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6 Reasons to Partner with ProVia Metal Roofing



Introducing Max

Office Mascot Aims To Help the Next Generation Value Skilled Trades

Would like to introduce you to Max. Our office dog became our mascot about a year ago and his avatar found his way into ads, swag and a few other places. His most recent sighting is in the first of a series of children's books we are publishing, Max Builds a Metal Roof.

The idea is for our readers, and others, to spend time with their children and grandchildren teaching them about the construction trades. We use correct terminology and try to get the details right. Little things like being tied off on a roof or having underlayment run

horizontally rather than vertically.

Part of learning to love the trades is having a positive emotional connection to them. We hope spending time with Dad, Mom or grandparents and learning what they do will create these emotional bonds. Then when grown, the kids might see the trades as a viable career option for building a life and a family.

In future issues we will announce how you can purchase them and they will be available at the 2025 Construction Rollforming Show in Dayton, Ohio. **MR**

Gary Reichert







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Gary Reichert, Publisher, Shield Wall Media

VISIT US ONLINE AT: readmetalroofing.com

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ON THE COVER:

An operator runs the New Tech Machinery Mach II 5"/6" Combo machine on a jobsite. PHOTO COURTESY OF NEW TECH MACHINERY.



The trees surrounding these buildings can serve as wind breaks allowing roof work to continue. PHOTO COURTESY OF IMETCO.

Metal Installation Against the Wind

Guidelines to Improve Safety and Diminish Loss

By Linda Schmid

very installer has experienced the frustration of a lack of cooperation from the elements, and wind is a common impediment. You may be tempted to ignore it and keep going since you are almost done with a job, but as one professional said, "Just don't do it!"

Of course, there must be a cut-off point at which you decide it is no longer safe to continue. However, it appears that there is not just one agreed-upon wind speed that makes the job too dangerous to continue. Some professionals say 15mph, and some say 25mph should be the wind speed at which you should discontinue work if you want to be safe.

Wind Speed and Direction

Is 15mph the cutoff then? OSHA does not specify particular wind speeds across all situations at which work should cease. However, it does require that employers assess weather conditions and ensure worker safety.

In the absence of specific regulations regarding wind speed safety in different situations, the industry including many contractors, safety officers and manufacturers have interpreted the guidelines in this way (see chart top right):

Bob Zabcik, consultant to the Metal Construction Association (MCA), said that many roofing manufacturers make these wind-related decisions easy by publishing metal installation instructions with detailed documentation including the safety parameters. These are backed

Condition	Wind Speed	Recommended Action
Caution zone	15-20 mph (24-32 km/h)	Secure materials, monitor gusts, use extra fall protection
Unsafe zone	>23-25 mph (37-40 km/h)	Many companies suspend roofing work
Prohibited zone	>30 mph (48 km/h) or gusty/stormy conditions	Stop work unless absolutely necessary and with engineered precautions

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Website: www.DynamicFastener.com

ynamic Fastener has the most complete line of #14 diameter clip screws and purlin fasteners. The clip screws have a low-profile head, while the purlins have a 3/8" HWH. Both come standard with the exclusive **Dyna-Coat** 1,000-hour salt spray premium coating. Additionally, these fasteners can be assembled with an oversized washer for extra bearing area upon request.

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standing seam clips, structural insulated panels (SIPs), or insulated metal panels (IMPs). #3 square drive.

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also features Dynamic Fastener's flagship products: $D \cdot F^*$ screws, $Dyna\text{-}Guard^*$ snow retention system for metal roofs, $Dyna\text{-}Clamps^*$ to accommodate many different profiles of standing seam roofs, and 145 million $D \cdot F^*$ rivets in stock, of which over 100 million are prepainted and stocked 250 rivets per bag.

The Hand Guide also provides pricing and information relating to anchors, hand/power tools, flashings, insulation tapes, safety equipment, sealants and more.

Additionally, Dynamic Fastener's e-commerce website can be used to place an order or to obtain detailed item descriptions of their extensive online catalog.

LOCATIONS:

- Kansas City, MO (main office)
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- Houston, TX
- Las Vegas, NV
- Memphis, TN
- St. Louis, MO
- St. Paul, MN
- Kansas City, MO (annex)

up by testing, done either in conjunction with the MCA or by third parties.

"If it is windy, that doesn't necessarily mean you can't work," Todd Meinhold of Ridgeline Safety Systems said, "you have to consider other parameters. If the wind is 15mph out of the north, work on the south side of the roof. The location and situation affect it too. Are you working up among the trees on the highest point in the county? Or are you working on a low roof that is blocked from the wind?"

Roofing Materials

Often the danger starts before the panels are installed, when the underlayment is applied. It can act like a sail. There are documented cases of underlayment and tarps ballooning and pulling roofers off the roof, often fatally when the roofer was not tied off. If gusts are over 15-20mph it is best to stop installing that underlayment or tarp.

Another consideration is the roofing material itself. Are you placing long panels or short ones? Long ones will catch the wind and try to fly out of your hands, and a light gauge can make that worse. Shorter panels or shingles are much easier to control.

If you are dealing with long panels, you may need more people to carry them. For instance if two people usually carry a 12' panel, now three or more people are needed to lift and carry them to prevent kiting. The lower you can keep the panels to the ground, the better.

You might plan on securing the panels at the most vulnerable spot first, such as the ridge, if possible. Otherwise the roofing pattern and process should be the same as always, working in accordance with the manufacturer's instructions.

Tarek Droubi of IMETCO recommends staging as much as possible on the ground level to limit wind exposure on the roof. If pre-drilling is necessary, get everything pre-drilled and ready to go, securing all the materials. Don't leave open packages about, at least place something heavy atop an opened package of roofing materials if it's not in a sheltered location.

Roofing Equipment

The use of cranes, hoists or lifts should be halted in winds over 20mph, according to industry standards, unless the manufacturer has tested for a higher wind speed and proper safety precautions are in place.

Scaffold work is prohibited during high winds unless a competent and experienced person determines it is safe.

Personal Protective Equipment

Noah Oberholtzer of Hixwood said that you need to wear gloves especially in windy conditions because the edges of the metal can be as sharp as knives.

"Never try to grab a falling sheet or one that got away from you. It's like trying to grab a sharp knife. It could potentially rip a glove open," he said.

Naturally fall equipment is even more necessary in the wind; if it's strong enough, it can blow a person over – onto the roof or off. Make sure the fall system is intact and secure.

Droubi adds helmets with chin straps and safety vests to protect from flying metal and steel toed boots to protect from fasteners to the list of PPE that can make roofers safer.

Red Flags

- Roof panels are trying to pull out of your hands in the wind.
 - Someone on the roof is not tied off.
- Loose roofing materials or partially wrapped materials are sitting around.
- Someone is dragging a cord on a power tool around on the roof.
- There are no experienced, certified roofers on the crew.

General certification is available through the MCA. Certification on the specific product is available through manufacturers.

Develop a Plan

Scott Ropp of ProVia said that before you get to the job site, you should check the weather report for rain and wind, then based on that information you can

Roofing Safety Briefing

Call a safety briefing meeting to provide guidelines for roofing crews working in windy conditions, following OSHA standards and best industry practices. A daily briefing tool follows for use when wind speeds are expected to be above normal or gusty.

Safety Checklist for Windy Conditions

- Check real-time wind speed on-site (not just forecasts).
- Suspend roofing work if sustained wind exceeds 23–25 mph or gusts are strong and unpredictable.
- Secure all loose materials and tools before beginning work.
- Use proper fall protection rated for windy conditions: harness, lanyards, anchors.
- Avoid crane, hoist, or lift use if wind exceeds manufacturer's safe limits.
- Postpone installation of large panels or membranes that can act as sails in wind.
- Review emergency procedures with the team before starting work.
- Conduct a pre-shift safety briefing specific to wind hazards.
- Do not use wind screens on scaffolds unless properly engineered for wind loads.
- Ensure crew members wear eye protection, gloves, and secured hard hats. MR

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put a plan together.

Anticipate that windy conditions can pop up at any time and have an experienced roofer on the crew who can make the decision to halt the job if it becomes unsafe.

Meinhold said, "I'm not always there; I need to have someone with a minimum of three years experience who can call it. I trust that person has the interest of their fellow workers at heart."

If you have a couple of different jobs running, determine conditions for all. Then decide where and when the crew/ crews should work. The local weather needs to be monitored all day because the weather report may say the winds aren't due until 4:00, but they can show up at 2:00.

"Don't bother to subscribe to a meteorological service," Meinhold said. "The weather is too unpredictable and they are as likely to be correct as the free services."

Talk about the likelihood of wind and the plan to deal with it. Will you be moving from one job to another? If there is some wind but it is deemed safe to proceed, remind the crew to go slowly and be mindful. The rush to get the job done can make an accident more likely.

Consider what precautions may be needed, for example, a platform with straps that are reattached after each panel is removed can help keep roofing materials from blowing away. Advise roofers to position themselves and

materials perpendicular to the wind if possible making themselves less of a target. Decide if you need to add another person to the crew to help carry panels. Ask yourself if you should start on a particular plane of the roof to keep out of the wind.

Always prioritize worker safety above finishing the job. Panels can be replaced and sections can be redone. Worker injuries can have much more serious repercussions. **MR**

How to Safely Get a Tarp Down – In Lightly Windy Conditions

1. Fold the tarp before carrying it up the ladder.

- Fold it neatly into a small, manageable bundle.
- Tape or tie the folds to keep it compact.
- Avoid climbing with an unrolled or flapping tarp.

