

METAL ROOFING[®]

MAGAZINE

20
YEARS
2001-2021

ROOFER SAFETY

**Prevent Falls (and Fines)
With These 10 Tips**

MAINTAINING METAL

Educate Your Customers to Protect Warranties

PRODUCT FEATURE

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**CONSTRUCTION ROLLFORMING SHOW RECAP
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Looking Forward

Dear readers,
It is with some sadness that I announce this issue will be the last for our editor, Jessica Franchuk.

It is a good move for her. She and her husband have a family business and she will be working there. We are parting on good terms and I would not be shocked if she occasionally appeared in some capacity in *Metal Roofing Magazine* or our other magazines in the future.

We are sorry to see her go and say thank you for sharing this adventure for a year and a half.

Transitions, whether beginnings or endings, always cause a degree of reflection. The last year has been full of transitions and uncertainty, and enough

reflection that I feel like a mirror. So it is time to look ahead.

We are launching our new websites. The websites will be unique for each magazine and have some new features.

The most exciting is we are posting the issues in a web- and device-friendly format. The issues will still be available in full, as a PDF. They will also be posted as a web page, with links from an issue index.

This provides two major benefits.

Number one, you will be able to read the articles on a phone without losing your sanity. They are not the little flip books that pretend to be a physical magazine. The articles and pictures will scroll like a website.

Number two, the articles are all searchable. You could search by topic, builder, or manufacturer. If you search for fastener, the articles featuring fasteners will actually appear.

With these big changes in the works, please be patient! We are adding back issues as we are able, but all newly uploaded issues are searchable.

There is a lot of exciting things on the horizon.

To quote a bumper sticker, "Enough looking back, you aren't going that way."



Gary Reichert, Publisher
gary@shieldwallmedia.com

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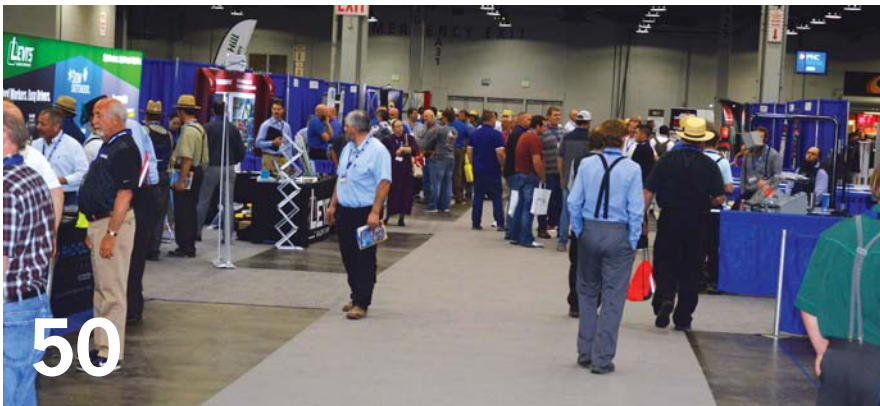
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METAL ROOFING MAGAZINE

20 YEARS
2001-2021

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OCTOBER/NOVEMBER PREVIEW

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- Standing Seam Clamp Load Capacities

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Find expert tips on selecting and installing metal panels/shingles, beginning on page 26. Courtesy of Petersen | PAC-CLAD; photo by hortonphoto-inc.com. Cover design by Kevin Ulrich.

ONLINE SERVICES:

- *Metal Roofing Buyers' Guide*
- Subscribe FREE to *Metal Roofing Magazine*
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EDITOR'S NOTE

Roofing in the Caribbean—and Around the World

At the end of May, my husband and I took the trip of a lifetime—two weeks on the quiet Caribbean island of Roatan, Honduras. When we weren't snorkeling or beach strolling, I found my eye drawn to the local architecture. Namely, the assortment of roofing styles and materials.

The first thing I noticed was that approximately 75% of the roofs were metal. This is no surprise, given its resilience against even the harshest climates. They wouldn't meet *our* local codes, but for the most part appeared to be doing their job—keeping the elements out and the AC in. I did spot a few thatch roofs and a tile one or two, but didn't see a single shingle roof. This made the wheels turn, and I thought of an article on Metal Roofing Around the World—what percentage of roofs in various areas are metal versus other?

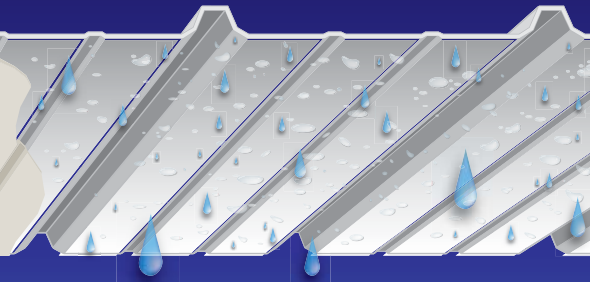


What are the differences in gauge, installation, etc. from continent to continent? How do metal roofs *look* different in each area?

Now, if you read the Publisher's Note, you learned that this will be my last issue. So I leave this topic in the hands of our next capable editor! Have you completed an overseas roofing job? What can you share about the experience? Unless they send the new editor on a global tour for the sake of the article, we're relying on *you*—those who are actually up on roofs every day. So please! Send an email or drop a letter in the mail to share your roofing experiences from around the world!

Jessica Franchuk, Managing Editor
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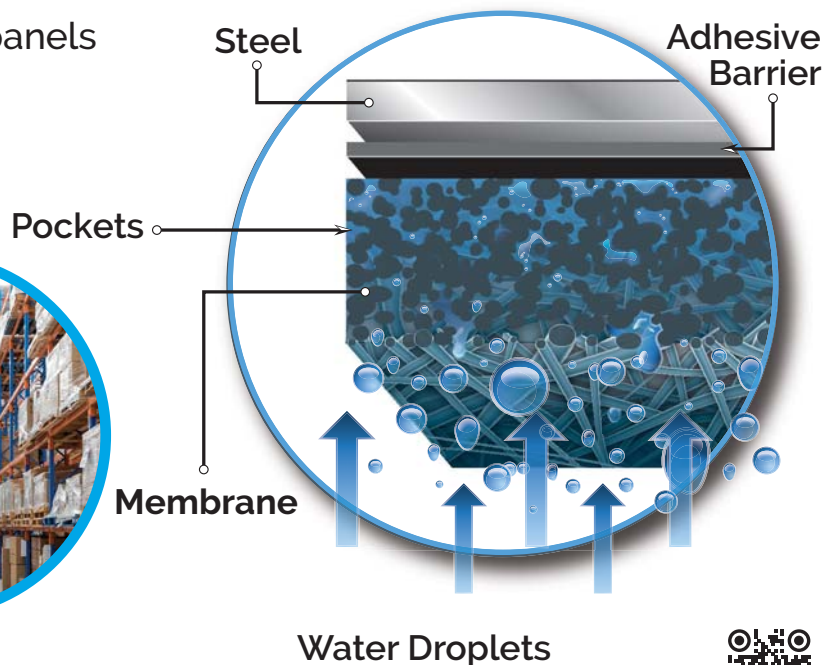
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EVENTS CALENDAR

NOTE: Due to the pandemic and state or local restrictions, many events have been rescheduled or cancelled. We recommend contacting show coordinators prior to making travel arrangements.

2021 September

15-20. **International Institute of Building Enclosure Consultants (IIBEC) International Convention and Trade Show.** Phoenix, Arizona. www.iibec.org.

21-23. **Greenbuild Expo.** San Diego, California. greenbuild.usgbc.org.

21-23. **Western Roofing Expo.** Las Vegas, Nevada. www.westernroofingexpo.com.

2021 October

5-8. **Building Component Manufacturers Conference (BCMC).** Omaha, Nebraska. www.bcmshow.com.

6-8. **METALCON.** Tampa, Florida. www.metalcon.com.

26-28 **National Insulation Association (NIA) 65th Annual Convention.** Forest Heights, Maryland. www.insulation.org.

2021 November

4-5. **Garage, Shed & Carport Builder Show.** South Bend, Indiana. www.constructionmagnet.com/garage-carport-shed-builder-show-home-page.

9-11. **Midwest Roofing Contractors Association (MRCA) Con Expo.** Milwaukee, Wisconsin. www.mrca.org.

2022 January

18-20 **Frame Building Expo.** Nashville, Tennessee. www.nfba.org.

2022 February

1-3. **International Roofing Expo.** New Orleans, Louisiana. www.theroofingexpo.com.

8-10. **National Association of Home Builders (NAHB) International Builders' Show (IBS).** Orlando, Florida. www.buildersshow.com.

2022 March

10. **National Roofing Contractors Association (NRCA) LEGALCon.** Rosemont, Illinois. www.nrca.net.

2022 October/November

3rd Annual **Construction Rollforming Show.** Details to come at www.constructionmagnet.com. **MR**

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S-5! Breaks Ground on New Office Campus

Shown from left in the photo above, Shawn, Rob, and Dustin Haddock break ground on S-5!'s new office campus in Colorado Springs, Colorado. The main building will provide sufficient space for staff, allowing S-5! to better serve its cus-

tomers. The two-story building will sport metal finishes, a solar roof, and space for its thought-leaders to collaborate.

A support building will house S-5!'s video training center, prototype shop, and test facilities. S-5!'s new corporate headquarters will be located in Black Forest, where its clamp-to-seam technology was birthed 30 years ago.

www.s-5.com

ProVia Welcomes Metal Roofing Install Trainer

ProVia recently welcomed Ben DeGraaf (right) as Metal Roofing Install Trainer for its residential stamped panel metal roofing system. DeGraaf will support the growth of ProVia's new residential metal roofing line by providing on-site install training to new or existing ProVia dealers who are installing the roofing product for the first time.



“Dealers who carry ProVia’s professional-class doors, windows, vinyl siding, and manufactured stone can now round out their home-scape offering with a stamped metal roofing product that provides the unmatched beauty of authentic-looking shake and slate shingles, as well as Miami-Dade certified performance.

