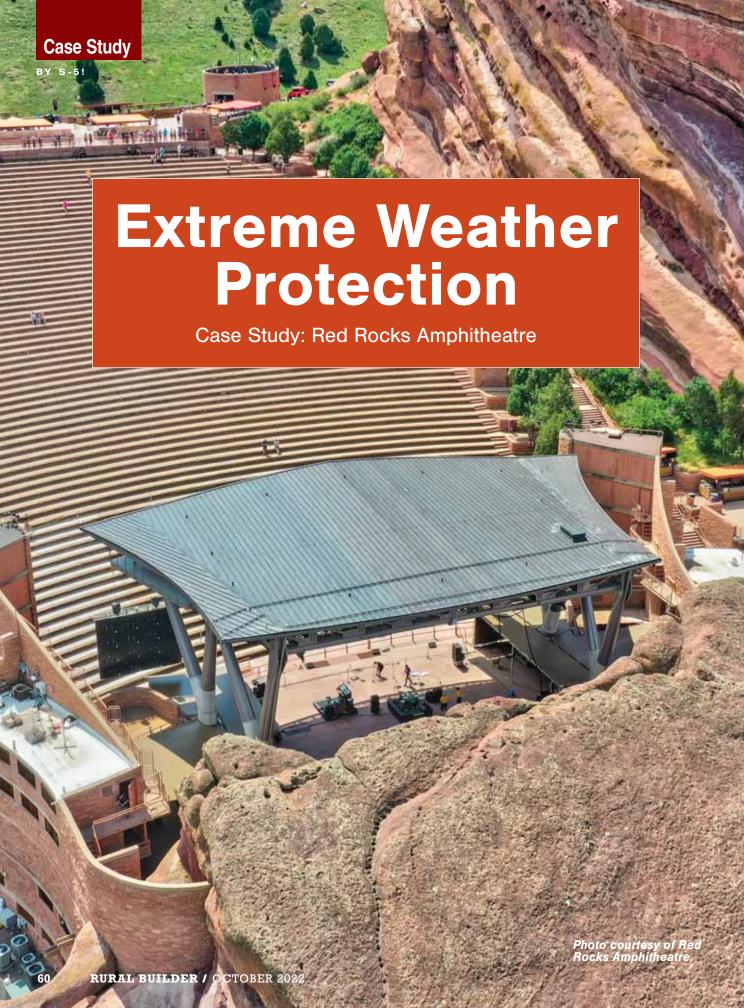






COVERTECH

888-887-3645





THE PROJECT

Just west of Denver, nestled among huge red sandstone monoliths in the foothills of the Rocky Mountains at an elevation of 6,450 feet, is the state's most celebrated piece of architecture.

In 1928, the City of Denver acquired land in the Red Rocks area, formerly promoted as a community park and performance venue with a simple stage and existing rough slope used for seating. Through the joint efforts of many federal agencies and Denver area organizations, an amphitheater was constructed between 1935 and 1941 to provide a more functional concert setting.

The project initially required the removal of 25,000 cubic yards of rock and dirt and used 90,000 square feet of flagstone, 10 carloads of cement, 800 tons of guarried stone and 30,000 pounds of reinforced steel. Known as the only naturally occurring, acoustically perfect amphitheater in the world, Red Rocks has attracted some of the world's most notable performers, from the legendary "C/W Outlaws," Sting and The Beatles to opera stars and U2.

Many improvements to the venue have been made over the years. In 2021, the City was looking to expand and upgrade the venue with a larger roofing structure over the main performance stage. An 8,500 square foot Nordic Brown Copper standing seam metal roof was installed to replace the original one. The roof's high-end copper was shipped from German supplier, Aurubis, in coils and fabricated on site. Mounted to the venue's new roof is the complete DualGard™ snow retention system by S-5!

THE CHALLENGE

The new roof sits between 75 and 100 feet above the stage floor. Without a snow retention system, snowpack and ice could easily escape thereby endangering performers, concertgoers and expensive equipment.