2. Secure the top edge first.

- Start at the peak or highest point of the roof.
- Use sandbags, weighted buckets, 2x4s, or roofing nails/screws with plastic caps.
- If possible, screw a 2x4 over the edge of the tarp to anchor it.

3. Unroll gradually, working down

- Slowly unfold the tarp from the top down, keeping it low and controlled.
- One person unrolls while the other secures sections immediately.

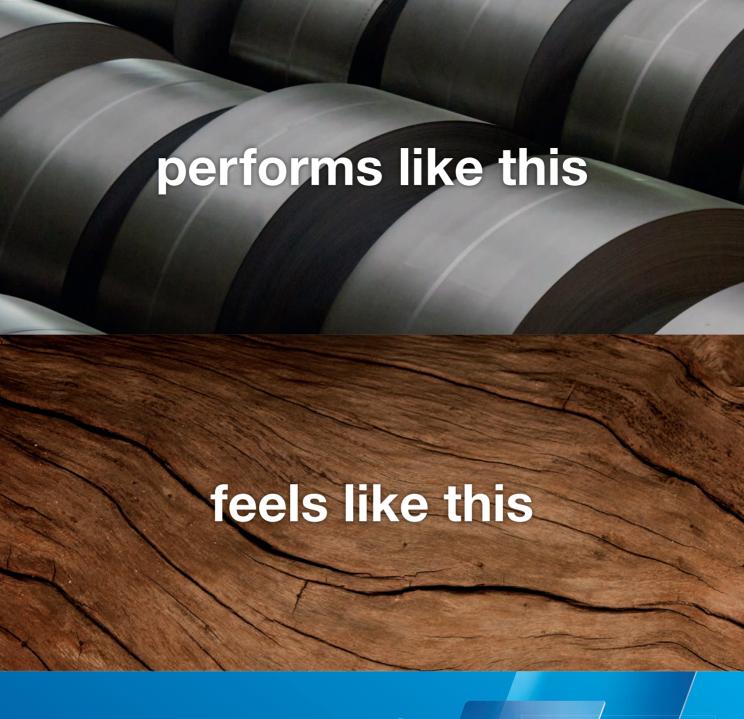
4. Weigh it down as you go

- Keep sandbags or weights ready to set on corners.
- Avoid leaving any part of the tarp unsecured.

5. Tuck or tie off edges

- Use rope, bungee straps, or zip ties to secure grommets to fixed points.
- Avoid having loose flapping edges,
 which can lift the tarp or act like a sail.
- Don't overreach.
- If you can't reach an area safely, don't try to stretch or crawl – move and reposition. MR





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Products at METALCON '25



ASC MACHINE TOOLS F&J TRIM ROLLFORMER

Booth #4123

www.ascmt.com

The ASC F&J Trim Rollformer is engineered for precision and versatility, featuring 14 or 16 roll-forming stations, depending on the profile shape and size.

The tooling is designed to accommodate soffit panel profile openings of either 1/2" or 7/8", offering flexibility to meet various project requirements.

For operator safety, the machine is equipped with OSHAcompliant swing safety guarding and enhanced by an Allen Bradley GuardMaster light curtain system, providing an added layer of protection during operation.

COMBILIFT MULTIDIRECTIONAL FORKLIFT

Booth #1002

Combilift.com

At METALCON 2025, Combilift will showcase its innovative multidirectional CB forklift range, engineered for superior maneuverability in tight spaces. With the ability to travel sideways, these forklifts are ideal for handling long, bulky steel products such as steel beams, columns, coils, metal roofing, and insulated panels. This unique sideways movement eliminates the need for overhead carrying, allowing for safe navigation in narrow aisles and confined areas, reducing both the risk of injury and the likelihood of collisions. As a result, safety is greatly enhanced, and operational space is optimized. Additionally, the Combi-CB range features a low center of gravity, promoting stable, low-to-the-ground load movement for added security. With lifting capacities ranging from 6,000 to 15,500 lbs, the CB forklifts are more compact than traditional models, making them ideal for long-load transport. Their versatile design allows them



to operate as both a front-mode pallet handler and a side-mode long-load handler, suitable for both indoor and outdoor use, as well as racking systems.



DYNAMIC FASTENER DYNA-GUARD

Booth #7106

www.DynamicFastener.com

DYNA-GUARD* snow retention system is a continuous railsystem designed to be used on metal roofs and can be installed on new construction or retrofitted to existing metal roofing.

Dyna-Guard is an 8' long aluminum extrusion with a T-shape profile that provides protection from devastating snow/ice avalanches. To maximize aesthetics, the installer can insert 2" wide painted strips of the same material as the roof.

If panel seams are divisible by 4" or 6" and the Dyna-Guard installation is perpendicular to the seams, use prepunched Dyna-Guard that bolts directly to the DYNA-CLAMP*. 14 different Dyna-Clamps are stocked to accommodate various roof profiles.

If seams aren't divisible by 4" or 6" or when Dyna-Guard installation isn't perpendicular to the seams, DYNA-CLIPS® are

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PRODUCT FEATURE

necessary to attach the unpunched Dyna-Guard to the Dyna-Clamps.

SNO-DAMS° must be installed between each seam to inhibit the ability of snow and ice to slide under the Dyna-Guard.



MALCO TURBOSHEAR® ROTARY PANEL CUTTER

Booth #707

www.malcotools.com

Malco's TurboShear® Rotary Panel Cutter (TSPC1) is the newest innovation in the pro-favorite TurboShear® line, built to handle tough jobs with confidence and deliver long-term performance without compromise.

The TurboShear® Rotary Panel Cutter features dual opposing cutting wheels, designed to self-advance the tool smoothly through metal and vinyl material, leaving a clean, precise cut and eliminating hand fatigue associated with forcing blades through metal.

The hardened high-strength alloy steel cutting discs are replaceable, and can handle a variety of materials, including 22-gauge steel, 26-gauge stainless steel, .04" aluminum and .055" (1.4mm) vinyl siding.

MFM BUILDING PRODUCTS ULTRA HT WIND & WATER SEAL®

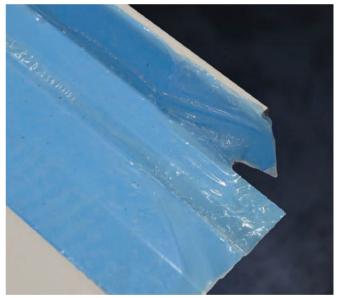
Booth #1101

www.mfmbp.com

Ultra HT Wind & Water Seal* is a High Temperature Rated self-adhering underlayment composed of a cross-laminated, non-slip polymer film laminated to a high temperature rubberized asphalt adhesive rated to 250°F. It is engineered for use with metal roofing system where extreme heat is generated. Ultra HT is a Class A Fire Rated membrane for use with 24 GA steel UL



classified roofing panels, as well as 3-tab and laminated Class A fire rated asphalt shingles. This 45-mil underlayment is 45 mils and comes in a roll size of 36" \times 67' (200 sqft). The product comes with a 10-year warranty and is Made in USA.



METAL ROLLFORMING SYSTEMS SNAP LOCK WITH NOTCHER MACHINE

Booth #6005

www.mrsrollform.com

The Snap Lock with Notcher roll former is powered by an electric gear reduction motor and chain drive. It features dual 3" polished steel shafts and hardened tool steel blades. It supports multiple rib profiles, with optional side-by-side tooling and rib notching for cleaner cuts. Notching is selector switch-operated and can notch both edges while cutting to length. It handles 24–29 gauge Grade 50/80 steel, with 12" or 16" coverage. The machine includes tooling for single profiles, with adjustable width for multi-profile use. Variable speed control allows up to 120 feet per minute line speed.

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SEE WHY TITANIUM® IS AN IDEAL CHOICE FOR METAL ROOFING PROJECTS AT METALCON 2025

BOOTH #3054



^{*} Compared to premium underlayments from competitive synthetic brands (Owens Corning testing, 2024).

^{‡‡} Compared to premium underlayments from competitive self-adhered brands (Owens Corning testing, 2024) ‡ Titanium® UDL25 and Titanium® X30 excluded.

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PRODUCT FEATURE

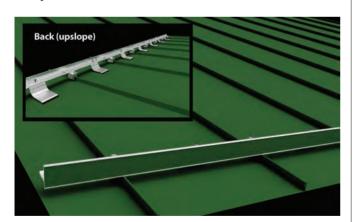


ROPER WHITNEY AUTOKUT

Booth #2015

www.roperwhitney.com

Roper Whitney will feature the AutoKut at METALCON 2025. The AutoKut is a compact coil processing machine designed to uncoil, straighten, slit, and cut coiled metal to length and width. The integrated straightening rollers ensure flat, consistent material, while the slitting unit allows multiple strips to be produced in one pass. Length measurement is controlled by a precision encoder, delivering accurate cut-to-length capability at feed rates up to 115 feet per minute. With its combination of straightening, slitting, and cutting functions in one system, the AutoKut simplifies metal preparation and improves efficiency in metal panel/trim production environments.



S-5! COLORGARD® 2.0

Booth #4081

www.S-5.com

After 30 years and 15,000 linear miles of successful installations, S-5!'s flagship snow guard system now has many design changes, delivering greater versatility, simpler assembly and faster installation.