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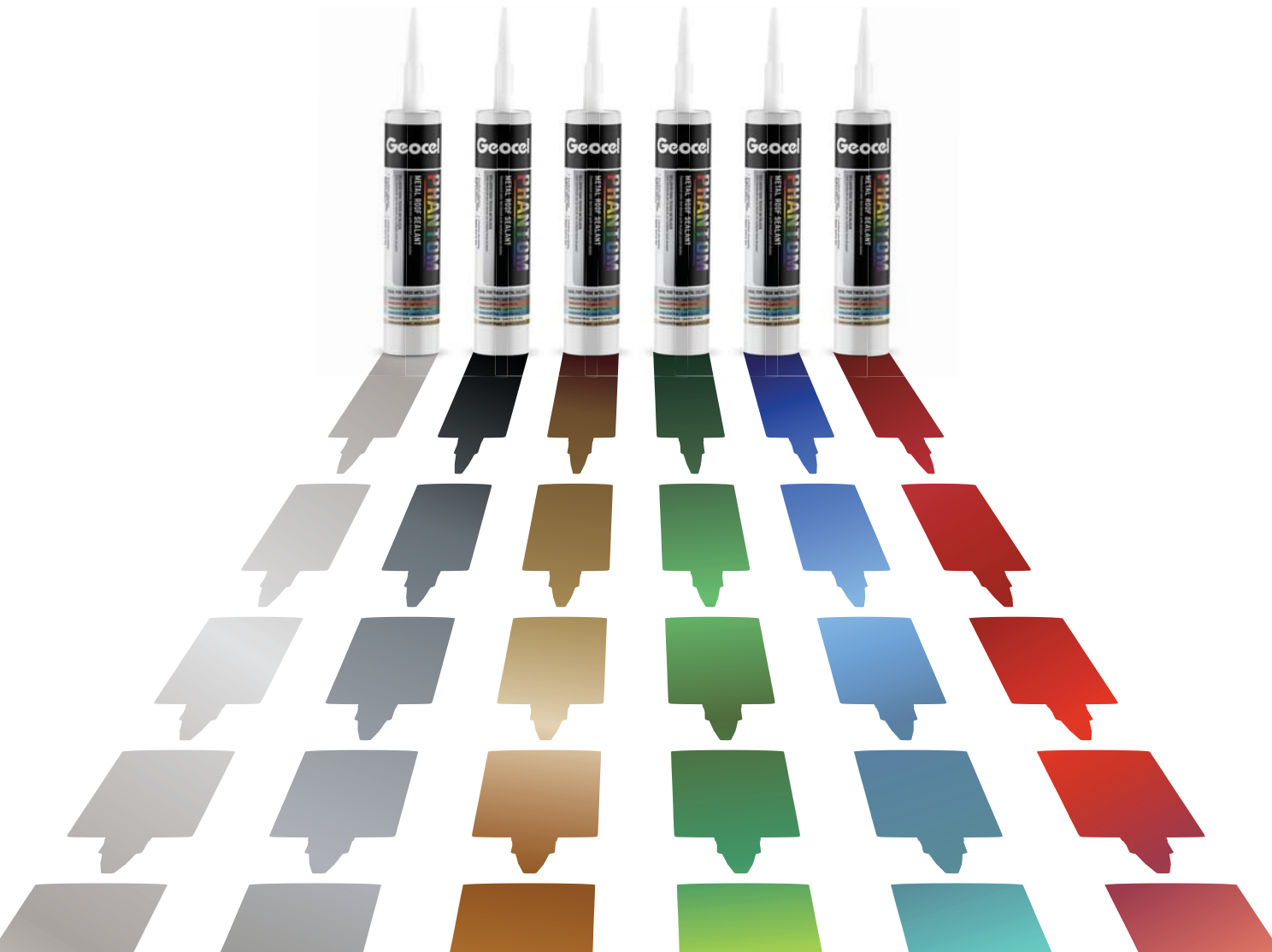
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SUPPLIER NEWS

Even if a dealer has never installed a roof before, the training we provide ensures a successful installation. It's exciting to be part of ProVia because they invest in supporting dealer success," said DeGraaf.

Before joining ProVia, DeGraaf served as a product and support specialist for Matterhorn Metal Roofing, and most recently as a Metal Roofing Technical Field Support provider for CertainTeed Roofing North America.

www.provia.com

Bradbury Company Announces Plant Expansion

The Bradbury Co., Inc., is expanding its test and assembly facility by approximately 40% to increase manufacturing capacity and provide additional space for testing custom-built production lines before shipping to customers' facilities.

The addition, which will extend 10'



higher than the existing facility (above), will be engineered to house 30-ton cranes. Beginning steps are taking place in the multiphase expansion process that should be complete by February 2022.

"Bradbury manufactures equipment for a variety of industries," said Ryan Durst, President. "We are expanding not only our assembly and testing facility but also our workforce. ...With the addition of

robotics and advanced automation, our lines of equipment have lengthened and the additional floor space will accommodate our need to assemble, test, and deliver these large systems to our customers."

www.bradburygroup.com

ABC Supply Co. Inc. Acquires Assets of Gutter Source, LLC

Building products distributor ABC

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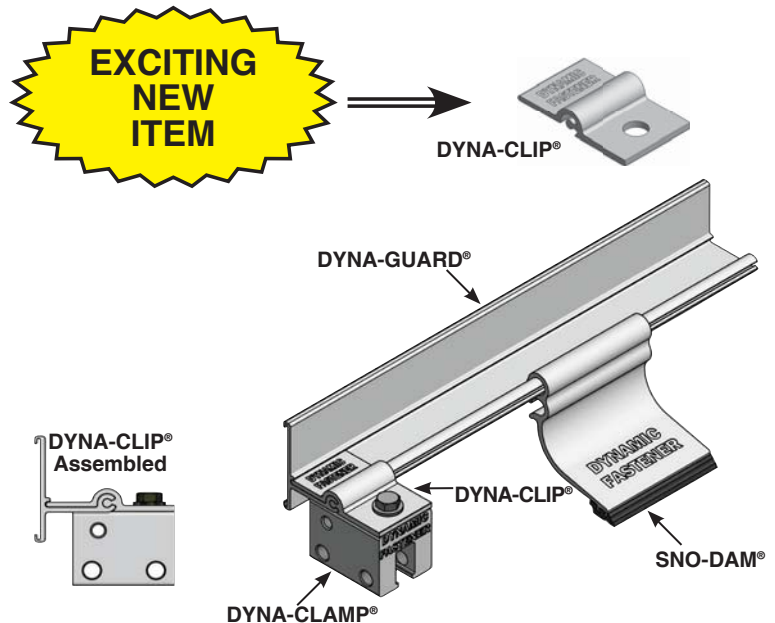


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SUPPLIER NEWS

Supply Co. Inc. has acquired the assets of Gutter Source, LLC, in Oklahoma City, Oklahoma. The acquisition included Gutter Source's gutter supply business as well as its manufacturing facility, which will become part of American

Construction Metals' (ACM) operations. In addition, many of Gutter Source's associates will join the ABC Supply and ACM teams, providing a seamless transition for existing customers.

"We're happy to welcome the Gutter

Source team to our ABC Supply family," said Jonathan Shepard, Vice President of ABC Supply's Southwest Region. "With the additional location in Oklahoma City, we solidify ABC Supply's position as the leading supplier of rainware products in Oklahoma and strengthen our partnerships with area contractors."

www.abcsupply.com

John C. Wayne Named CEO of OmniMax International, LLC

OmniMax International, LLC, announced that John C. Wayne has been named Chief Executive Officer. Wayne succeeds Richard C. Brown, who announced last October that he would transition from the company as his successor was named.

Wayne is an experienced senior leader in the building products industry, having spent more than 30 years with Armstrong World Industries and Ply Gem Industries, where his most recent role was as Executive Vice President and Chief Operating Officer.

Matthew Espe, Chairman, OmniMax Board of Directors, said, "John is the right person to lead OmniMax into the future, given his deep building products industry expertise and his track record of delivering growth and profitability in highly competitive markets. He has strong relationships with key customers and has successfully delivered industry-leading results by driving aggressive organic growth, customer-focused innovation, and strategic acquisitions."


www.omnimax.com

Boral Agrees to Sell North American Building Products Business

Boral Limited announced that it has entered into an agreement with a subsidiary of Westlake Chemical Corporation to sell its North American Building Products business for \$2.15 billion. The transaction will not result in the payment of any income tax in the United States or Australia, as a result of carried forward losses.

The board will assess options to dis-



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INDUSTRY NEWS

tribute surplus capital having regard to the size of the surplus and the most appropriate method for distribution to shareholders at the relevant time.

Native American Contractors Find a Voice Through MNTCC

Led by James L. Jones Jr., a Leech Lake Band of Ojibwe member and former cultural resources director of the Minnesota Indian Affairs Council, the Minnesota Tribal Contractors Council (MNTCC) advocates for the best interests of Native workers and Native/Tribally owned businesses in the trades industry. The organization had its kick-off meeting in Bemidji, Minnesota, on May 26, 2021.

The nonprofit was formed with the objective to mentor youth, assist members by providing resources, and connect members with businesses/jobs by coordinating networking opportunities, job fairs, mentorships, job-seeking skill-building seminars, financial education, job and safety training, and transportation services.

“Based on experience, we know there are challenges and obstacles people face when it comes to employment. We’d like to give them opportunities for a second chance,” said Jones.

At its May launch meeting, members of Native communities and representatives from businesses gathered to share their challenges and success stories, further emphasizing the importance of the concerns that need to be addressed as the MNTCC grows.

The MNTCC Board of Directors recognizes there are obstacles to gainful employment in the communities it serves and hopes to consult with members and businesses on how to best break down barriers. In addition to providing business resources, the MNTCC provides legislative advocacy to gain a voice in all levels of government on behalf of contractors and tribal members in construction and trade industries in Minnesota, which will lead to increased Native-owned business capacity, increased employability, and other

community benefits.

The benefits of joining MNTCC include making professional contacts, credibility, employment opportunities, and networking. Membership is open to all businesses, professionals, and eco-

nommic development organizations. Types of membership include Native-owned SMB, nonprofit organizations, individuals, non-Native-owned SMB, Tribes/Nations/Councils, and Corporations.

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New Solar Center at METALCON

Hear from SEIA and other solar experts

METALCON, the only global event dedicated exclusively to the application of metal in design and construction, announces its new solar center sponsored by S-5! debuting this year in Tampa for business owners, designers, contractors, EPCs, solar developers, and installers interested in learning more about the benefits of solar and metal roofing. *(Photo at right courtesy of S-5!)*

Solar is a rapidly growing energy sector in the U.S. and globally, with strong growth forecasted. This increased focus on energy efficiency and sustainability has brought attention to the pairing of solar and metal roofing. Discover how solar and metal go hand-in-hand in a variety of educational sessions and live demos, and have fun at the METALCON Solar Trivia Games!

Hear from the Solar Energy Industry Association (SEIA), the voice of solar energy in the United States, on a Federal Update: Solar Trade & Manufacturing. John Smirnow, SEIA's General Counsel & Vice President of Market Strategy, will discuss the outlook for solar in the United States, industry efforts to grow domestic solar manufacturing, and current international trade issues.

In addition, a panel of industry experts moderated by LeeAnn Slattery, Sales Support Manager of ATAS International and Market Development Chair for the Metal Construction Association (MCA) will present Metal Takes on Solar—A Metal Roofer's Perspective on Solar Installations based on a new MCA report on "Metal Roofing & Solar PV Systems." Panelists include Bob Zabcik, President of Z-tech Consulting, LLC; Andy Williams, Principal of Panel Cladding Solutions, LLC, and Director of Codes and Standards, MCA; Mark Gies, Director of Solar Business at S-5!; and Dustin Haddock, Vice President of Research & Development at S-5!

Here's a snapshot of educational sessions planned for the solar center, with more to come:

Wednesday, October 6

- 11:30 a.m. Metal Roofing, the Perfect Platform for Solar PV
- 1:00 p.m. Best Practices to Install Solar on Metal Roofing, NABCEP certified
- 4:00 p.m. Solar Trivia Games

Thursday, October 7

- 11:30 a.m. Solar PV Rooftop Applications and Solar-Ready



Design Considerations, AIA certified

- 1:00 p.m. Roundtable Presentation, Metal Roofing and Solar PV Systems
- 2:00 p.m. Federal Update: Solar Trade and Manufacturing
- 2:30 p.m. Solar in High Wind and Snow Country: Design Considerations
- 4:00 p.m. Solar Trivia Games

Friday, October 8

- 10:30 a.m. Rail-Less Solar on Metal Roofs: Wire Management and Best Practices, NABCEP certified
- 12:00 p.m. Final two-team face-off Solar Trivia Games

Throughout the show, live solar demos will take place along with the METALCON Solar Trivia Games. Teams of three to five individuals can pre-register, or join a team on the first morning of the games. Each first-place winning team on Days #1 and #2 wins prizes before facing off on the final day for the grand prize.