Due to the high elevation of the site, extreme weather conditions ranged from freezing rain and snow to warm, dry, and sunny, then back to winter-like conditions throughout the duration



PROJECT TEAM

Architect for Roof Replacement: Short Elliott Hendrickson

Structural Engineer: Martin & Martin

Electrical Engineer: CMO Consulting Engineer, LLC

General Contractor: GH Phipps

Roofing Contractor: Superior Roofing, Inc. S-5! Supplier: Schafer and Company

Roof Profile:

Aurubis Nordic Brown Copper standing seam metal roof

Industry: Municipal

PROJECT STATS

Roof Size: 8500 square feet

Roof Pitch: Center, 1/12; Sides, ½ /12

Building Height (Stage Level to Top of Roof):

51' (lowest edge), 75'+ (highest edge)

Products supplied:

- · Dual Gard (200 feet)
- DualBracket (150)
- S-5-U Mini clamp (300)

of the project. Such weather conditions would also be a concern for the venue once construction was complete and business resumed, therefore a high-quality, long-lasting snow retention system was necessary to prevent melting snow and ice from sliding off the sloped metal roof.

The terrain and mountainous setting of the venue, with long lines of stairs and curvy rocks, presented its own set of challenges. Construction staging areas were limited, and it was difficult to maneuver equipment and material. A crane was required to hoist roofing materials over a wall and around the mountain.

Furthermore, the venue is a designated historical site, requiring a tested, trusted and engineered solution that was aesthetically pleasing and would meet the architectural requirements and specifications for the project.

THE SOLUTION

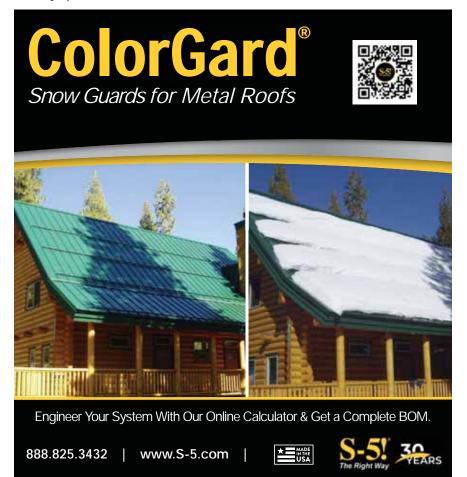
Because the roof is subject to both the downward and upward forces of snow and wind, it required a snow retention system designed to resist stresses in two directions. The DualGard snow retention system was custom-engineered for the standing seam roof profile.

Custom powder-coated to match the roof, DualGard is a complete, two-pipe aluminum, snow guard system with strength, testing and quality for almost any standing seam profile so the team was able to accomplish perfect color matching to the copper roof—meeting the architectural requirements for this historical site.

Additionally, the snow retention system was easy to transport to such a challenging setting. It is compact and comes in shippable packaging lengths and weights.



PHOTO COURTESY OF SUPERIOR ROOFING





Rollforning Show

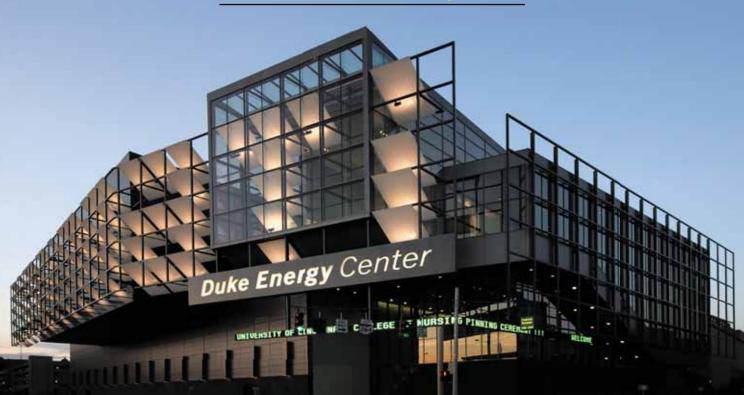






DUKE ENERGY CENTER CINCINNATI, OH

SEPTEMBER 27-28, 2023





Horse Barn

Oconomowoc, Wisconsin

WALTERS BUILDINGS BUILT THIS HORSE stall barn for Integrity Farms as a full turn-key project, acting as contractor for the entire project from excavation, concrete, electrical, to plumbing and insulation.