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ColorGard 2.0 incorporates an innovative internal splice that can be made directly over S-5! clamps and brackets. The new design streamlines installation, eliminating the need for field cutting, except at the end or at thermal breaks.

Extensively tested for load-to-failure, ColorGard 2.0 dramatically reduces the risk of rooftop avalanches, offering peace of mind and superior performance. Its sleek, seamless appearance not only perfectly matches the color of the roof but also elevates the overall aesthetic with a visually appealing look.

TITANIUM® FR UNDERLAYMENT

Booth #3054

www.eavetopeak.com

Titanium® FR fire-resistant, high-temp underlayment is designed to be a critical component of a watertight roof assembly. From wildfire zones to energy-generating roofs, its proprietary technology helps mitigate fire spread to the roof deck and meets Class A fire codes and Wildland-Urban Interface (WUI) standards with a single-ply installation†. Plus Titanium® FR offers industry-leading benefits on the jobsite like improved walkability thanks to Sure-Foot® technology, and easy repositioning. (†See



installation instructions for specific Class A Fire Resistant roofing assemblies.)

UNITED STEEL SUPPLY TRU-STEEL HD®

Booth #5124

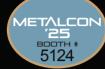
www.unitedsteelsupply.com

United Steel Supply™ offers Tru-Steel HD® digitally printed steel products in a variety of woodgrain, stone, and camouflage patterns. This innovative coil product uses a large-format digital printer to transfer high-resolution images of natural materials onto sustainable, USA-made steel sheet. The result is a pho-



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METALCON 2025

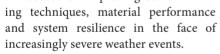
Sessions Address Building With Weather Events In Mind

hether or not you believe the number of disastrous weather events are increasing or worsening, you must acknowledge the importance of improving building methods with weather events in mind.

From heavy rains and winds in the southeast, heavy snow in the north and wildfires bolstered by heavy winds, Mother Nature has taken a toll on all

kinds of buildings in recent months.

METALCON [www. METALCON.com], taking place October 21-23 in Las Vegas, offers educational opportunities for builders, contractors, architects, engineers, installers and roofers, all focused on improving build-



"Climate change continues to challenge our standards," says Brian Partyka, Vice President of Development at Carlisle. "Storms are becoming fiercer, droughts create dry conditions leading to national red flag warnings, and we as building product manufacturers want to learn

how we can assist architects, community planners, builders, homeowners and code bodies and officials in limiting destruction from these weather-related events. Building to code compliance means contracting the legal minimum standards set by local, state and national authorities."

Partyka will present, "Stronger Structures, Safer Assets: The Value of Metal in Extreme Weather Zones" during METALCON, addressing everything from fast-moving wildfires to hurricanes.

The focus will be on roofing materials, particularly performance ratings under ASTM E108 and UL 790. Partyka's sessions will explore how metal roofing plays a critical role in protecting structures and communities in the era of climate extremes.

"A great example of code compliance evolution is the wind requirements enforced post-hurricanes in Florida,"

Partyka says. "Yes, it took a while, but people have become more educated about the performance of their roofs during a wind event and have made the choice to select the right products for their environment. I call it 'Code Plus,' meaning what building product systems and solutions

can I invest in to give me peace of mind during storm events? Am I giving my home or building the best chance to survive the event? That's what we mean by resilience. Through education and awareness, I believe the same will happen. Again, it must be a system-driven, holistic approach, rather than a product-driven one. This approach would also lead to insurance premium reductions."

standards Fire test flammability, focus on combustibility, ignitionresistance building composition. envelope begins Prevention with planning, involving careful combination noncombustible materials, including metal.

"Fire events are incredibly destructive, typically consuming all if not most of a structure if not mitigated," says David Carmack, Product Manager at Parallel Architectural Products, a





In Minarc's Alplce project, the team implemented fire-conscious strategies that could serve as a model for the future of residential architecture in wildfire-prone areas. The project utilized fire-resistant materials, prefabricated construction, and low voltage power distribution to ensure that homes are better equipped to withstand the dangers posed by extreme heat. While Alplce is just one example, it showcases the potential of incorporating these practices into everyday residential construction.

manufacturer and supplier of aluminum systems, created to mimic the aesthetic of a traditional wood panel. "A total loss of property and/or life can be anticipated when using combustible and/or flammable materials. The less 'fuel' in a building's makeup, the more resilient it will be in a fire event. Metals can also increase property values and improve code compliance. The use of noncombustible materials provides better overall coverage of a property with potentially lower insurance premiums.

"The main takeaway here is to prevent fire in the building world, we want to add less 'fuel to the fire." Specifying metals and other composites promotes a more resilient structure, reducing overall risk for catastrophe in unexpected events."



David Carmack.

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INDUSTRY NEWS

Also, two visionaries will present in the Design District at METALCON, a curated AIA-accredited program for architectural design professionals. Erla Dögg Ingjaldsdóttir and Tryggvi Thorsteinsson, principals co-founders Minarc in Santa Monica, Calif., will present "Breaking the Cycle of Wildfire Destruction: The Urgent Need for Fire-Resilient Construction." Ingjaldsdóttir, Assoc. AIA and IIDA and Thorsteinsson, Assoc. AIA, and have seen California wildfire destruction firsthand. Their session is a powerful addition to the Design District's focus future architecture and highperformance building.

"The next step isn't just about changing how we design, but about sparking broader systemic change," Ingjaldsdóttir says. "As long as current code regulations fail to reflect the true risks of wildfires, we'll



Erla Dögg Ingjaldsdóttir and Tryggvi Thorsteinsson, principals and co-founders Minarc

have to continue rebuilding communities with the same vulnerabilities as before. High-rise buildings are required to meet strict safety standards, but homes in wildfire-prone regions still often use flammable materials with minimal oversight. With this in mind, design and construction practices should include the use of nonflammable materials like steel, while embracing passive technology like underground pumps that can reclaim pool or salt water to aid in fire prevention efforts."

Building homes with fire-resiliency in mind is becoming more important in areas prone to wildfires as well as areas at all vulnerable to wildfires.

"The biggest challenge is a lack of education and widespread understanding across the industry," Thorsteinsson says. "Contractors are typically the first point of contact for homeowners and they often are not familiar with fireresilient strategies or view them as an added burden to the process, rather than necessary. A lack of expertise among



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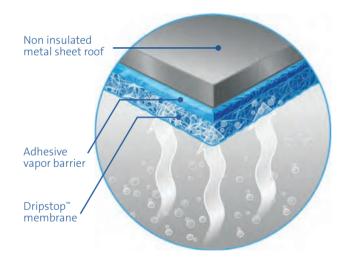
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clients and those building the homes leads to the untrue perception of higher costs, making these strategies seem ever increasingly out of reach. This issue is made worse by the fact that building codes in high-risk areas lag behind their counterparts in more metropolitan areas.

"Until codes begin to mandate smarter material choices and construction practices, the average person has little incentive to change."

Insurance companies have become hesitant to insure homes in wildfire regions and will certainly influence construction practices moving forward.

"They're already starting to play a pivotal role," Ingjaldsdóttir says. "From their perspective, everything about steel construction, from its longevity to strength and fire resistance, is positive. With claims from wildfire damage rising year after year, they have an incentive to support more resilient construction

MCA creates Metal Resilience Council

The Metal Construction Association is forming the Metal Resilience Council to be proactive when it comes to promoting metal construction systems as a leading solution for resilience in the face of "escalating climate-related threats, natural disasters and evolving building performance standards.

The council is aiming to position metal as a leading component of resilient structures, educate end users of metal's resiliency attributes, develop test standards and best practice guides advancing metal as a resilient material and drive innovation of metal systems.

For more information, contact MCA Executive Director Jeff Henry at (847) 375-6402.

methods. If entire communities worked together to embrace these strategies and materials, insurance costs could drop dramatically. This would make fire-

resilient design not only safer but provide an added economic incentive for the average person."

Fire-resilient materials simply must be mandated in areas prone to wildfires.

"Metal roofing and wall systems are critically important in terms of protecting structures in fire-prone areas," Thorsteinsson says. "They're noncombustible, durable and work to reduce the harmful spread of embers and flames during fire events. When your home or your neighbor's doesn't ignite due to the use of these elements, your entire neighborhood is better off for it. This kind of unity should be central to any rebuilding efforts, not just resilience but for our collective sense of security.

(Partyka is scheduled to speak at noon, Wednesday, October 22; Ingjaldsdóttir and Thorsteinsson are scheduled to speak at 8 a.m., Wednesday, Oct. 22.) MR

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3 Top Fall Protection Systems That Meet (and Exceed) OSHA Standards

By Kattsafe

the most dangerous professions, with workplace injuries surpassing those of most other industries. That is why the Occupational Safety and Health Administration (OSHA) sets stringent requirements to protect people in dangerous working conditions.

The top fall protection systems that meet OSHA standards ensure your business remains compliant while eliminating potential hazards. The following companies provide solutions with optimal performance and are certified for safe use and straightforward implementation.

1. Kattsafe

Kattsafe [https://kattsafe.com] delivers industry-leading, affordable safety and protection solutions for rooftop applications. Its products meet OSHA's standards and allow construction worksites to achieve compliance requirements.

Guard rails, walkways, warning line systems and fixed ladders are just some of its inventory. This supplier also delivers aluminum modular access systems with flexible height alterations and simplified installation.