"We are very excited to feature solar at the show this year," shared Judy Geller, METALCON's Vice President of Tradeshows. "It's a natural choice because metal roofing provides an ideal platform for mounting solar PV since the service life of a metal roof exceeds the service life of a solar PV system. It is also the most sustainable roofing type and yields lower solar installation costs. Attendees will take away practical ideas to implement right away and help grow their businesses." **MR**

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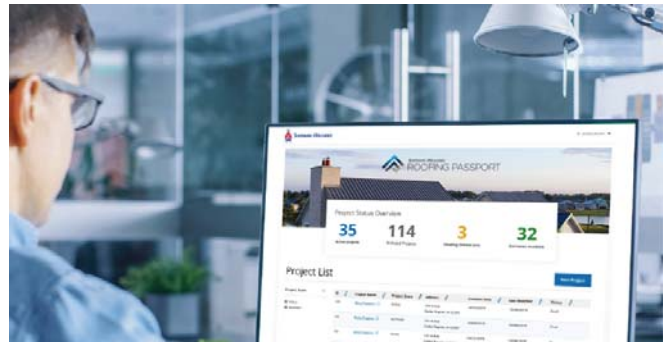


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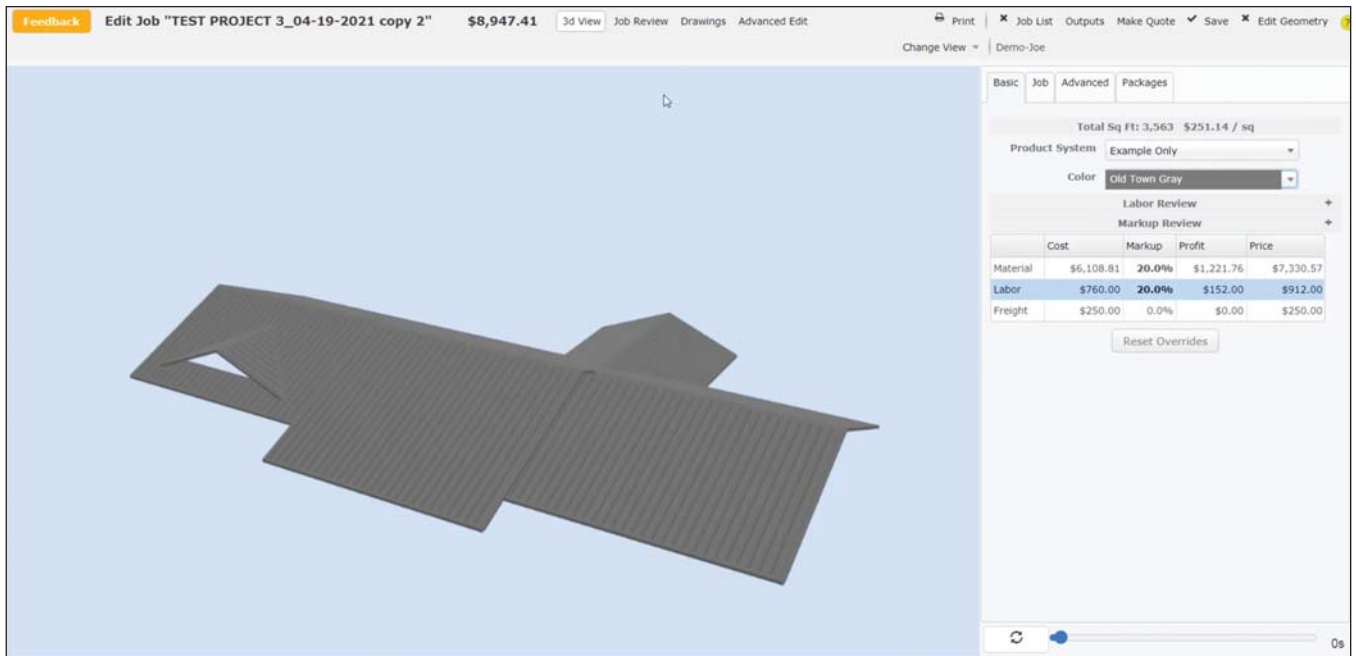
What is the Roofing Passport? Built specifically for the residential metal re-roofing market, this groundbreaking platform simplifies metal roof estimation and ordering. As a fully automated program, the digital platform enables project estimation in one click—transforming your contractor's roofing business.



A Straightforward Process

The Sherwin-Williams Roofing Passport integrates seamlessly with EagleView, provider of aerial property measurements; SmartBuild's building application software; and Sherwin-Williams Coil Coatings. The Roofing Passport creates a powerful link between EagleView's highly accurate roof measurements and SmartBuild's automated estimation software,

PARTNER UPDATE



creating an easy-to-use bidding platform.

The Sherwin-Williams Roofing Passport allows contractors to easily “click, bid, and win” metal roofing business by connecting EagleView’s aerial roof imagery and the automated SmartBuild building application software with Sherwin-Williams Coil Coatings. With this digital platform, you can order a property measurement, gather the required metal roof takeoff data for a lead, and engage a roofing manufacturer—all in one click. This simplified metal roof estimation and ordering process improves measurement accuracy, eliminates the need to manually measure before submitting an estimate, and saves time and resources—increasing profitability.

1. Quick and Easy Setup: Contact your metal manufacturer to get approved and initiated into the Sherwin-Williams Roofing Passport process. Alternatively, contact Sherwin-Williams Coil Coatings directly and they will connect you with an approved metal manufacturer (no software license required).

2. Capitalize on New Leads: When a roofing team receives a metal roof lead, they can go to the Roofing Passport to begin the estimation process.

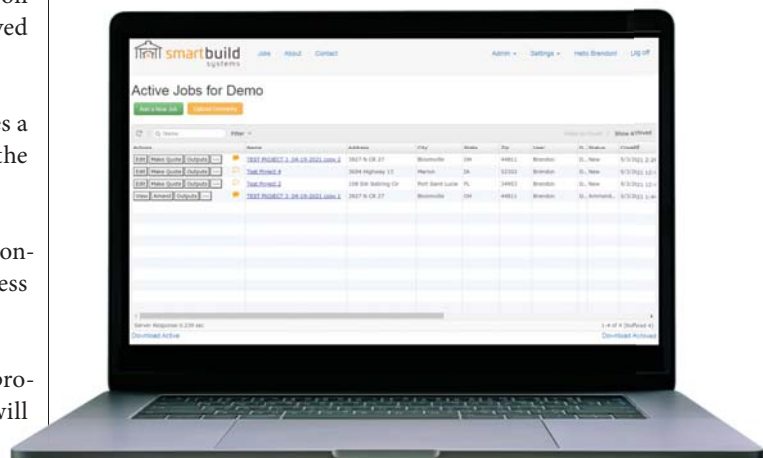
3. Enter the Address: Through the Roofing Passport, contractors initiate a metal roof estimate by entering an address and submitting the request.

4. Receive an Aerial Report: Within hours, EagleView provides the roofing takeoff of the requested address. Users will receive an email when the information is ready for review.

5. Review Material Takeoff and Create the Bid: Roof measurements from EagleView are used by SmartBuild to populate a 3D model, generate a bill of materials, labor, pricing, panel layouts, and final bid sheets and, most importantly, allow users to control their profits.

6. Talk to the Property Owner and Send the Bid: Contractors send automatically generated bid sheets over to customers for them to review.

7. Close the Loop With the Manufacturer: Once the customer accepts a bid, contractors need to work with the metal roofing manufacturer to understand their requirements, make necessary updates, and send the material list order to the manufacturer. **MR**



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Fall Prevention

Stop falls (and fines) on the job site with these 10 tips



An OSHA inspector measures potential fall distance based on the actual rope being used. This real, un-staged inspection resulted in a fairly hefty fine.

COVER STORY

It's no secret that roofing is a dangerous profession, with falls causing severe injuries and even fatalities. The job is a rewarding one, though, or it wouldn't be worth the risk. We recently spoke with Todd Meinhold of Cool Roofs, H&D Quality Builders, and Ridgeline Safety Systems regarding safety on the job site. He provided the following real-world tips, including some he learned firsthand after his own OSHA inspection and fine. Read on for what you *should* do, as well as mistakes to avoid.

1. TIE OFF 100% OF THE TIME. This *will* save your (or your co-worker's) life.

2. Don't ever put yourself in a position where you have to tell someone's family that their loved one fell off a roof and did not survive.

3. NEVER ASSUME...that the roof is not too slick...or that steep...or...the list goes on.

4. The attitude of "I am just going to jump up there quick" WILL cause an accident. Being in a rush will lead to problems—maybe not now, but eventually.

5. Frequency (of small mishaps) leads to severity (and big accidents). Report the NEAR MISSES! This will save a life, possibly yours!

6. Select and USE tools that the market has developed to stay tied off or to install in a safer manner. There are products out there that help with body fatigue, slippage, and dangerous installation steps like installing the ridge cap—products made *by* roofers, *for* roofers.

7. Plan for the safest way to install each area of the roof BEFORE you start the roof. PRE-site plan—including what equipment is needed, weather updates, wind direction, obstacles to deal with on each area, etc.

8. Know the limits of your safety gear: how many people per anchor, the weight



Photos taken from a distance by an OSHA inspector, prior to speaking with the job site manager. All images provided by Todd Meinhold.

limit per ladder, where can you tie off on your harness, is the harness rated for your size, when should your harness be taken out of service, etc.

9. Different metal requires different footwear. Make sure you're wearing the proper shoes (and gear) for each specific job.

10. Don't forget PPE—what gloves to wear and when, the necessary clothing, and eye protection! Metal is razor-sharp when cut and has burrs that can gouge.

BONUS: Above all else, keep up on your training and work hard to regularly gain knowledge! Good decisions can be made when you know what you need to know. Field training is important—ignorance is not an *option* in roofing, it is a *death sentence*. **MR**



If using scaffolding, it must meet strict standards for safety.

Metal Panels & Shingles

Industry experts share their tips and tricks for the selection and installation of metal roofing products—and how they differ for each job

We asked manufacturers of metal roofing panels and shingles to share their top recommendations for selecting the right product for each specific job, as well as for general tips regarding the installation. Here is what they had to share:



What are important considerations metal roofing contractors should keep in mind when selecting a panel or shingle for a specific job? Why do these important factors matter?

When selecting a metal roofing panel, contractors have a lot of choices available to them. A couple of the most important choices are profile and finish. There are numerous [metal shingle] profiles offered by various manufacturers, but some of the most common are a shake profile designed to look like hand-split cedar shakes, or a slate-type profile, which mimics traditional slate roofing.