The metal post frame barn measures 40' x 100' with a 14' eave height. The project features Walters JWS steel panels in white with a black roof, wainscot and trim. The exterior of the building features two cupolas, sliding Touch of Class doors on each end wall and motion sensing lights above the entrance. The interior features a tack room, wash bay, hay storage and Classic Equine stalls. **RB**



ALL PHOTOS COURTESY OF WALTERS BUILDINGS

THE DETAILS:

Building: Horse Barn

MATERIALS:

Insulation: Bay Insulation, WI and Alpine Insulation, WI

Doors/Windows: Plyco Corp.

Sliding Doors: Walters Touch of Class Door

Metal Coils: Steel Dynamics

Interior Wall Finishes: JW Quality Renovations, WI

Electrical: Gehring Electric, WI **Plumbing:** Lasche Plumbing, WI **Concrete:** Jim Pfantz Construction, WI

Trusses: Walters Buildings, WI

Fasteners: ST Fastening Systems and Maze Nails

Soffits & Cupolas: MWI Components HVAC: Curt's Service, Horicon, WI Excavation: Site Tech, Kewaskum, WI

Stalls: Classic Equine, TX

https://waltersbuildings.com







GET MORE INFORMATION ABOUT PRODUCTS & SERVICES SEEN IN THIS ISSUE. HERE'S HOW:

If you are looking for more information from companies featured in this issue, fill out this form.

Mail the completed form to us, and we will have those companies get in touch with you. There's no need to fill out multiple forms; we'll do the legwork for you.

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Signature (required)		CHECK WHICH TITLE APPLIES TO YOU:
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via US Mail, telephone, and e-mail sent by <i>Rural Builder</i> .	Valid until January 27, 2023 RB OCTOBER 2022	

DECEMBER

6-8, Construction SuperConference, Las Vegas, Nevada. Topics include innovative practices, legal challenges, compliance and more for construction business owners and contractors. *constructionsuperconference.com*

JANUARY

18-19, Garage, Shed, Carport Builder Show, Greenville, South Carolina. The second annual show for all suppliers and professionals in the industry.

garageshedcarportbuilder.com/show-registration

FEBRUARY

12-15, Sprayfoam Convention & Expo, Daytona Beach, Florida. The largest annual convention and trade show in the U.S. dedicated to Spray Polyurethane Foam. *sprayfoam.org/sprayfoam23*

22-24, Frame Building Expo, Louisville, Kentucky, The National Frame Building Association's Annual Post-Frame Construction event. *nfba.org*

MARCH

7-9, International Roofing Expo., Dallas, Texas. The premier roofing and exteriors event.

theroofingexpo.com

14-18, CONEXPO, Las Vegas, Nevada. North America's largest construction trade show. *conexpoconagg.com*

APRIL

17-20, National Home Performance Conference, Seattle, Washington. This event brings together contractors, weatherization and other professionals in residential energy efficiency. https://events.building-performance.org/national

19-21, MHI National Congress & Expo, Las Vegas, Nevada. The industry's premier event for manufactured housing professionals www.congressandexpo.com

20-22, Spring IDA EduCon & Tradeshow, Louisville, Kentucky. www.doors.org/idaexpo-events/educon

MAY

8-10,

Metal Building Contractors & Erectors Association Annual Conference, Nashville, Tennessee. Where contractors and erectors meet new heights together.

www.mbcea.org

11-12, Groundbreaking Women in Construction Conference, San Francisco, California. This conference serves as a catalyst that helps women expand their presence, influence and career success in an ever-shifting industry.