Receive on-site support from Kattsafe experts specializing in roof safety audits, inspections and maintenance.

Key Features

- Numerous configurations and customization options for fall protection systems
- Ultraviolet-resistant, nonslip walkways capable of withstanding 55 mph winds
- High-Five program that streamlines OSHA compliance standards



2. HySafe

HySafe [https://hysafe.com] offers fall protection systems that meet OSHA standards, with solutions ranging from cable lifelines to rigid rails and guardrails. Its cable lifelines are flexible and accessible, while the rooftop systems ensure workers can safely navigate every angle and material.

The team provides the required engineering design review every five years to ensure that work conditions and equipment comply with industry and federal regulations. HySafe experts also perform on-site repairs and replacements to avoid accidents and fines.

Key Features

- Full range of OSHA-compliant fall protection systems for construction teams
 - Five-year engineering design reviews
- On-site maintenance and product replacement

3. Diversified Fall Protection

Diversified Fall Protection [https://www.fallprotect.com] has several fall protection safety solutions for the construction and contracting industry. Whether you need anchors and lifelines, secure catwalks or roof railings, OSHA-compliant gear reduces potential fall hazards at all access points.

Along with its range of equipment, Diversified Fall Protection provides design, installation, fabrication, inspections, recertification and safety training. Specialists also help you create a comprehensive fall protection management plan to eliminate and control fall hazards, from policies to duties and effective procedures.

Key Features

- Additional services include design, installation, inspections and recertification, and safety training
 - Helps clients create a fall protection

plan to eliminate on-site hazards

• Virtual rooftop fall hazard inspections

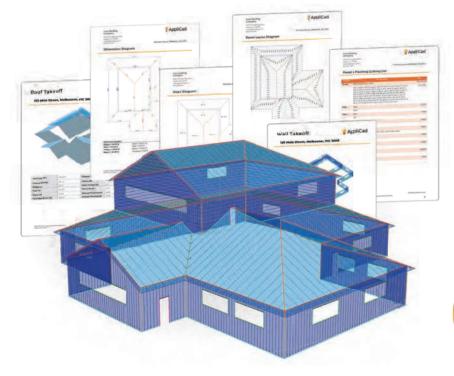
Choosing the Best Fall Protection Systems

Selecting the top fall protection systems that meet OSHA standards requires looking beyond the lowest price, especially since safety does not come with a price tag. Consider the following factors when choosing the right solution for your team:

Protect Worker Safety With Quality Fall Protection Innovations

The best fall protection systems adhere to stringent safety regulations, reducing on-site hazards for all workers. Always take stock of the best solutions to help your business meet compliance standards, while offering the most significant long-term value. **MR**

Product Range	Supplies a wide range of fall protection systems and components for various construction needs		
Durability Products are manufactured with long-lasting, durable materials, including steel and aluminum			
Safety Compliance Inventory follows OSHA regulations and other safety standard			
Services	Suppliers provide additional services, including design, installation, maintenance, compliance inspections, recertification and safety training		
Customer Support	Provides superior customer assistance with several communication channels		







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Roofer survives with a roll former

Decades on, central Wisconsin roofer still going strong

Oct./Nov. 2005 FLASHBACK

In 2005, then-editor Scott Tappa wrote this article (originally titled "Surviving with a roll former") about Jim Golke and Jim's Roofing in Waupaca, Wisconsin. The business is still operating under the name: "Jim's Roofing Service & Son LLC."

By Metal Roofing Staff (2005)

t's in his blood. It's what he does.

Jim Golke installs standing seam metal roofing. His father and two uncles installed standing seam metal roofing before him. Five of his brothers are working at making a living installing standing seam metal roofing. His son helps him install metal roofing.

For the last 20 years, Golke has been

operating Jim's Roofing Service in Waupaca, Wis., covering three counties in east central Wisconsin. He has, on occasion, strayed from that area, taking jobs in northern Wisconsin and in the Upper Peninsula of Michigan.

Installing metal roofing is pretty much all Jim Golke has ever known.

"My dad (Cliff) and my uncle started working for Sheridan Roofing, installing standing seam roofs on barns all over (Wisconsin)," Jim says. "They would stay right at the farms they were working on."

Sheridan Roofing was a big operation — they ran as many as 10 crews. After buying out Sheridan, Cliff Golke and another of Jim's uncles ended up splitting up, each running their own metal roofing company. Yet they ran their businesses out of the same shop, right next to a railway in Waupaca — that's how the galvanized steel was delivered, in 50-foot rolls

A lot of things have changed through the years. In the time he worked for his dad (and for the first 12 years he was



Jim Golke owns and operates Jim's Roofing Service & Son of Waupaca, Wis. He and his brothers learned the metal roofing trade from their father and still use many of the old hand tools, like this hand seamer. METAL ROOFING MAGAZINE PHOTOS

on his own), Jim didn't have a roll former. Before he bought panels, all standing seam panels were formed by hand, and Jim says that was his specialty. "I was a pretty good ground man," he says. "I would start hand forming those rolls before they unraveled all the way. I remember one day, forming 32 squares of steel in seven hours."

Golke recalls the numb forearms after days like that. He says his arms were always asleep, from being in the same position every day.

All of Cliff's seven sons worked with him at one time or another. He always had a hard-working crew. The brothers now have more than 260 years of experience among them.

Jim learned a lot from his father and says he was glad he was paying attention. Jim started his own business when he was 27, after working side-by-side with his dad for 10 years. "It took me that long



Jason Golke is a third-generation metal roofer, working with his father at Jim's Roofing Service & Son of Waupaca, Wis. He operates the roll former and helps install the double lock mechanically seamed panels.

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to gain the confidence to try it," he says. His own son, Jason, is a part of the fourman crew. At the age of 25, he is Jim's most experienced employee — nine years — and now the business is called Jim's Roofing Service & Son.

He started out working alone, pretty much taking all jobs. Jim remembers installing galvanized standing seam roofs on barns — all by himself. Took a couple weeks, he says. He worked alone for two years.

Working on his own, Jim Golke bought panels from his brothers, Charlie and Joe. They ran sheets for him on their roll former. He soon realized he could run panels a little cheaper if he had his own machine. So he saved some money and about eight years ago, he bought a used ESE Machines roll former from a company in Florida. "The guy wanted \$10,000 for it, but he took \$6,000," he says. "I had

it shipped up here with a load of water-melons for about \$300."

The ESE roll former was built in 1972 or 1973. "I don't think I'd be doing this anymore if I didn't have the roll former," Jim says.

Only once has the machine given him any grief. "And it was our fault," he says. "We were working on a barn that had a tile roof. The truck (holding the spool of coil) was just outside the overhang and the machine was under the overhang. Some of that tile roof chipped off and fell on the coil before it went into the machine. We ended up having to replace the gear motor.

"I'm surprised how well it runs. Every once in a while we tighten the wheels, the guillotine is getting bad ... I could sharpen the blades, but I think we should probably get a new guillotine. I think about getting a new machine, all the time, but I



Jason Golke marks the panel where it has to be cut and folded before it is installed.



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Jason Golke pulls the handle to activate the guillotine on the roll former that cuts the panels to an exact length.

don't want to take out a loan. I never seem to build up enough cash flow to get it."

Everyone on the crew knows how to run the roll former. Training takes a lot of time for a couple of reasons. First of all, with a crew of four, everyone needs to know how to do everything. Secondly, turnover is high — Jim estimates he has trained 25 employees in 20 years. He even tried running two crews for a while. "It ended up being a lot more headaches," he says. "I spent more time correcting things, getting things the way I wanted them."

There still aren't too many jobs he turns down, but Jim knows some jobs are more profitable than others. "I'll know right away if metal is going to work or not," he says. "About the only jobs I'll turn down is if it's something I feel my crew isn't experienced enough to handle. And I won't put them at risk. Safety comes first."

Jim has considered branching out, maybe installing metal shingles, but he's busy enough with the standing seam jobs. "And standing seam is a lot easier than shingles," he says.

After 30 years, it's easier than a lot of things.

The biggest change Jim has seen in the industry is the growth of painted panels. So many more homeowners and building owners want painted metal, he says. Painted panels have to be handled with a lot more care — scratches on painted panels do a lot more damage than on galvanized. Crews have to be extra careful while running coil through the roll former, and handling and installing panels.

Jim says it would be nice to just get a better handle on the business end of the operation, worry about ordering coil, doing bids. "It's hard to keep up with some of that when you're on the roof," he says. "When I get down, I've got 15 calls to return on my cell phone."

He says he and his brothers, despite being competitors, get along very well for the most part. Occasionally, they talk about getting together to form one company, getting rid of the "bad employees, the headaches." He doesn't think it will ever happen — "too many chiefs," Jim says.

"I fantasize a lot about having a normal job, working eight or nine hours a day and getting home for dinner at the same time every day," he says. "Owning your own business is a lot of responsibility. I'm raising my second family and this job can be a lot of stress. I try to keep work stuff to normal business hours, but that's not the way it works. And I can't climb like I used to."

He doesn't know what else he would do, and you get the feeling he really doesn't want to do anything else. It's easy to tell, he takes pride in his work.

"Roofing is simple," he says. "Water only flows one way and you're just trying to get it off the roof. Metal is the best material to work with when you're dealing with rain and snow. Otherwise, why do all those guys putting down asphalt shingles use metal in all the crucial points on the roof — the valleys, ridges, edges — it's all metal. Tell me, why is that?"