For coatings, there are three main options: first would be uncoated, with the panels left bare to develop a natural patina over time; stone-coated, where crushed stone and minerals are glued to the substrate to look more like a traditional asphalt shingle; and painted panels. Painted panels can run the gamut from a single solid color to decorative panels with detailed wood grain, to variegated panels with highlights, shading, and shadow lines.

These choices are important because they are going to greatly affect the appearance of the customer’s home or business. A striking roof can make a home stand out in a neighborhood, or a more subtle design will help it blend in.

What are “tricks of the trade” regarding the installation of panels or shingles?

One important step that contractors sometimes neglect is snow and ice protection. With metal shingles, you are not going to have ribs like a standing seam roof, which are easy to install clamped snow guards on. If you plan ahead, you can install snow guards during the installation, which allowing the fasteners to be covered by the roofing panels. If you install snow protection after the install, you either need to use an adhesive, or fasten them to the roof deck through the panel (which could eventually lead to leaks).

Speaking of leaks, the second trick is to keep in mind that the most important factor in waterproofing the roof is to make sure everything is properly flashed and a high-quality underlayment is used. Even the best panels available can leak if not flashed following best practices. And since a metal roof is built to last 40 to 50 years or more, #30 felt may meet the minimum code, but it’s worth it to spend a few more dollars and install both a high-quality synthetic underlayment as well as peel-and-stick ice and water barriers.



The two most critical considerations when selecting a panel for a specific job are manufacturer involvement and panel performance characteristics.

Expanding on the manufacturer’s involvement, a contractor will be able to lean on them to guide them through the entire process, from first contact to laying down the last panel on a project. The better manufacturers will have a resource on-site to help the installers understand each and every aspect of their products. They’ll also provide project-specific designs, meaning that every single project is being designed and installed, accounting for all environmental factors like wind, rain, snow, UV exposure, etc., that will be acting on that roof.

Every single project is different, so it is extremely important to have the manufacturer help determine the right products and design for each situation.

As for the panel performance characteristics, a contractor should utilize a roof system that was designed with them in mind. For instance, a standing seam metal roof system with a single-piece structural clip and clip/sealant separation that allows for unlimited thermal cycling. This design is superior in performance and ease of installation to the often-used two-piece clip system. The two-piece clips require the installer to decide whether the roof needs to expand or contract during the

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install. These also typically have sealant/clip interaction. As the system expands and contracts, the clips can bind if installed in the wrong direction and will wear away at the sealant. The one-piece clip design, however, eliminates the guesswork in clip positioning, and the worry of sealant deterioration, which provides a much simpler install and better-performing roof system.

Tricks of the trade will vary with each and every roof system being installed. Every panel design is different, so each one has little intricacies in the installation.

With that said, a generic trick during install for any type of metal roof system would be to square your roof before you begin. A roof that is started and not square can become skewed extremely quickly, possibly forcing more labor to correct and redo sections. It is also important to check every few panels as well, because an install can get off-square very quickly.

Another trick would be the utilization of shims. Oftentimes, a standing seam metal roof is fully installed, and the dreaded oil-canning effect is immediately obvious. It's more likely that the oil-canning is not due to poor manufacturing, but could be attributed to a substrate (deck or purlins) that isn't perfectly flat. Utilizing shims underneath the attachment points can bring a

roof system up to plane, alleviating that translation of oil-canning from the substrate to the roof surface.

An installer can do an easy check on the flatness of a substrate's surface by turning a roof panel on its side while running it up the slope. If there are gaps between the panel and substrate, shims will likely come in handy.



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Two items to consider when choosing your roof panels:

What expectations will the panel you choose be subjected to and how do these expectations affect the profile, substrate, and



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paint system you choose? If the panel is simply a shade and shelter panel, some homeowners are fine with an ag rib panel with a polyester paint.

With that said, that same customer may want a profile, substrate, and paint system that is comparable to their other rooflines if the install will take place near other structures he/she already has in place or is planning to add in the future. If the panel is going on a residence or commercial application, you certainly want to use the highest quality substrate and paint system you can.

Another thing to remember is different panel profiles can give better results in certain situations. For instance, if you are installing panels on a low-pitch roof, you need to consider rib height and fastener placement to help avoid leak issues due to the possibility of pooling water on the roof. The great news is there are many options for panel profiles, substrates, and paint (regarding both warranty and color) to help you meet or exceed your customers' expectations—if you address the issues before the project begins.

A second point to keep in mind is what type of demand will the finished roofing panels be subjected to? If the panels are going on a commercial setting or residential setting that will include equipment placed on top of them (such as solar panels or HVAC units), you need to consider what type of foot traffic the panels may see for routine maintenance and repair in the future. This can also help you determine the best profile, decimal thickness of the panel, and paint system.

If a roofing panel will be subjected to foot traffic for equipment maintenance and repair, a profile that is less likely to be damaged from someone stepping on it or a thicker decimal thickness for the panel may very well be a better option. In these scenarios, it is also worth your time to really evaluate the performance expectations of the paint system used to coat the panels. You do not want to use a lesser paint system and end up removing equipment so you can replace panels in a scenario that may have been avoided by using a better paint system.

Two items to help with your install:

A couple of items that may help you with the install of any roof panel are keeping a close eye on how the panels are running as you install them and avoid any excessive drilling of the panels. As you install the panels, it is a good idea to measure back to the gable end truss often, at both the top and the bottom of the panel, to make sure your panels are running straight. If you notice the top is getting ahead or behind when it is only off slightly, you still have an opportunity to fix it. If you get to a point and realize the top is running 3" ahead or behind, it is time to remove panels you have installed to get back on track.

The problem with any excessive drilling is drilling into metal panels does create metal fines. They will be hot and tend to want to stick to the painted surface of a panel. Over time, those fines will rust on top of the paint. This will usually not create an integrity issue for the panel, but it will get you called back to the job site because to the owner, it appears the panel is rusting. The

same thing happens if you try to use a circular saw and blade to cut metal.

The bottom line is, metal roofing panels are a great option for many roofing applications. Take the time to consider what panel will work best for your install and take the time to conduct a *good* install. There are great sources for your panels as well as knowledge to help you get started. Homeowners and building owners have never been as eager as they are right now to use metal roof panels on their projects, so the opportunity for you and your business is at an all-time high if you want to install metal roof panels.



Contractors should consider the needs and performance expectations of their customers when suggesting roofing panels. Most manufacturers apply PVDF coatings to their standing seam systems. PVDF coatings provide the optimal long-term performance and offer the best protection against fade and chalk. However, many through-fastened panels are coated with lesser quality coating systems. The difference in quality and performance should be discussed with end users so they can make an educated decision about their panel and coating of choice.

The use of butyl sealants for metal-to-metal connections is key to high-performance roofs and improved weather-tightness. Most manufacturers have developed installation details, which include where to place butyl sealants. These details should be followed to ensure long-term performance.

An architectural eave detail is the preferred installation for standing seam systems. Architectural eave details do not require the use of fasteners along the eave of the roofline. To install an architectural eave detail, the standing seams need to be removed to form an eave flange that is folded under the panel and engaged with eave flashing. Many manufacturers offer factory-formed eave notching, which saves the roofing contractor labor. Without factory notching, panels need to be fabricated on the job site by roofing crews.

Keeping roofing panels on module is key to a successful installation and will alleviate a variety of potential problems, such as material shortages, leaks, aesthetic concerns, and mechanical seaming issues if installing a field-seamed roofing panel.



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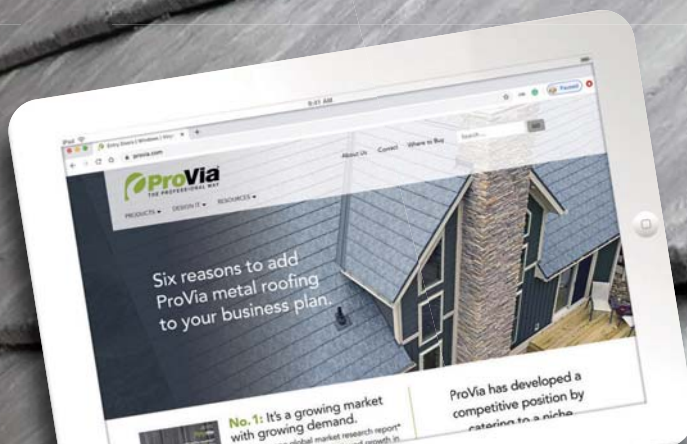
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When choosing a metal panel for each job:

1. Consider the region/location of the project to avoid finish warranty issues, because some manufacturers require aluminum for all panel system applications within ½ mile of salt or brackish water.
2. Consider the substrate pitch because some roof panel profiles have individual pitch requirements. These are based on water infiltration testing and designed to ensure a water-tight project. Choose the profile that best falls within the parameters of said project.
3. Wind speed determines the panel system because certain panels are rated for higher wind speeds than others.
4. When choosing roofing panels, consider slope, because panels are rated for specific slope ranges.

Tips and tricks of the trade:

1. To achieve a balanced panel layout, begin by measuring the overall project width and divide same by one full panel width. Take the remainder of a non-full panel and subtract this from a full panel width. Take this sum and divide in half. This is the amount to remove from the first and last panels.
2. Prior to the start of panel installation, take accurate field measurements of the substrate such as irregular rake or eave conditions, which will require an irregular-width start panel and or “sawtooth” panels at the eave. Short substrate at the ridge or hip could affect proper anchoring of panels. High or low areas within the substrate will cause unnecessary oil canning.
3. Always square up the roof panels to the building. Structural steel has become so inconsistent and poor in the 21st century that it is imperative to square up the roof covering to account for a building that is not plumb and is out-of-tolerance.
4. Standing seam metal roofing is not a forgiving roof covering. Once it is installed, make sure other trades are not allowed to walk on it. Despite common beliefs, a metal roof’s finish is not impervious to foot traffic.



Important considerations when selecting a metal panel:

- Number one is energy savings. Metal roofing can greatly improve a home’s energy efficiency; coated metal is reflective and doesn’t absorb solar heat like an asphalt shingle roof would; it re-emits solar radiation and reduces energy consumption.
- Number two is the longevity, durability, and long-term value of a metal panel roof. It lasts longer and stays intact far better than materials like asphalt or cedar. The lifespan can improve the value of a home.
- Saving money on utilities is important for homeowners. Purchasing energy-efficient roofing products gives them peace of mind and saves money in the long run. And a strong roof with a long life saves them from having to repair or replace due to weather or wear-and-tear.

“Tricks of the trade” regarding panel installation:

- Number one is proper ventilation. Without it, you’ll see a lot of condensation in the attic space and moisture collecting on the underside of the roof. If left untreated, the homeowner will have damage. To achieve good ventilation, you need both intake vents, typically at the bottom of the roof in the building’s overhangs, and exhaust vents, often near the peak. Fresh air comes in at the bottom vents of the roof and carries warm, moist air out of the attic through the exhaust vents. The goal is to have continuous air exchange in the attic space, allowing the roof to “breathe” and prevent condensation.
- Number two is not necessarily a “trick,” just common sense: take your time and do a thorough job. Rushing through so you can get to the next job causes shoddy workmanship. Slow down, be methodical, and make your moves count. Metal roof installation is practically an art—it takes practice and experience.
- Another commonsense suggestion is to make sure to communicate with the homeowner at the installation site. Respect them and protect the property—for example, make sure the owner’s AC unit is covered during tear-off so nails don’t fall inside it. This is someone’s home and yard; you must be careful, cautious, respectful, and clean up after yourself.
- A third tip is to get yourself the proper tools for easier and more efficient installation. Tin snips for example—spend the money to get both left-cut and right-cut hand snips.
- One more thing—make sure you wear your safety harness and that your anchor points are fastened correctly. Metal is slippery when it’s wet, so wear the right shoes and be mindful of your surroundings. **MR**



High-pressure power washers run the risk of damaging the coating on a metal roof, which in turn can void the warranty. Always consult the panel and coating manufacturer for their recommendations on panel cleaning and maintenance.