enr.com/groundbreaking-women-inconstruction

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION (required by Act of August 12, 1970: Section 3685, Title 39, United States Code). 1. RURAL BUILDER. 2. (ISSN: 0888-3025) 3. Filing date: 7/20/22. 4. Issue frequency: 8 issues annually. 5. Number of issues published annually: 8. 6. The annual subscription price is 29.98. 7. Complete mailing address of known office of publication: Shield Wall Media LLC 1990 Godfrey Dr., Waupaca, WI 54981. 8. Complete mailing address of headquarters or general business office of publisher: Shield Wall Media LLC 150 Depot St., Iola, WI 54945. 9. Full names and complete mailing addresses of publisher, editor, and managing editor. Publisher: Gary Reichert 1990 Godfrey Dr., Waupaca, WI 54981. Editor: Linda Schmid 1990 Godfrey Dr., Waupaca, WI 54981. Managing Editor: Gary Reichert 1990 Godfrey Dr., Waupaca, WI 54981. 10. Owner: Gary Reichert 150 Depot St., Iola, WI 54945. 11. Known bondholders, mortgages, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities: None. 12. Tax status: Has Not Changed During Preceding 12 Months. 13. Publisher title: RURAL BUILDER. 14. Issue date for circulation data below: July 29, 2022. 15. The extent and nature of circulation: A. Total number of copies printed (Net press run). Average number of copies each issue during preceding 12 months: 0. Actual number of copies of single issue published nearest to filling date: 0. B. Paid/requested circulation. 1. Mailed outside-county paid subscriptions/requested. Average number of copies each issue during the preceding 12 months: 135. Actual number of copies of single issue published nearest to filing date: 134. 2. Mailed in-county paid subscriptions/requested. Average number of copies each issue during the preceding 12 months: 31,439. Actual number of copies of single issue published nearest to filing date: 30,183. 3. Sales through dealers and carriers, street vendors and counter sales. Average number of copies each issue during the preceding 12 months: 0. Actual number of copies of single issue published nearest to filing date: 0. 4. Requested copies distribution through other classes mailed through the USPS. Average number of copies each issue during the preceding 12 months: 0. Actual number of copies of single issue published nearest to filing date: 0. C. Total paid/requested distribution. Average number of copies each issue during preceding 12 months: 31,574. Actual number of copies of single issue published nearest to filing date; 30,317. D. Non-requested distribution (by mail and outside mail). 1. Outside-County Non-requested copies. Average number of copies each issue during the preceding 12 months: 0. Number of copies of single issue published nearest to filing date: 0. 2. In-county non-requested copies. Average number of copies each issue during the preceding 12 months: 0. 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Actual number of copies of single issue published nearest to filing date: 25. H. Total (sum of 15f and 15g). Average number of copies each issue during preceding 12 months: 31,664. Actual number of copies of single issue published nearest to filing: 31,407. I. Percent paid. Average percent of copies paid/requested for the preceding 12 months: 0%. Actual percent of copies paid/requested for the preceding 12 months: 0%. 16. Electronic Copy Circulation: A. Paid Electronic Copies. Average number of copies each issue during preceding 12 months: 0. Actual number of copies of single issue published nearest to filing date: 0. B. Total Paid Print Copies (Line 15c) + Paid Electronic Copies (Line 16a). Average number of copies each issue during preceding 12 months: 31,574. Actual number of copies of single issue published nearest to filing date: 30,183. C. Total Print Distribution (Line 15f) + Paid Electronic Copies (Line 16a). Average number of copies each issue during preceding 12 months: 31,614. Actual number of copies of single issue published nearest to filing date: 31,382. D. Percent Paid (Both Print & Electronic Copies) (16b divided by 16c x 100). Average number of copies each issue during preceding 12 months: 0%. Actual number of copies of single issue published nearest to filing date: 0%. I certify that 50% of all distributed copies (electronic and print) are paid above nominal price. 17. Publication of statement of ownership for a Requester publication will be printed in the October 2022 issue of the publication. 18. Signature and title of editor, publisher, business manager, or owner: Gary Reichert, Publisher. I certify that all information furnished on this form is true and complete. I understand that anyone who furnishes false or misleading information on this form or who omits material or information requested on the form may be subject to criminal sanction and civil actions.



Fight Condensation Without Insulation

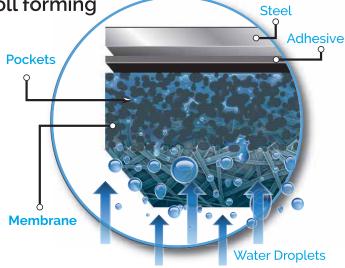
Stop the Dripping from Condensation

Tired of Customers complaining about a dripping roof?
Let DripStop solve your condensation problems before they start.

DripStop is applied at the time of roll forming

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When condensation occurs, moisture gets stored in the specially designed pockets of the DripStop membrane.



Quicker – Easier – Cheaper

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