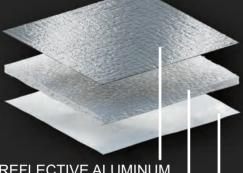
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Sheet Metal Meets HVACR

Why Diversification Is the Future of Building Trades

By Greg Guse, Director of Operations and Engineering & New Product Development, Malco Tools

I'm lucky to have one of the best jobs in the world. Every day I get to play with different "toys" at work—whether they're tools for sheet metal, HVAC or pulling water out of a unit. I've been lucky enough to work across a wide variety of industries over my 27-year career, and what I've learned along the way is simple: diversification isn't just a smart move for contractors, it's essential.

If you're in the metal construction world—roofing, siding or sheet metal fabrication—there's an incredible opportunity sitting right in front of you. HVACR (Heating, Ventilation, Air Conditioning, Refrigeration) work is in high demand and if you've already got the tools and skills, adding HVACR-related capabilities to your business could be easier than you think.

Getting Started with HVACR

I grew up on a farm, so I started working with metal early. I had to do my own sheet metal work for roofing and all kinds of jobs. From there, I studied automotive engineering, designed trucks, worked on backup systems for nuclear and medical applications and PGA golf events before moving into HVAC sizing and mechanical engineering.

One thing that became clear in all of these roles is how deeply HVACR touches every type of building. Heating systems can be as simple as a rooftop gas burner or as complex as centralized boilers for an entire campus. Ventilation strategies determine whether heat moves effectively through a building—or not. And today's air conditioning systems, especially with the growth of heat pumps, aren't just about cooling anymore. They transfer heat in both directions, even pulling warmth from freezing outdoor air to heat a space indoors.

On the refrigeration side, I've worked in food distribution facilities where the entire building is one massive freezer. If you're working in metal, you might not realize it yet, but you're already halfway to contributing to systems like these.

Ventilation = Sheet Metal

Ventilation is one of the biggest areas of opportunity where sheet metal trades can step right into HVACR. Natural ventilation uses the structure of a building to move air through, while mechanical ventilation uses fans to push and pull air via ductwork. And ductwork is sheet metal. This is your domain.

When a system isn't designed properly—say the ducts are too narrow or too wide—you get inefficiencies, noise, or worse, stagnant air that doesn't move at all. Balanced ventilation means your ducts are sized right, the supply and return flows are



matched and every room gets what it needs. That's not just HVAC. That's precision metalwork.

Seal It or Lose It

Let's talk duct sealing. If you've got leaky ducts, air goes where it shouldn't. That's wasted energy, uncomfortable rooms and possible health risks due to dust or mold entering the system.

There's a nationwide code in place now requiring ducts to be sealed with either mastic or tape. This applies to residential and commercial systems alike. If you're seeing sloppy HVAC installations out there with unsealed ducts, they're not meeting code and you might just have an opportunity to step in and offer a better solution.

The Retrofit Opportunity

Not all jobs are new builds. Retrofitting older buildings with energy-efficient systems is a huge and growing market. With better sealing, rebalanced airflows and clean coils, you can often improve a system's performance without replacing the whole unit.

Back in the 1980s, a furnace with 84% efficiency was considered top tier. Today, we're seeing 96%+ efficiency ratings. That means buildings don't need the massive units they used to—smaller, smarter systems can do more with less. This shift often requires new duct sizing, layout changes and sheet metal adaptations. That's more work and more opportunity, for experts who know their way around metal.

From Roofer to HVAC Fabricator

Here's the best part: if you're making roof panels or siding, you already have the tools you need to fabricate HVAC ductwork. Whether it's reducers, elbows or long runs of rectangular duct, these are all things that can be built in a metal shop.

Even if you don't want to handle the installation work, you

can fabricate custom pieces for HVACR contractors and general contractors. You can turn around orders fast, locally and to spec. A six-inch offset on an elbow might not be worth a custom order from a national supplier, but for you? That's just another Tuesday.

Malco even makes tools like the TurboCrimper that help convert standard tubes into connections ready for install—tools that attach right onto the drill you already use on roofing jobs.

Certification and Next Steps

If you're planning to move from fabrication into full system installations, you'll want to check on licensing requirements in your area. Dealing with refrigerant? You'll need EPA 608 certification.

Beyond that, I highly recommend looking into HVACR training programs like those offered through North American Technician Excellence or HVAC Excellence. They offer courses on everything from basic ventilation to complex refrigeration systems, and they're well respected in the industry.

Remember, even the best HVAC system won't work properly if the building envelope isn't doing its job. Poor insulation or air leaks—especially at the roof level—are like leaving the refrigerator door open. And design details matter: things like

window placement, shading and facade materials all affect HVAC performance. These are the kinds of system-wide effects that training helps you anticipate—and prevent.

Your Business, Diversified

If you're already on the jobsite—inspecting a roof, working metal panels or installing siding—why not add HVACR fabrication or coil cleaning to your offerings? It's an extra revenue stream without the extra trip.

There's also a workforce gap in this industry. Everywhere I go, people are looking for skilled labor. If you've got the talent and tools, there's demand for what you do.

At Malco, we're working hard to give you the tools to succeed. We also want your ideas—if you've built a tool that made your life easier on the job, submit it on our site. If it can help more people, we'll look into building it.

This is Malco's 75th year in business. We're proud to have been part of this industry for so long—and excited to support tradespeople like you as you grow into new opportunities. HVACR isn't just another trade. It's an extension of the work you're already doing, and the future of integrated building systems.

Let's build it—together. MR



One Big Beautiful Bill

Tax Law Changes Manufacturers Need To Know

By Gary Reichert

ne of the great things about my position at Shield Wall Media is I am in regular contact with upper management and C-Suite level people at a lot of construction related companies.

One of the bad things is I am in regular contact with upper management and C-Suite level people at a lot of construction-related companies, and they share questions.

Rarely, I know the answers. Usually, it ends in a research project because if one

person in our audience asked a question, many more have the same question and haven't asked. Those questions occasionally become article topics.

The most recent question was about One Big Beautiful Bill (OBBB) and how it affects Qualified Production Property, Bonus Depreciation and Rule 179. I am not nearly qualified to answer that question, but I can research.

I am not an accountant or tax attorney. This is not intended as tax or legal advice. The objective of this article is to provide enough knowledge for you to ask your advisors the right questions.

On July 4, 2025, Congress gave us the One Big Beautiful Bill (OBBB). It made sweeping changes across many areas, but three stand out for manufacturers and builders:

- Bonus Depreciation (Section 168(k))
- Section 179 (Rule 179)
- Qualified Production Property (QPP) (brand-new Section 168(n))

The name isn't just hype. This bill really is huge (about 1,000 pages), and with some planning may be beautiful, because you may be able to expand and grow your business sooner. You can read the entire bill at https://tinyurl.com/BBB0725. Here are the changes.

Bonus Depreciation: 100% is Permanent

"Section 168(k)... is amended... by inserting '100 percent." — OBBB text

No more phase-downs. Property acquired after January 19, 2025 can be fully deducted in year one.

What that means for production facilities and shops:

- Roll formers, forklifts, CNC machines
 all 100% deductible.
- Delivery trucks, trailers, and jobsite equipment also 100%.
 - Software and certain systems cov-

How to Determine Qualified Production Property (QPP)

QPP is the production-use portion of a nonresidential building — plus the machinery and systems integral to production. Determining what counts is critical, because it sets the size of your deduction.

Included (Eligible for QPP):

- · Production floors: Manufacturing and processing areas.
- · Material handling: Aisles, staging, and loading areas integral to production flow.
- Machinery and equipment: Roll formers, CNC lines, presses, welders, conveyor systems.
- Built-in systems serving production: Heavy-duty electrical, dust collection, compressed air, overhead cranes if they directly support production.

Excluded (Not QPP):

- · Offices, breakrooms, administrative space.
- · Sales areas, showrooms, lobbies.
- R&D labs, software development, engineering spaces.
- Parking lots, employee facilities, or lodging.
- Machinery unrelated to production (e.g., office IT systems).

Key Rules:

- Construction must begin after Jan. 19, 2025 and before Dec. 31, 2028.
- Property must be in service before Jan. 1, 2031.
- If production use ends within 10 years, IRS recapture rules apply.
- Lessors can't claim QPP for space or equipment used by a tenant the tenant must elect it.

Pro Tip: Keep floor plans, equipment layouts, and system drawings on file. The IRS will expect documentation tying production space and machinery directly to the deduction.

ered too.

Qualified Production Property

QPP is new. It allows you to expense the production-use portion of a nonresidential building, instead of depreciating. The rules:

- Construction must begin between Jan. 19, 2025 and Dec. 31, 2028.
- The building must be in service before Jan. 1, 2031.
- Only production space qualifies. Offices, sales areas, and parking don't.
- Stop using the space for production within 10 years and you may face recapture.

Why it matters:

Section 179 vs. Bonus Depreciation

Section 179

- Limit: \$2.5M
- · Phase-out: \$4M
- · Must have taxable income
- · Pick and choose assets

Bonus Depreciation

- No dollar cap
- · Can create a loss
- Automatic 100% expensing

Quick Checklist

- Track contract dates (must be after Jan. 19, 2025).
- Map out production vs. nonproduction space for QPP.
- Verify your state's conformity rules.
- Decide when to use Section 179 versus bonus depreciation.