Metal Maintenance

Educate your customers on the do's and don'ts of cleaning a metal roof

By Tracy Schubert

Metal roofs are in a class all their own when it comes to cleaning—easy in principal but also very specific in care requirements. After you've installed a metal roof for a customer, your job doesn't stop there—now it is time to educate them on proper metal roofing maintenance. The first step in cleaning a metal roof, the *right* way, requires little more thought than just using water to remove any airborne

dirt, leaves, pollen, and twigs.

However, mold, mildew, and spore deposits, along with stains caused by environmental chemical reactions (such as acid rain and other pollutants), require a different, more involved approach. Begin with the basics and take it from there as needed.

When it comes to cleaning a metal roof, there is a much shorter list of do's than don'ts. Of utmost importance is making sure that any paint, panel, and metal warranties are not voided; the

same goes for any existing warranties on clips, coated fasteners, specialized tapes, and other accessories. It is important to know and consider all of the individual elements of the roof that may have attached warranty conditions.

Anyone who invests in the installation of a metal roof wants it to look good. It is a long-term relationship with one's home that requires maintenance to successfully go the distance. In the case of a metal roof, that is more often than not a decades-long endeavor.

Owners who want to maintain the resale boost they may get from their well-cared-for roof will want to keep its value intact in both function and beauty. There is no doubt that a properly completed annual cleaning will help protect the investment for both reasons.

Where to Begin

1. Assess, Assess, Assess: Walk around the home and observe the roof. Look for debris, discolorations, and potential surface damage visible to the naked eye from the ground. Look at it from the road as well as from the yard. Make notes about what you find in terms of debris and weather damage.

2. Determine: Is this cleaning something that the homeowner wants to begin to address or is it straight-out time to hire an experienced metal roof cleaner to take on the task?

3. Research: Whether doing work as a homeowner or hiring someone to clean the roof, it is important to understand what the manufacturer recommendations are for cleaning the various roof elements. It will help the roof owner know how to clean the roof, if that is the chosen path. It will also enable the communication required to maintain warranties and guide clear contracting with someone else who is cleaning the roof.

4. Put It in Writing: If the roof owner is having an experienced metal roof cleaner take on the cleaning, they should have an agreement of the process to be followed including the cleaners to be used and tools utilized to do the job—in writing. What setup and cleanup is needed on the job should be understood. It also needs to be defined who is responsible for any unforeseen damage to the roof or property.

For example, if the ladder breaks and dislodges a gutter or puts dents into the metal roof, who pays to fix it? If a ladder used kills landscape plants or causes breakage to nearby shrubbery, who is responsible for the associated costs of replacing them? If roof runoff from the chemicals used harms plants or shrubs on the ground, who is responsible for the costs and remedy of their replacement? Who is responsible for protecting any plants or shrubs before any chemical cleaners are applied? Where can ladders be placed?

Lastly, make sure the cleaner is insured and ask for references. Discuss when the cleaning will be done and when and how payment is expected.

5. Take on the Task: If a metal roof owner is going to tackle the cleaning themselves, the following do's are some safe ways to start the process. Always stop and reevaluate as needed during the process. You may find it necessary to hire a professional cleaner as the cleaning unfolds, especially if you encounter stubborn areas. If a professional is hired, make sure to take both before and after pictures of what is being cleaned on the roof so there are no questions about the task at hand.

The Do's

- Items that are safe to wash with:
- Nonabrasive sponge (not foam)

- Soft washcloth
- Soft bristle brush

In the case of metal, less is more and lucky roof owners may find the roofs can be successfully cleaned with water. It doesn't get more environmentally friendly than that! Wait for an overcast day and start as far up toward the top as you can safely reach. Spray the roof with a hose and let the water runoff help do the job as it continually moves down the roof.

Still have some issues? Move to the use of mild laundry detergent or car washing soap. A gentle solution may be made by combining ¼ cup of detergent per gallon of water and using a soft sponge or washcloth to apply the solution. It may be left to sit for 5 to 10 minutes and then rinsed off. This simple step might be enough to do the job, but can be done more than once if needed. If you are able to get close to the roof, look for evidence of chalking, a white powdery deterioration on the surface of the paint. Sometimes it is visible to the eye, other times it may have to be recognized by contact. A coating of the film may rub off on your finger when it is swiped across the surface of the roof panel. Chalking may be caused by pollution, and that type of deterioration may not be included in warranty protections.

Still not enough? Check with the manufacturer for the paint/coating type to ensure that any approach taken is safe for both the metal roof installed and the person doing the application, since many solvents are flammable. Additional cleanings for the removal of algae, mildew, mold, and rust may also be researched.

Test any cleaning ideas you have on the non-facing side of the home in a harder-to-notice area. Give things a little time to settle before moving forward with a larger area. Impacts of heat, direct sun, and water should be observed.

Put Safety First

Going above ground level? Safety is for sure something roof cleaners do not want to skip on. Getting a view of the roof, climbing up on the roof, walking around, and performing work at various places around the roof all have different requirements, but one thing they all have in common is the need for one other person to be present while these actions are taken.

- Wear well-fitting shoes with high-traction soles. Keep in mind that wet roofs can become slippery roofs.
- Wear proper clothing and eye protection in case of splashing.
- Make sure you have an OSHA-approved ladder with padded stabilizers.
- When working atop a roof, it is important to use fall protection gear such as a harness and other safety systems.
- Be aware of fumes from the cleaning products being used.
- Choose a cloudy day to avoid reflectivity glare and heat that could cause contact burns when on the roof.
- Plan to clean in manageable sections so soap may be rinsed off before it bakes onto the metal.
- Is your roof a safe pitch to be on or should you just climb a

END-USER EDUCATION

ladder and spray what you are able to?

Hands-on experience with cleaners and safety are good reasons to hire a professional who already owns all the gear and equipment needed and is very aware of all the ways they have had to use it.

Don'ts

Don't void roof warranties for the metal or the paint by using abrasives and chemicals such as:

- Acetone
- Acids
- Brass and other wire brushes
- Cleaning powders and pastes
- High-pressure power washers
- Paint removers
- Paint thinners
- Sandpaper of any grit
- Steel wool

Touch-Ups

Touching up a roof's paint without following a manufacturer's recommendation could not only make a blemish or

blemishes look worse, it can actually void the entire roof warranty. Make sure a small imperfection does not turn into a big misstep.

Making It Easier

Allowing a roofing system to function well will make the annual cleanup easy. Things can be done to help protect a roof from wear and tear, such as keeping the gutters clear and trimming back branches that overhang the roof. The longer the timespan between cleanings, the more buildup there will be, making it harder to clean. Observe the amount of dirt and debris on a seasonal basis to determine the individual challenges facing the roof.

Today's metal roofing is a beautiful statement part of a home. For many homeowners, a properly installed metal roof is considered a long-term investment. Because of that, there is a lot of great information available from manufacturers and paint companies about how to maintain them for years to come. Identifying what best protects and preserves a metal roof is a win for all involved in the process. Knowing what to ask for when having work done by others on a roof is a very important part of successful ownership. **MR**



Whether your metal roofing or metal building project is new construction or replacement, make sure you specify the most versatile long-life fastener available today—

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- 304SS Cap & EPDM washer combination provides lifetime protection for your metal roof. WOODZIP SCAMP includes a 304 SS/EPDM bonded washer for enhanced strip out prevention in light density wood.
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- #12 WOODZIP is an excellent choice for new construction or replacement of #9/#10 fasteners that have loosened.
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- STEELZIP self-drilling point is designed to drill 10-16 gauge steel purlins consistently with no "point walking". The 1/4" diameter stitch screw securely fastens 26 gauge side laps & other light gauge trim.
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www.directmetalsinc.com

WARNING LABELS

Using them can help protect your panel, and your reputation

Today's coil coatings are very weather-resilient once installed on a roof or exterior wall. Prior to installation, however, coils and panels need to be handled and stored correctly.

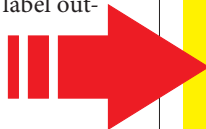
Mishandling of panels before, during, and after installation are too often at the root of a warranty claim being denied. A list of common non-warrantable situations outlined by AkzoNobel include:

- Substrate corrosion, including failure or damage from under-film or edge corrosion.
- Coatings not applied in accordance to good install practices.
- Breaches in the coating film caused by installation scratches, abrasions, or hard impact.
- Damage caused by moisture entrapment (between bundles or during transit).
- Mixing of different paint systems.
- Unapproved chemicals or cleaners.
- Where materials or items are permanently attached or adhere to the coating.

If you roll your own panels, you are but one step of the process. You may do everything right on your end, only to have a customer take your perfectly prepared panels and mishandle them through improper storage or installation. You can help avoid this, and protect your company's reputation, by attaching warning labels to your bundles.

Will Waldrup of United Steel Supply shared one such label used by a United Steel Supply customer. The label outlines proper handling procedures:

The label should be stamped with your company name to assure you are credited with doing your due diligence in passing vital information onto the next link in the chain of custody. **MR**



WARNING IMPORTANT INSTRUCTIONS CAUTION:

Sharp Edges—Always wear gloves while working with metal panels

STORAGE INSTRUCTIONS PREPAINTED AND UNPAINTED STEEL

To avoid moisture damage to this material, including water stains and white rust, the following precautions should be taken:

- STORE INSIDE A WELL-VENTILATED DRY LOCATION
 - DO NOT ALLOW MOISTURE TO REMAIN BETWEEN SHEET SURFACES
 - Break the shipping bands on the metal
 - Wipe sheets dry
 - Store metal on end or on an incline of at least 8" with support boards underneath to prevent sagging. Fan sheets slightly at the bottom to allow for air circulation.
 - KEEP SHEETS OF METAL OFF THE GROUND IN AN INCLINED POSITION WITH AN INSULATOR SUCH AS WOOD
 - NEVER COVER WITH PLASTIC
- Moisture between sheets may cause white rust, which can form in as little as 24 hours, and may cause the paint to flake immediately or in several years.
- OUTDOOR STORAGE IS AT THE CUSTOMER'S RISK. FAILURE TO COMPLY WITH THESE PRECAUTIONS RELIEVES THE MANUFACTURER OF RESPONSIBILITY FOR ANY RESULTANT DAMAGE TO OR DETERIORATION OF THE PRODUCT**

NOTICE

- Building codes vary. Buyer/user is responsible for checking local codes and determining suitability of product for the job.
- Direct contact between ACQ- or CA-treated lumber and metal roofing panels must be avoided.