Plan for recapture if you may repurpose space.

For a 60,000-square-foot expansion, if 45,000 is production, that portion can be fully expensed in year one. Traditionally, it would have taken 39 years. That's a seismic shift for plant expansions, modular facilities, and automated shops.

Section 179: More Room to Deduct

OBBB raised the Section 179 limits.

- Maximum deduction: \$2.5 million
- Phase-out starts at \$4 million
- Still tied to taxable income (can't create a loss)

For smaller shops (shed builders, truss yards, roll formers and component manufacturers) this remains a flexible tool. Unlike bonus depreciation, Section 179 lets you choose which assets to expense.

Our audience includes equipment manufacturers, component manufac-

turers and builders. Here's how OBBB changes the landscape:

- Manufacturers can justify expansions faster. QPP reduces the after-tax cost of new production facilities.
- Builders can help clients design with tax in mind—floor plans that separate production and office space maximizing immediate savings.

Accelerated depreciation and QPP both a benefit manufacturers seeking new production facilities and a potential closing tool, for the builder, in the design build process

When we acquired the Construction Division of F+W Media through Chapter 11, timing deductions and cash flow was critical to survival. OBBB doesn't make decisions for you, but it creates more flexibility allowing you more paths to success. MR



Gutter Facts

Roof knowledge helps with installing correct gutters

By Metal Roofing Magazine Staff

nowledge helps you make the best choices, including gathering all the information you can about the roof when you take on the assignment of installing gutters on a home or commercial building.

A glance at the roof should help you understand some of what you need to know. Is it a large roof? Is it steep? Is there a valley or more than one that gathers larger amounts of rainwater to a particular area? Also, what kind of roof is it?

Some roofing materials — like a standing seam metal roof or an EPDM roof — will shed water at a higher rate of speed. Those same roofing materials will also shed snow. How does that affect the gutters?

"Everything depends on the square footage and the pitch," says Adam Schouten, President of Advanced Architectural Sheet Metal & Supply in Shelby, Michigan. "That's what it comes down to. A lot of people think they need a bigger gutter because they have a bigger roof or a higher pitch, but what they may need is more or larger downspouts. The gutters are just channeling the water until to a downspout."

Jim Ealer, Vice President of Sales & Marketing at Midwest Enterprises, St. Clair, Missouri, says homeowners like to highlight the metal roof as an attractive feature, so roofs are steeper, which increases the rate of speed water is coming off the roof.

"If you're looking at a 6:12 or 7:12 pitch, bigger gutters will definitely be a benefit," Ealer says. "With metal roofing, rainwater runs off substantially faster than it does on an asphalt shingle roof. When it comes to picking gutters with standing seam metal roofing, we almost



Advanced Architectural manufactures mostly steel gutters for commercial and residential roofing projects. PHOTO COURTESY OF ADVANCED ARCHITECTURAL

always suggest going up to a 6-inch gutter system. In some areas, where you get a lot of rain like in Florida, it's not unheard of to use a 7-inch gutter. You won't see a whole lot of trucks out there running 7-inch gutters, but it's a good idea for some jobs.

"And if you're in a northern climate, you must have some sort of snow guards to prevent heavy snow and ice from sliding off the roof and tearing off the gutters."

There are several considerations for snow where you're installing gutters. Melting snow will slide off a standing seam metal or EPDM roof but will stay in place on asphalt shingle or stone-coated metal roofing, gradually melting. Snow sliding off the roof can tear off gutters – and the steeper the roof pitch, the faster the snow will be moving. A properly installed snow retention system will hold snow in place above the eaves and gutters, allowing snow to gradually melt. The

problem is some people absolutely do not want snow retention for whatever reason.

To prevent gutters from being torn off by sliding snow and ice, Schouten says they can be installed lower on the fascia to allow snow to slide over the gutters. Then you're left with the issue of potentially heavy snow and ice falling to the ground below. If you have a walkway or a door or plants below, you may have to install a snow retention system of some kind. However, lower-mounted gutters may prove to be too low during rain.

"Some people use a heat tape to continuously melt any snow before it accumulates to a dangerous depth and weight," Schouten says.

Advanced Architectural manufactures mostly steel gutters for commercial projects as well as residential.

"Steel gutters are a little stronger and they don't expand and contract as much as aluminum gutters," Schouten says. "The finish on steel gutters is the same as the aluminum gutters running out of the back of the truck. For a lot of our customers concerned about the strength of the gutters, going with steel is a no-brainer. Our steel comes with a more durable and longer-lasting PVDF coating. That's what the architects are specifying."

Ealer says Midwest Enterprises has more than 25 gutter protection systems to help with a variety of challenges. Some catch sliding snow and ice, while others allow sliding snow and ice to slide over the gutter reducing the chances of any damage.

"A recessed gutter guard that sits about a ½-inch below the top of the gutter is the best for stopping slides," Ealer says. "It acts like a catch for snow and ice."

Pine needles and metal roofing create the biggest challenge for gutters, Ealer says, recommending a mesh gutter screen for those conditions.

"If you install bigger gutters, it's critical to use bigger and enough outlets," Ealer says. "For a residential install, downspouts should handle water from no more than 40 feet of roof. If you can go every 30 feet, obviously, that's better."

Hangers should be no more than 24 inches apart to ensure the gutters stay in place. "Twenty inches is even better," Ealer says.



Hangers should be no more than 24 inches apart to ensure the gutters stay in place. PHOTO COURTESY OF FIRESTONE

Before recommending a gutter, learn as much as you can about the roofing. That knowledge will make decisions easier and become the safest and most durable gutter you can install.



Wildfires are hitting all areas of the United States and the need for fire-resistant building products is more important than ever.



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Making Gutters

Closer look at the Mach II 6" Portable

By Rick Zand, New Tech Machinery

ew Tech Machinery's (NTM) 6" Mach II machine is the big brother to our 5" model. Prototyped in 1991 and first delivered in 1994, the Mach II has seen a few tweaks, but its separate polyurethane drive and forming rollers, and rugged design are still built on that original, field-proven model.

When to Choose 6" K-Style Gutters

K-Style is the most popular type of gutter in residences and buildings across the country and beyond. The most common K-Style gutter sizes are 5" and 6". It may not sound like a big difference between the two, but a 6" holds nearly 50% more water than its smaller counterpart. That's a huge advantage in areas with heavy rain, strong storms, and ice and snow.

Key Considerations:

- Roof plane: The real surface area of each roof section, measured along the slope, determines the size of the roof. Larger roofs will have greater run-off and require a larger gutter. A roof over 1,400 sq. ft. requires a 6" gutter in most areas.
- Roof pitch: A 400-800 sq. ft. roof with a steep enough pitch may require a 6" gutter due to the speed of water runoff. So, while the plane is one determiner of gutter size, pitch also must be factored in to avoid overflow.
- Climate: In a dry climate, a 5" gutter is fine for any size roof. However, even an occasional strong storm can damage landscape if the gutters overflow, so if it's a dry area with seasonal strong storms, a 6" gutter may be the better choice. If your region receives 30" or more rain every year, the 6" is a shoo-in.
 - Capacity: Because 6" gutters hold



NTM's Mach II 6" Portable Gutter Machine

Configurations

Mach II Configurations	Description	
Top-mount reels (1-3)	Mix freely with cradles; the first cradle must sit ahead of any reel so coil feeds cleanly	
Coil cradles (0-3)	Ideal for heavier steel or copper loads	
Economy model	Available with or without the manual shear	

Materials & Gauges the 6" Mach II will Run

Material (15" width)	Gauge / Weight
Painted or galvanized steel	30 ga 24 ga.
Painted aluminum	0.019" - 0.032"
Copper (¾-hard)	16 oz 20 oz.

almost double the amount of water as 5", they can handle more ice, snow, leaves, twigs, etc. Their larger capacity helps facilitate the movement of water to the downspouts. Also, the downspouts on a 6" gutter will be larger - 3" x 4" — wide enough to accommodate most debris.

• **Appearance:** If the house has a small fascia board, the 6" gutter may stick out. You don't want the rain flowing over the overhang, either, so make sure the gutter

fits the roofline.

• Material: 6" gutters are heavier and larger than 5", so a weak material may not serve the purpose if it doesn't hold up to storms. Aluminum is common due to its low cost and durability in hot and cold conditions; however, in some regions, gutter contractors may only install steel, galvanized steel, or copper due to their strength. Steel and copper require more labor and come with higher price tags, so

if cost is a consideration, aluminum may be the best option for many homeowners.

Best Mach II Accessories

Having the right accessories can make your operation more efficient. Knowing the difference in capacity between a cradle (weight up to 400 lbs.) and a reel (weight up to 1,000 lbs.) may be important when it comes to the size of the job.

Listed below are popular accessories.

EZ-Counter Computerized Length Controller—Program up to 50 lengths, track material, offer miter options on all gutter machines, operate in feet and inches, inches only, or millimeters, and operate as an Easy-touch screen.

Hook assembly – hems the back flange for hidden hangers

Bottom-bead assembly - two decora-

tive ribs down the gutter floor (also helps reduce oil-canning)

Run-out stands – essential for supporting long gutter sections as they exit the machine

Transfer racks—Transfer racks are a great accessory for your gutter machine if you're using reels. They make transferring loaded coils from one turnstile reel stand to another easier and faster. **MR**

Why Do Contractors Move Up to a 6" Gutter Machine?

BENEFIT	WHAT IT MEANS IN THE FIELD	KEY DATA
~40 – 50 % more water capacity	Handles cloud-burst rainfall without overflow	6" K-style holds ~2 gal/ft vs. 1.2 gal/ft for 5"
Bigger 3" × 4" downspouts	Faster drainage, less clogging from leaves & needles Larger outlet + wider trough reduces debris buildup	
Better for large, steep, or metal roofs Fast-moving runoff stays inside the gutter instead of overshooting		Steep-pitch and smooth metal roofs often overwhelm 5" systems
Fewer downspouts on long runs Cleaner facades and lower install time		Wide trough lets you extend downspout spacing
Minimal cost bump Typically \$0.50-\$1.00 more per foot—an easy upsell Industry pricing averages		Industry pricing averages

Where are 6" Gutters in Highest Demand?

REGION	CLIMATE DRIVER	WHAT LOCAL PROS SAY
Florida & Gulf Coast	Frequent, high-volume thunderstorms	6" gutters manage high volumes of water and protect fascia from overflow. Heavy materials like steel or galvanized steel can endure high winds.
Pacific Northwest	Long rainy seasons, 70-100"/yr in spots	An area that gets a lot of rainfall, 6" K-gutters can handle the runoff.
Great Plains & Midwest	Intense summer downpours & large roof planes	Temperate, rain-prone regions generally need 6" gutters, even if rain isn't year-round. 30+ inches of rain per year is a good indicator.
Upper Midwest / New England	Wide fascia boards & steep hip roofs	Local installers recommend 6" for roofs >1,400 sq ft or long shingle overhangs. That aside, their green summers depend on lots of spring rain.



Key Takeaways for Metal Roof and Gutter Pros

If your service area sees regular heavy rain—or you're bidding metal-roof projects with steep pitches—a 6" gutter profile is fast becoming the new residential standard. Pairing NTM's Mach II 6" machine with its quick-swap accessories lets you:

- **Keep production in-house** instead of buying factory-made gutters.
- **Upsell premium water-management** on every roof replacement.
- **Pivot between 5" and 6" jobs** simply by rolling the right machine to site. **MR**

Standing Seam Metal Roofs

Best Practices & Common Mistakes To Avoid

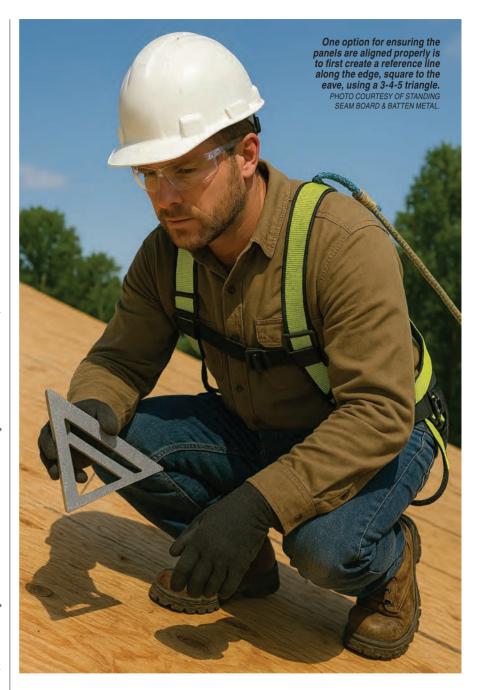
By Courtney Glover

hen creating a mechanically seamed or snap-lock standing seam roof, there are important factors to consider. These factors and insights can help avoid common mistakes and costly fixes. From the pre installation checks to the final inspections, there are specific tools, techniques, and configurations utilized to ensure that common mistakes are avoided.

Pre-installation Checks and Overlooked Site Prep Mistakes

Before installing the first panel, the substrate should be inspected. Lyon Metal Roofing states to ensure the roof deck is clean, clear of debris and dust. Inspect the roof for any damage, weaknesses, or rotting. If any issues are found, the sections should be repaired or replaced to allow for a sturdy new roof. Make certain that the roof deck is in good condition and made of the correct materials (typically plywood or OSB). Remove any nails, screws, or other protrusions that may impact the underlayment and damage or deform the metal panels. The surface should be smooth and uniform.

Some site preparation mistakes to avoid are ignoring proper deck inspection, inadequate roof measurements and layout, and choosing the incorrect materials. Proper deck inspections will



directly impact the quality and stability of the roof. Accurate measurements are imperative before ordering panels; incorrect sizes will cause delays and additional costs. Utilizing the incorrect materials can lead to corrosion, leaks, and/or affect the roof's integrity.

Panel Alignment and Tools

Panel alignment is critical when seaming a standing seam roof, both for appearance and functionality says Joe Beiler from Standing Seam Board & Batten Metal of Oklahoma. There are some important ways to ensure panels are aligned appropriately. Create a reference line along the edge of the building, square to the eave. Use the 3-4-5 triangle method to verify the line's squareness to the ridge. Using chalk, mark this line along the eave, this will serve as a guide for the first panel. Another option would be to run a string

line from eave to ridge, square to the eave, and use it to measure from back to each panel or utilize a laser level.

In addition to chalk, string, and laser levels, tools such as tape measures, framing squares, speed squares, and plumb bobs are also effective. These tools help mark reference points, confirm straight lines, and ensure spacing and alignment. Panel handling tools also help with gripping, aligning, and holding panels during installation.

Fastening Patterns and Clip Configurations

Andrew Mullen from Direct Metals, Inc., informs that it is important to use clips and fastener patterns used in the panel manufacturer's engineering specifications or building code approval testing. Local building codes, in addition to the IBC, establish the minimum wind

load requirements for a location and building type.

Higher wind pressure is found at the roof corners and edges as compared to the center of the roof. This means, closer clip spacing is needed in these areas to resist wind-uplift. Lower wind forces, such as in the center of the roof, can allow for wider clip spacing. The design of the panel and the seam height also influence uplift resistance. (As a side note: Thermal spacers are used beneath the clips to minimize heat transfer between the roof panels and the structure mainly when above-deck insulation is part of the assembly.)

It is important not to fail to maintain a consistent fastening pattern. Missing fasteners or inconsistent spacing can create weak points and lead to leaks or damage. Common signs of installation mistakes include leaks, loose panels, uneven surfaces, rust or corrosion, and/ or excessive noise.

Metal Expansion and Contraction in Clips

Mullen explains that mechanically seamed concealed fastener panels use both fixed and expansion (sliding) clips. Fixed clips are generally used on shorter panel runs, while expansion clips are needed once panel lengths reach around 25 feet or more, depending on the manufacturer's engineering and the climate.

Expansion or "floating" clips are designed in two pieces. The base is secured to the roof deck, and the top portion attaches to the panel. This design allows the panel to move back and forth with temperature changes, helping to prevent buckling, oil canning, or stress at the seams.



BEST PRACTICES

Snap-lock clip systems may allow for some limited thermal movement, but they are not the same as the full sliding clip assemblies used with mechanically seamed systems. Because of this, it's important to follow the panel manufacturer's installation guidelines when deciding where to use fixed versus expansion clips. Choosing the wrong clip type can create problems later, especially on longer roof runs.

Reliable Sealants and Joint Protection

For mechanically seamed 2-inch commercial-grade panels, Mullen notes that non-skinning butyl sealant is the most common choice. This type of sealant is supplied in tubes or in tape form and is often used at panel seams, end laps, and flashing joints to keep water out. It stays flexible over time, bonds well to metal, and holds up under weather exposure.

Butyl tape is frequently used on side and end laps or around penetrations like vents and pipe flashings. A gun-grade bead of non-skinning butyl may also be applied inside seams before mechanical seaming for added protection.

Silicone sealants are sometimes used around flashing details since they stick well to metal and resist UV and moisture. However, they are generally not applied inside panel seams because they can interfere with proper seam folding.

Hot-melt sealants are less common in field installation but may be factoryapplied during the panel forming process when required by the manufacturer.

Minimum Pitch, Slope, and Drainage Mistakes

A standard minimum pitch for a standing seam roof is 1/4:12 which translates to a 2% slope. Some argue, however, that the best practice for standing seam roofs, especially residential, is slightly steeper of ½:12 or 3:12. There are different reasons for variances, such as a mechanically seamed standing seam, which can do well at low pitches, versus a snap-lock system,

INSPECTION OF SEAM

A visual inspection of the seam should be made to determine if the seam is forming properly. Check seam against the cross section provided. IF THE SEAMER IS NOT PRODUCING A FINISHED SEAM SIMILAR TO THE CROSS SECTION PICTURED, STOP AT ONCE AND CALL THE MCELROY METAL TECHNICAL SERVICE DEPARTMENT.



Mechanical seam inspection (Maxima Panel). COURTESY OF MCELROY METAL.

which requires a steeper minimum pitch. It is important to always consult the manufacturer's guidelines and local building codes for the standing seam panels chosen.

A major drainage mistake made when creating a standing seam roof is creating an inadequate slope. Standing seam roofs are not meant for flat pitches because they rely on gravity for water flow. A slope that is too low can cause water accumulation which causes leaks and corrosion and/or ice dam formation in colder climates. Inadequate flashing can also cause severe problems. If flashing is not installed correctly or is damaged, water can seep through these vulnerable areas, causing leaks.