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UPDATE: International Roofing Expo Badges Go Digital

Plus IRE's latest sustainability initiatives



The coordinators of the International Roofing Expo (IRE) are looking forward to bringing the industry back together August 10 through 12, 2021, in Las Vegas. Join them at the Mandalay Bay Convention Center as exhibitors and attendees connect in person. Make sure you're prepared for the show—see below for the latest updates for IRE 2021:

Sustainability Initiatives

- **Badges Are Going Digital:** No more standing in line on opening morning at registration! Digital badging helps create a seamless, efficient, and modern experience, much like digital boarding passes have created for airline travelers.



Prior to the show, you will receive your digital badge via email. Your digital badge can be accessed on your smartphone or smart watch (you will need to add your badge to your Apple Wallet or Google Pay app for easy access).

If you do not have a smartphone or have issues accessing your digital badge, please visit our on-site customer service to print a registration ticket.

- **Carpet in the Expo Hall:** An analysis from IRE's sustainability team showed that carpet is one of the most significant contributors to waste at events. The simple act of removing carpet from trade shows would save hundreds of thousands of pounds of waste each year. In addition to its effect on the environment, carpet is very difficult to clean thoroughly, and removing it will allow show coordinators to ensure consistently clean surfaces throughout their events.

How does this change impact IRE? You will not see carpet in the expo hall aisles and show floor feature areas. Exhibitors will still have the option to place flooring in their booth, but it will no longer be a requirement.

- **Show Guide and Floor Plan Are Digital:** To help reduce the amount of paper consumption, printing waste, and paper waste, IRE's hosts have decided not to print a show guide or floor plan for the 2021 event. According to the Environmental Protection Agency, over 67 million tons of paper and paperboard was generated in the U.S. in 2018, with over 17 million tons ending up in the landfill.

By moving their show guide and floor plan to a digital format,

they are helping to impact the environment in a positive way. Attendees and exhibitors can access the Digital Show Guide on the IRE website and via the IRE mobile app.

Other News

- **NEW—My Show Planner Tool:** Personalize your show experience and organize your show-related activities with the NEW My Show Planner tool. When you create a My Show Planner account, you can: compile a must-see list of exhibitors by favoriting companies, build a calendar by adding sessions you have registered for and special events, and print a map of the show floor highlighting the booths you plan to visit.

Your My Show Planner account will sync with the IRE mobile app to make your on-site experience even easier.

- **BYONT—Bring Your**

Own Name Tag: This year, with no physical badges, IRE is encouraging everyone to bring their own name tag to the show. This will help everyone easily and quickly identify each other. Need a name tag? Download a template from the IRE website and personalize it with your preferred contact information.



Special Events

- **Ribbon Cutting Ceremony:** Join exhibitors and other attendees on opening day for a special welcome from NRCA and IRE Show Management as they reconvene for the first time since 2020.

The Ribbon Cutting Ceremony will take place in the lobby on Tuesday at 10:45 a.m. The expo hall will open at 11:00 a.m. following the ceremony. **MR**

For additional information about attending this year's IRE, visit www.theroofingexpo.com.



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Metal-Clad Bank Helps Planned Development Build Community



Building a new community from the ground up is no easy feat. Having a vision of the overall aesthetics from the beginning is an important element in ensuring that community will hold together over the decades. Developers of the new 2,900-acre community of Wildlight in northeast Florida, about 20 miles north of Jacksonville, are emphasizing historic styles for buyers' homes and townhomes, but commercial establishments are getting a bit more leeway. A new Wildlight branch for First Federal Bank of Florida puts an industrial twist on basic gabled designs to create a quirky, inviting building

that's highlighted with standing-seam metal panels used for both roofs and walls.

The new bank branch is sited within the community's burgeoning village center, which also includes a supermarket along with a number of restaurants and other retailers. The larger development is now in its first building phase, which is planned to include approximately 1,000 homes built on 261 acres, with an additional 350 acres of permanently preserved open space. Eventually, Wildlight is expected to incorporate up to 24,000 homes.

Designers with the Jacksonville office of Dasher Hurst Architects were given a few guidelines from the community, which included



emphasizing walk-ability and bike-friendliness in the commercial area, according to firm principal Tom Hurst, AIA. These included siting the building close to the front property line. Elements like front porches that spur personal interactions and provide some relief from the Florida sun also are encouraged.

However, Hurst said First Federal gave his team a pretty open hand when

it came to their own corporate requirements, since they didn't have their own prototype style for local branches, and were hoping for something a bit more modern than previous facilities.

"It was important to them that the architecture fit into the new neighborhood, which included other commercial buildings with a decidedly 'industrial' aesthetic," he shared, adding that there was a bit of tension to also ensure "industrial" didn't

equate to unwelcoming. "They wanted to make sure the building felt inviting and encouraged the use of woods and other warm materials. The simple gabled form of the building fits in well with the scale of the neighborhood, while the material palette references the surrounding buildings within the commercial district."

The most dramatic element in that palette are the standing-seam panels, which run vertically up the top half of the walls

DETAILS

Location: Yulee, Florida

Architect: Dasher Hurst Architects, Jacksonville, Florida

Roofing Panels: PAC-CLAD 24-gauge 16" Snap-Clad panels in Graphite finish

Wall Cladding: PAC-CLAD 24-gauge 16" Snap-Clad panels in Graphite finish; Atas International CastleTop diamond-shape shingles in Silversmith finish; and Fiberon Composite Siding in Ipe



and gable ends and continue up the roof in an effort to accentuate the gabled volume, Hurst said. “We wanted the building to feel like a solid, extruded object, rather than separate walls and roof—to achieve this, we needed a material that would work equally well for both,” he explained. “Standing seam metal is one of the few materials that fit this situation. The dark color was selected to create a strong visual anchor to the building and to complement the other lighter and warmer materials.”

The architects turned to Petersen and its Snap-Clad panels in their specifications, with a total of 5,000 square feet of 24-gauge panels in the company’s Graphite finish used in the project. This wasn’t a new choice for Hurst, who said he has long counted on both the durability of the company’s PAC-CLAD products and its employees’ expertise.

“We have used Petersen roofing products for years because



they perform well and have all the necessary testing in place for installations in Florida, which is a very challenging environment,” he shared. “We have excellent sales representation in Jacksonville. Petersen has always been very helpful when reviewing projects with us and ensuring that we have the proper products and specifications.”

With the bank now open, Hurst said it has become right at home in a community being developed on the principles of friendliness and neighborliness. “The building has been well received by both the general public and our client,” he said. “It is located at one of the main entrances to Wildlight, and we’ve been told that it helps to create an interesting and welcoming gateway to the neighborhood.” **MR**

For more information on PAC-CLAD, visit www.pac-clad.com. Photos by www.hortonphotoinc.com.

WESTERN *Roofing* EXPO 2021

September 21 through 23
at the Mirage in Las Vegas

Known as the premier regional roofing event in the United States, the Western Roofing Expo 2021—September 21 through 23 at The Mirage Las Vegas—features a two-day trade show, 24 educational seminars, two keynote luncheons, the Roofing Games™, golf and sporting clays tournaments, an amazing welcome party with lively-silent auction, and unbeatable networking with powerful industry connections.

Nothing rivals the power of face-to-face when making buying decisions. You can't shake hands with a computer, but you can meet head-on with companies in a mutually beneficial and safe environment that's driven, proficient, and highly cost-effective!

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Sit, meet, mingle, and engage with over 200 companies on the expanded exhibit floor. Bring more meaning to your attendee experience by interacting and learning about the latest products and solutions the roofing industry has to offer. Don't miss the live product demonstrations starting every hour. Best of all, roofing and waterproofing contractors can walk both days of the exhibit floor absolutely free!

Welcome Event and Lively-Silent Auction

Fantastic food, hosted bars, industry camaraderie, and lots of great auction items...everyone walks away with a smile. There will be travel trips, jewelry, golf items, roofing items, electronics, sports memorabilia, and much more to bid on. All proceeds



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benefit the Davis Memorial Foundation scholarship fund. Since its founding in 1997, the Foundation has awarded over 140 scholarships for construction-related educations totaling more than \$600,000. Sponsored by GAF®.

Legislative Luncheon With Craig Brightup

Washington insider, Craig Brightup (The Brightup Group), will be at the top of his game discussing critical issues affecting the \$30 billion commercial and residential roof-

ing industry. Sponsored by the National Roofing Contractors Association (NRCA).

Annual Luncheon With Comedian Ian Bagg: Thursday, September 23

Ian Bagg started his comedy career in his native country: Canada. His career has included two half-hour specials, “Comedy Central Presents” and HBO’s “A Comics Climb,” and he has been featured in two seasons of “Gabriel Iglesias Presents Stand-Up Revolution” on Comedy Central. He was also featured on “Late Night with Conan O’Brien,” “The Late Late Show with Craig Ferguson,” and “Tonight Show with Jay Leno.” Sponsored by Malarkey Roofing Products®.

Roofing Seminars—Earn AIA and IIBEC CEUs

The Western Roofing Expo has expanded its educational seminar offerings. Earn AIA and IIBEC CEUs and educate yourself on industry best practices at the same time. This year’s outstanding seminar schedule will provide a wealth of roof design approach strategies, best business practices, and sales expansion ideas. Increase your bottom line and work more effectively with these proven methods from industry experts.

Free Exhibit Floor Pass for Roofing Contractors

All roofing and waterproofing contractors (and their employ-





ees), architects, consultants, engineers, and all media can walk the Western Roofing Expo exhibit floor using the complimentary exhibit floor pass. Register online and have your badge waiting for you at "Will Call." You can't beat the cost-effectiveness of free!

The Roofing Games™: Thursday, September 23

In 2021, Western States Roofing Contractors Association and Malarkey Roofing Products® will again team up to showcase the steep-slope nailing competition called The Roofing Games™. Roofers compete against one another by installing a Malarkey Roofing Products roofing system on a small deck. Participants will be judged on accuracy, aesthetics, speed, and workmanship. This event will be held at the end of Day 2 on the trade show floor.



Mirage Hotel Room Rates Starting at \$148 Per Night

Western States Roofing Contractors Association (WSRCA) has secured room rates starting at just \$148 per night. Stay close to all the action at the Western Roofing Expo and enjoy the modern Las Vegas experience. Guest rooms include plush furnishings and a 42" screen TV in all standard rooms. **MR**

WESTERN *Roofing* EXPO

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THE MIRAGE
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Natural Magnesium Hydroxide

A flame-retardant filler for TPO roofing membranes

TPO roofing membranes are one of the fastest growing commercial roofing segment. They are made up of a Thermoplastic Polyolefin base and a variety of mineral fillers, depending on the required flame retardancy. This type of roofing has become widespread thanks to its natural ability to reflect UV radiation. The typical life span of a TPO roof is 15 to 20 years—if installed and maintained properly, this can be increased up to 30 years.

As the membrane is exposed to all kinds of stress factors, like sun radiation, heating-cooling cycles, wind (mechanical impacts), humidity, etc., only proper components are to be used in the production of a TPO membrane in order for it to maintain its insulating and mechanical properties throughout the life cycle. On the other hand, any mineral filler added to the plastic will decrease its ability to withstand aging and shorten its lifetime. This is why only the purest synthetic fillers have been traditionally used in the production of flame-retardant TPO roofing membranes.

To create fire-resistant membranes, synthetic grades of aluminum (ATH) or magnesium hydroxide (MDH) are commonly used as flame retardants. EcoPiren® is a natural magnesium hydroxide, produced exclusively of the purest minerals mined in the Russian Far East. Similar to synthetic grades of ATH and MDH, it provides a combination of flame retardancy and mechanical properties. In this study, we are going to show that the purity of EcoPiren® aids in the production of TPO roofing membranes without sacrificing any aging resistance, fire per-



formance, or mechanical properties.

A comparative test of different flame-retardant fillers' performance has been conducted in a model formulation to evaluate the capabilities of high- and low-purity brucite against high-purity synthetic ATH and MDH.

The original mechanical properties were first evaluated (picture 1, below right). Synthetic grades (not surprisingly) showed top-of-the-pack results. Uncoated and excessively coated brucite grades showed the poorest results. Appropriately coated high-purity and low-purity brucite grades showed good results, landing only slightly below the synthetic fillers.

Next, aging tests were conducted: accelerated thermal aging at 140°C (284°F) and accelerated UV aging (ASTM D4329 cycle A). Samples were exposed to high temperatures, UV radiation,

Fire test results

Filler		EcoPiren® 5,5C	Synthetic MDH	Synthetic ATH
Self-extinction (YES/NO)	YES-NO	NO	NO	NO
T*, sec	s	95	105	80
Dripping	YES-NO	YES	YES	YES
Time to start dripping (s)	s	33	33	40
Type of dripping	-	Frequent burning small particles	Medium burning particles	Infrequent burning big particles
Horizontal flame propagation, cm	-	5	4	8

*T - time necessary for top of the flame to reach the top of the specimen (20 cm)

PRODUCT NEWS

and moisture condensation. After the tests, both mechanical properties and oxidation induction time were evaluated.

Synthetic fillers performed differently based on their purity. The samples made with seawater-grade MDH of moderate purity could not withstand the full length of the test and were destroyed, along with low-purity brucite grade (both were coated with stearic acid). Uncoated, high-purity brucite grade and extensively coated brucite grade performed similarly to each other in terms of elongation, which also dropped below 100%. On the other hand, high-purity synthetic and brucite grades performed better and the end result was almost identical for sMDH and EcoPiren® 5,5C. Mechanical properties of all compounds changed during the UV test, similar to the thermal aging. Due to lower temperature, the decrease appeared much lower.

Another important property, which drastically changes during UV testing, is OIT, which indicates the residual ability to withstand the stress factors.

Moderate-purity synthetic MDH grade performed worst of the synthetic fillers, with high-purity synthetic MDH finishing on top of three. Low-purity brucite started and finished worst, confirming the bad influence of the iron contamination on the aging performance. Appropriately coated high-purity brucite EcoPiren® 5,5C started the test and finished it with the highest OIT, which shows the ability of high-purity natural fillers to compete against synthetic grades in aging performance.

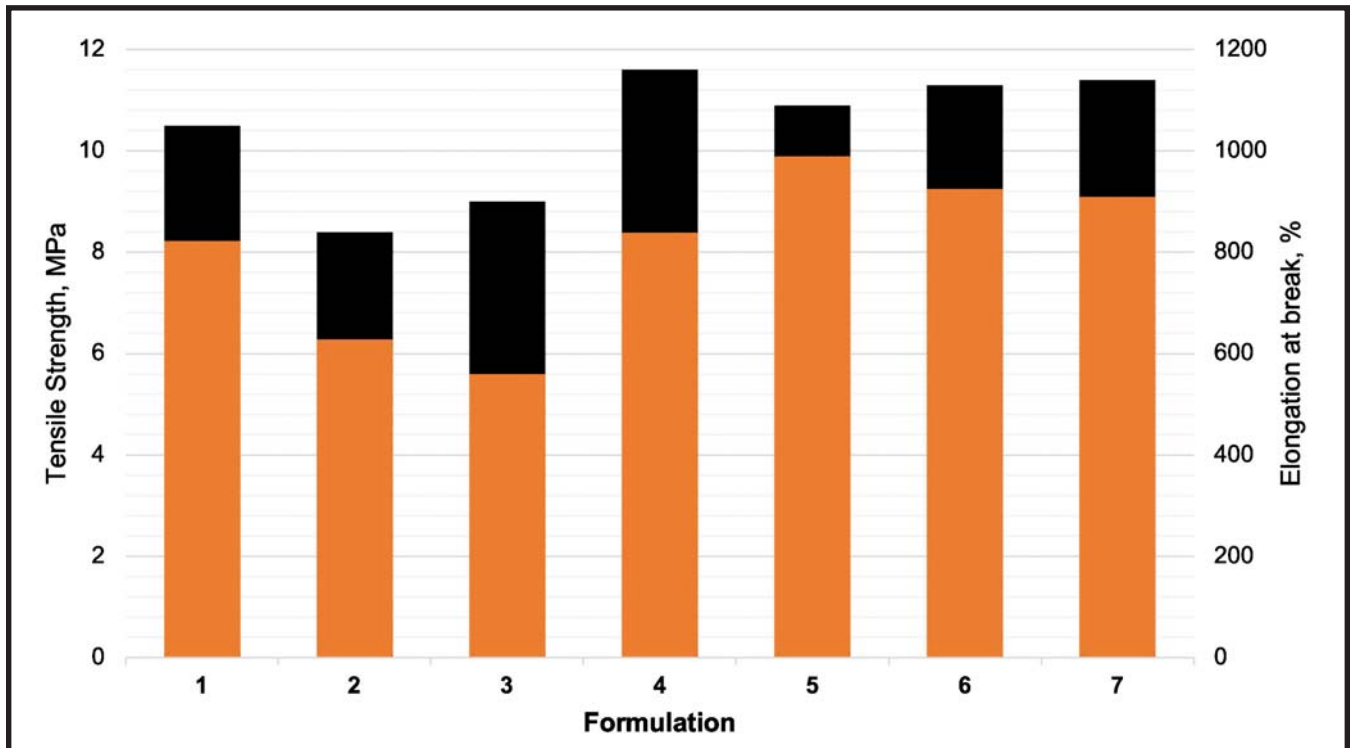
Fire resistance is also an important part of any TPO membrane. Though the tested formulation is not highly flame retardant, it is sufficient for the market. To compare the performance of the synthetic MDH and ATH with natural brucite EcoPiren®, a vertical DIN 4102 B2 fire test was conducted. The testing parameters were as follows:

- Sample dimensions: 20 x 20 x 1.5 cm (7.8" x 7.8" x 0.6")
- Fire application angle to the bottom edge of the sample: 45°
- Burner: Bunsen type
- Flame application time: 30 seconds
- Compound filling level: 50%

As the overall flame performance of the samples is not so high, the comparison between results of different fillers shows the similarity between both MDH grades (though the synthetic one is obviously the favorite here) and the advantage of the MDH over the ATH in terms of flame propagation speed.

Conclusion

The performed tests show that the use of synthetic fillers is not a universal answer to aging requirements. There is a difference between synthetic grades based on purity, which can be a borderline between a nice and unacceptable performance. The purity of natural brucite EcoPiren® proved enough to withstand tough aging tests on the same level or better than the purest synthetic fillers on the market, with slight to no sacrifice of mechanical performance. **MR**



Picture 1: Original mechanical properties

■ Tensile strength

■ Elongation at break

NEW PRODUCTS



A Compact Trash Chute for Cleaner Tear-Offs

The TR-3000 by Rocket Equipment is a compact residential trash chute designed to expedite the removal of roofing materials and debris. The flexibility to extend to different areas of a residential roof helps minimize the labor traditionally required during the tear-off process.

- Fits in most residential driveways
- 10-15 minutes to set up or take down, with only one person required
- Can be positioned up to 20' away or reach heights up to 30'
- Prevents damage to homeowner's property
- Eliminates job site debris cleanup
- Ideal for removal of concrete tile, slate, shingles, shake, and more

Whether you need to reach over landscaping or canopies, extend to hard-to-reach areas, or simply want to eliminate debris from being tossed off the roof and into your customer's lawn, the hydraulic-operated, battery-powered unit is here to save you time, money, and labor.

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Safety Glove That Does It All

Some jobs need a glove that covers it all: impact protection, cut protection, excellent grip in wet conditions, and high visibility. And it must do all of this without sacrificing comfort, because an uncomfortable glove is an unworn glove, and that is the ruin of compliance and safety programs. Brass Knuckle® SmartShell™ is the next-generation, cross-functional glove that does it all. It's loaded with features that are engineered to provide protection on multiple fronts, all while excellent flexibility and top-rated ergonomic design make it one of the most wearable gloves in its class.

"When designing SmartShell, our goal was to create the ultimate combination of safety and comfort in a protective glove," said Jeff Cullman, Vice President of Sales for Brass Knuckle



Protection. "We partnered with our valued distributors to collect a list of 'must haves' and set out to engineer a glove that brings together the right measures of impact protection, cut protection, and ergonomics. It really is a next-generation type of glove. Once people try it, they're immediately impressed by how well all of its features perform in real-world environments."

www.brassknuckleprotection.com



The Latest Way to Manage Job Site Tools

DeWalt recently announced the Tool Connect™ Chip, a Bluetooth® beacon add-on, that allows tools to easily and wirelessly work with the Tool Connect™ System. The Tool Connect™ System is designed to seamlessly track, assign, and manage job site inventory to optimize productivity, saving both time and money.

Integrating the Chip adds tracking capabilities that are compatible with Tool Connect™ Site Manager software, available for web and mobile, which adds, manages, and tracks inventory for job site

visibility. The Tool Connect™ Chip can be installed in the designated pocket of Chip-

Ready products to protect it from damage and is equipped with a blue identification light, which helps locate and differentiate among identical tools.

The Tool Connect™ Chip is currently compatible with a collection of products that are available now, with plans to expand to include 15 additional DeWalt power tools within the next year.

DeWalt also offers the Tool Connect Tag, which seamlessly integrates with 31 Tag-ready tools that are currently available, with several more in development. The Tool Connect™ Tag also attaches to job site assets regardless of brand, make, or model, using screws, zip ties, industrial tape, glue, or new corded tool tags held in place by security screws.

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Moisture Membrane Glazing

Heat treating DR!PSTOP edges to prevent mildew and wicking

You've likely heard of DR!PSTOP, a popular condensation control membrane that arrives on the job site already installed on the metal roofing panels. But did you know the manufacturer recommends heat treating, or glazing, portions of the membrane while installing the roof?

According to DR!PSTOP, "We recommend heat treating the edges, eaves, and end laps for a couple of reasons. By itself, DR!PSTOP is resistant to mold and mildew. But as dirty rainwater runs down a roof, organic material can get trapped in the air pockets in the membrane. These organics provide food for mold and mildew to feed off of and grow from. Besides hurting the appearance, this mold and mildew can spread once it takes hold. This can accelerate the second problem, which is wicking moisture into the building.

"Glazing prevents the wicking of moisture back up (which can slow the evaporation process). On end laps (panels lapped over each other from ridge to eave, typically found in wider buildings where a single panel length is not possible), heat treating keeps the water from wicking in as it runs down the roof during rain or snowfall. Holding water on a panel like this can void manufacturers' warranties."

See this step-by-step guide to glazing the necessary portions of the moisture membrane:

1. Since the material is polyester, it melts when heated by either a heat gun or open flame. The key is to melt the material completely until it looks like dots. We recommend using a heat gun for safety purposes. End laps are typically done before the panels are on the roof, either on the lift or on sawhorses set up for this purpose.

2. Move the heat gun over the target area. When using a heat gun, place it approximately 1" to 2" from the mate-



rial and move the gun *constantly* over the material until it melts. The material will have a Braille-like or raised dot appearance as it melts.

3. The goal is treat all of the exposed edge and eave material to prevent wicking of the runoff moisture (approximate-

ly 2"). After glazing, the material will feel coarse to the touch. While some builders have successfully used other methods, we recommend the heat gun.

There is also a how-to video on their website, which can be found at www.dripstop.com. **MR**



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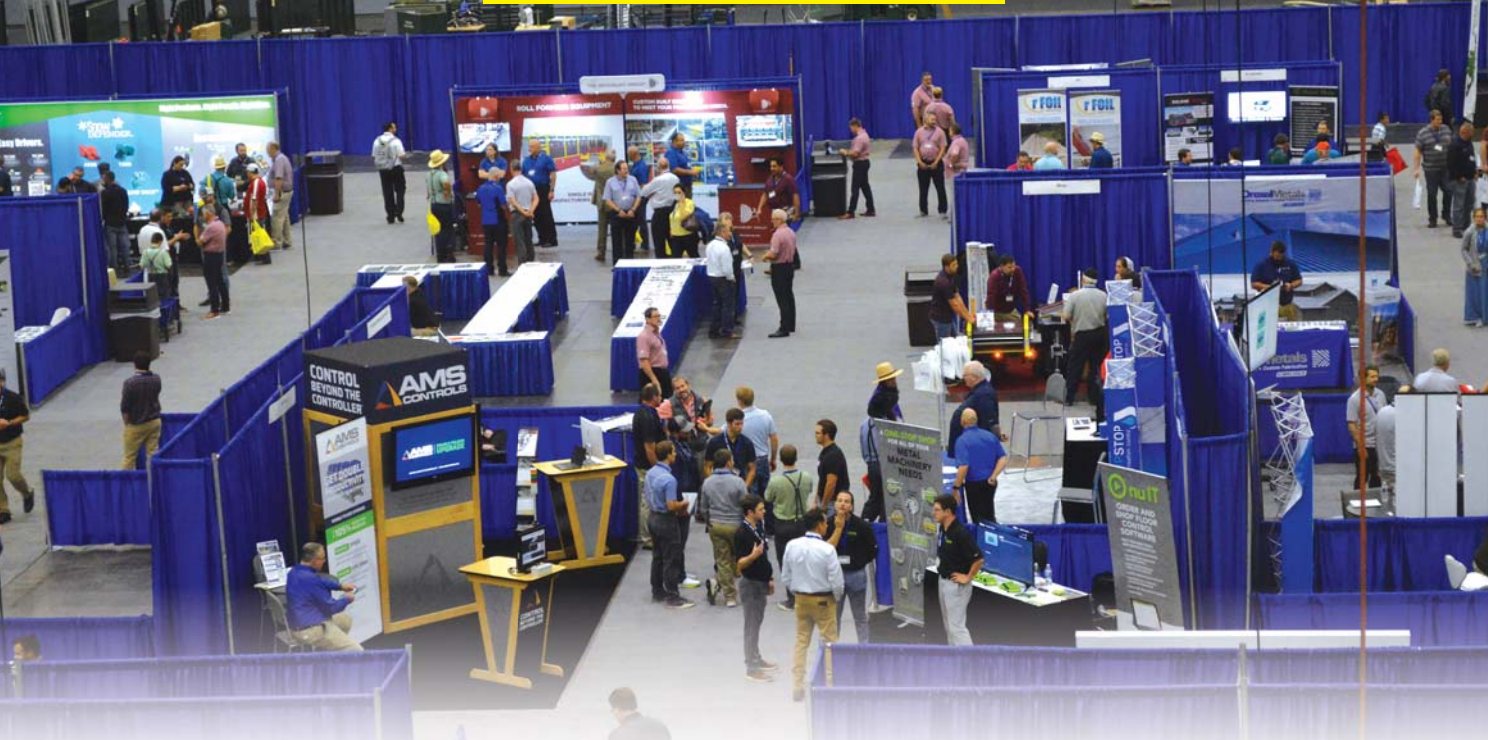


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Construction Rollforming Show Makes a Successful Return

You know how it feels when you have an order to fill and nothing seems to be going right? Your materials keep getting back-ordered, there are unexpected starts and stops in production, and the customer keeps calling to see if their finished product will ever arrive. That helps to capture the feeling of what it was like planning for the second Construction Rollforming Show. Canceled for December 2020 due to the COVID-19 lockdown, it was rescheduled for June 3 and 4 in

Cincinnati, with no guarantee that we could pull it off. Then, just three days before the show, the mask mandate and distancing rules were lifted.

Sometimes the best things in life don't come easy. As show producer Gary Reichert said, "It was great to finally get the restrictions behind us and have a live and in-person show. Virtual may be the future, but there is no substitute for seeing living, breathing people face-to-face."



The team at United Steel Supply fielded lots of questions about the volatile steel market.



Dave Quehl, left, and Darryl DeVries, right, returned for their second show with a display of products available from Direct Metals Inc.



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SUMMER TRADE SHOWS

And attendees seemed to agree. They came in comparable numbers as the first show in 2019, and they came to buy.

“Despite all of the challenges,” said Reichert, “the turnout for the show was good. More importantly, the quality of the attendees amazed the exhibitors.

“The story that I think summed up the show,” he continued, “was when I was talking with an exhibitor and a potential customer arrived. I excused myself, saying, ‘Now you have somebody important to talk to.’ The new guest pulled out a check

and said, ‘I’m done talking.’ That example is a good indication of the show in its entirety. And it demonstrates just how strong our sector of the construction industry currently is.”

Plans are already in the works for the third Construction Rollforming Show, which will be held in late Fall 2022. As plans develop, updates will be published in *Rollforming Magazine* and posted at www.rollformingmagazine.com. Also visit the website for more show photos and information about the exhibitors. **MR**



Thomas Schwarzer, ASC Machine Tools, lead an educational session about choosing the right roll-forming line for your business.



The chairs around the discussion table at Hershey's Metal Meister remained occupied throughout the show with attendees and sales reps.



Doug Irbe, left, and Diane Sims, right, kept busy at the AkzoNobel booth. Irbe led one of the many educational sessions.



“The people who were there, were there to buy, and were serious about buying. We were busy anyway and I debated about going...[because of COVID] I was skeptical of going, but it was well worth the time to go. The people, the number of people—usually the first day you’re busy but not like this. For five hours nonstop it was two or three people deep in my booth.”

Tim Richmond, Marion Manufacturing

SUMMER TRADE SHOWS



"We had good feedback from the show. We had people tell us there was a need for our product in the industry and we've been able to get quotes out to people who contacted us during and after the show. We'll be back."

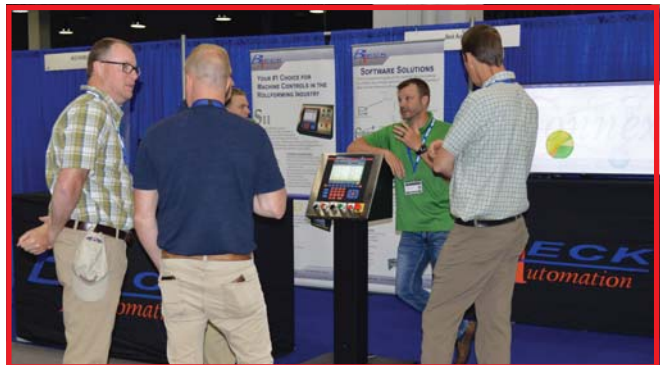
Brandon Bartel, Big Steel Rack

"This was my first show, and I thought it was a great show. I met several people who were good leads, and met a lot of good companies. The layout of the show was also really good, and was well-organized. I look forward to coming back."

Ben Jerkins, Capital Forest Products



Steve Butler, left, and C.J. Ikenberry, right, at the Dynamic Fastener booth.



Shawn Huffman, second from right, with Beck Automation, explains the company's software solutions.



Gary Reichert, left, thanks Jim Rogers, right, Director of Development for the national nonprofit Building Homes for Heroes, after Rogers delivered the keynote address at the second Construction Rollforming Show.



Brothers Howard, left, and Gordon Moeggenborg, right, manned the Tough Trade Tools booth. They reported loads of inquiries and that they sold more tools than expected.

PHOTOS BY SHARON THATCHER

SUMMER TRADE SHOWS



SmartBuild Systems has made several new product releases recently. Potential customers could take the software for a spin at the show.



Star 1 Products was once again exhibiting at the Construction Rollforming Show, demonstrating its felt applicator.



Tim Reddington, Progressive Metals, talks with a Construction Rollforming Show attendee.



Levi's Building Components exhibited its snow retention lines, vent materials, and fasteners, among other products.



Neil Burkholder, second from right, meets with potential customers at NC Automation.



The focal point of the SWI Machinery display was this Marxman Pro automatic slitter.

"It was a great show. At some shows, you have a lot of people [who] come to your booth and talk to you, but you know they don't have any plans to buy anything. Here, you don't have as many people, but they're serious buyers. I had some people come by with checks ready to make down payments. They had already done their research. They were ready to buy. They just wanted to meet the people in the company first."

Wayne Troyer, Acu-Form



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project of the month



The Barn at Sycamore Farms

New events center provides ample space for parties and gatherings

The Barn at Sycamore Farms, built on a historic property in Arrington, Tennessee, was designed to be a luxury event venue, suitable for corporate gatherings, weddings, and conventions. The Barn can accommodate more than 300 guests and is topped by 16,000 square feet of Medallion-Lok roofing panels from McElroy Metal.

“The panels were delivered in two stages,” said Sam Lamberth, owner of National Barn Company (Eastern Division) of Portland, Tennessee. “Panels for the lower roof were delivered first, and the panels for the upper roof came a couple weeks later. We craned panels to the roof and we needed a lift that could get us 120’ up.”

The upper roof has a 7:12 pitch and the lower roof has a 4:12 pitch, so the upper roof provided a tougher challenge for the National Barn Company crew. The roof color chosen was Sherwin-Williams Fluoropon PVDF in Mansard Brown. Medallion-Lok effectively captures the elegance of a standing seam roof, because the narrow 1¾"-tall standing seams create crisp, clean visual lines. Medallion-Lok features hidden clips and a snap-together seam, which eliminates the need for job site seaming.

The owners at Sycamore Farms wanted their events center to be constructed with durable products, but also wanted it to have a “wow factor”—making it the dream place for weddings and parties.

Project Overview

Location: Arrington, Tennessee

Design: DC Builders, Damascus, Oregon

General Contractor/Metal Installer: National Barn Company (Eastern Division),
Portland, Tennessee

Roofing Panels: 16,000 square feet of McElroy Metal 24-gauge Medallion-Lok
standing seam panels with Sherwin-Williams Fluoropon PVDF in Mansard Brown finish



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