Final Seam Inspection: Mechanically Seamed vs. Snap-Lock

A final inspection on a mechanically seamed roof would include an inspection of the visual and functional aspects of the seams and roof components. The inspector would visually inspect the seams, checking for straightness and uniformity. They will check for complete closure, ensuring the panels are fully locked together. They will look for imperfections and defects along with inspecting for any signs of leaks. The inspector should check the flashing, sealants, fasteners, and gutters along with checking for ponding or water collection.

A final inspection on a snap-lock standing seam roof starts with a visual seam inspection, including checking engagement, alignment, for gaps or openings, and for adequate overlap. Any issues in these areas can lead to leaks and damage.

Next, the flashing and sealant needs inspection. The flashing integrity around features, the sealant application, and sealant condition are checked. If applicable, the fasteners would be checked. Snap-lock systems typically use concealed fasteners but if any exposed fasteners are used, they would be inspected for proper installation. Otherwise, the roof would include checking that there are no exposed fasteners. Lastly, they would check the overall roof integrity, including the panel conditions, underlayment, and drainage. If needed, they may do a water test to check for leaks.

Conclusion

When configuring a mechanically seamed or a snap-lock roof, there are common — but important — mistakes to avoid. Multiple inspections of the substrate, panel alignment, tools, fastening patterns, clip configurations, sealants, and slope can change the outcome from quality standing seam roof that will last for decades to a costly, leaking roof that you'll be called back to fix MR

Courtney Glover is a freelance writer and photographer based in Milwaukee, Wisconsin. She contributes her talents to various publications and is the author of "Max Builds A Metal Roof," the first book in the Shield Wall Media children's book series.

METALCON OCTOBER 21 - 23, 2025

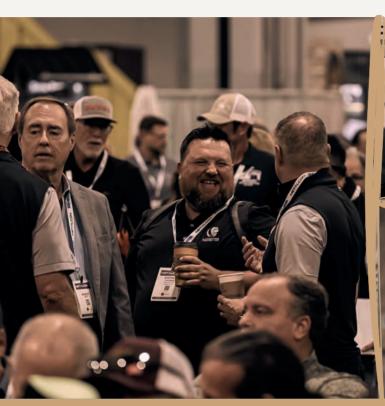
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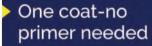
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Industry Insights Start with You: Take the Fall Survey

elcome to autumn. This season includes a lot of work to get ready for winter and the new year. All of us here at Shield Wall Media are asking for a little help with one of those fall tasks, and it doesn't involve a rake.

This will be the third year for our CSI-Annual.

The *CSI-Annual* is where we compile industry data from our proprietary survey and other sources. We share this in the form of a book with all of the subscribers of all of our magazines and send roughly 2,000 additional copies to shows and events. We provide you with this industry data free of charge. That is in addition to our magazine subscriptions, that you also do not pay to receive.

As a little "inside baseball" between the survey, printing, mailing and writing the *CSI-Annual & Market Report*, Shield Wall Media invests a little over \$50,000 to get you this information.

If you would like to sponsor the book, we would love that. But, that is not what I am asking for.

I am asking that you check your email and take the survey. This costs you nothing but a few minutes of your time. The survey is anonymous, so you are not sharing any proprietary information.

Last year we increased the sample size by approximately 40% and received over 3,000 responses. We would like to go over 4,000 this

year. Across our titles we have about 100,000 subscriptions so that should be achievable.

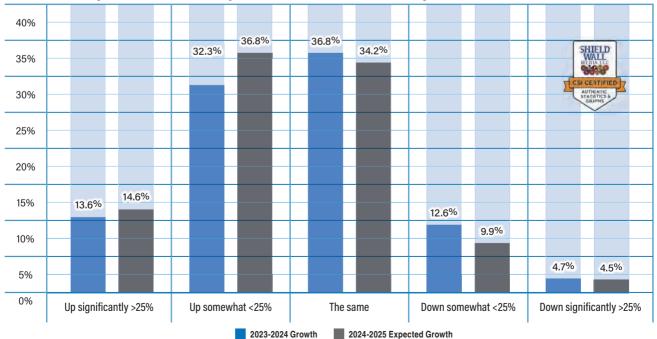
Please consider this a guilt trip. If you read our *CSI-Annual* and don't take the survey remember your peers did something you did not, to improve and help grow our corner of the construction world.

Help us help you. And, if you would like to come to Waupaca and rake leaves, we can give you a pass on taking the survey.

So you know what we are looking for, here are a few of the questions that will be on our survey, with the answers in the *CSI-Annual & Market Report* (mailing at the end of Q1, 2026):

- How did your 2025 profitability compare to 2024?
- How do you think your 2026 gross sales will compare to 2025?
- Across the country will residential construction increase, decrease or stay the same?
- Across the country will agricultural construction increase, decrease or stay the same?
- Which of the following (if any) do you see as a challenge in 2026?
- What new products or technology innovations are most likely to have the greatest impact on your business in 2026? MR

Compare Profitability Growth 2023-24 vs Expected Grown in 2025



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ICE COMPLIANCE

A BRIEF GUIDE FOR CONTRACTORS

n early June 2025, major media outlets reported that the Department of Homeland Security issued internal directives instructing Immigration and Customs Enforcement (ICE) field offices to target approximately 3,000 arrests per day and to expand workplace operations in sanctuary jurisdictions, including major cities such as Chicago. Referred to by some media sources as "Operation Safeguard," this enforcement push signals a return to large-scale worksite inspections across a range of industries, with construction remaining a primary focus. Roofing contractors whose crews may include U.S. citizens, lawful permanent residents, temporary visa-holders, and undocumented workers face significant disruption risks and potential legal exposure under this renewed enforcement strategy.

For roofing businesses, understanding what this heightened enforcement entails is the first step toward mitigating risk. DHS leadership has made it clear that enforcement will not be limited to border states or industries traditionally scrutinized. Local governments have already responded with public education campaigns to prepare residents and employers for intensified ICE activity. Contractors should assume that worksite visits could occur without warning and that preparation is essential to maintain compliance and minimize operational impact.

ICE generally uses two primary tools in its worksite enforcement activities. The first is a Notice of Inspection (NOI) or administrative subpoena, which compels an employer to produce Form I-9 records within three business days under 8 C.F.R. § 274a.2(b)(2)(ii). The second is a site visit supported by a warrant. Determining whether a warrant is judicial (signed by a federal judge) or administrative (issued by DHS on Form I-200 or I-205) is critical. Administrative warrants authorize arrests but do not grant entry into non-public areas such as job trailers, break rooms, or roof decks without employer consent. Only a judicial warrant signed by a judge grants that authority.

Employees may decline to answer questions and need not provide documents absent a judicial warrant or another applicable legal requirement. Retaliating against workers for asserting these rights risks liability for unfair immigration-related employment practices under 8 U.S.C. § 1324b.

Proactive preparation is the most effective defense. Every roofing project should have a designated ICE coordinator, typically a

The information contained in this article is for general educational information only. This information does not constitute legal advice,

superintendent, who is trained to meet agents, review and copy warrants, control access to restricted areas, and immediately contact legal counsel. Employers should maintain a secure, digitized I-9 file system, separate from personnel records, to ensure quick, organized responses to NOIs. Posting signage that non-public areas require consent or a judicial warrant helps reinforce Fourth Amendment protections. All encounters should be documented, including the names and badge numbers of agents, time of arrival, and details of any search. Supervisors must also avoid on-the-spot document re-verification or selective terminations prompted solely by an ICE visit.

Risk management should also extend to contract language. Prime contractors can protect themselves from ICE-related delays by including enforcement-response provisions in subcontracts. These clauses should require subcontractors to follow comparable protocols, grant schedule extensions for enforcement-related work stoppages, and include mutual representations against knowingly employing unauthorized workers. Coupled with a well-drafted force majeure clause, these provisions help allocate risk without undermining customer relationships.

Supporting the workforce in a lawful and responsible way is equally important. Employers can provide bilingual "Know Your Rights" materials, allow flexible unpaid leave for immigration proceedings, and create confidential channels for employees to raise concerns. Transparent, consistent communication fosters trust, reduces fear-driven absenteeism, and promotes jobsite safety even during enforcement events.

The renewed focus on ICE worksite enforcement is already influencing operations across the roofing industry. Contractors who combine legal awareness with clear, practiced response plans and updated contractual protections will be best positioned to navigate this evolving environment. Being prepared not only protects the company from liability but also safeguards the workforce and keeps projects on track. Staying informed and proactive is no longer optional; it is a business necessity in the current regulatory climate. •

Trent Cotney is a partner and Construction Team Leader at the law firm of Adams & Reese, LLP and NRCA General Counsel. You can reach him at 866.303.5868 or trent.cotney@arlaw.com.

is not intended to constitute legal advice, nor should it be relied upon as legal advice for your specific factual pattern or situation. a window frame." Steel is ideal, while vinyl should be avoided unless reinforced with steel due to its low melting point.

GLOBAL PERSPECTIVES, LOCAL URGENCY - HOW DOES THE U.S. COMPARE GLOBALLY?

"I think that we're ahead of most of the rest of the world regarding wind design," said Davis, referencing his work with international clients during his time at FM Global. But in terms of fire design, "They use a lot of mineral wool insulation in Asia, which is good. It's a better fire performer than a lot of the other insulations on the market."

Still, differences in testing standards—ASTM in the U.S. vs. ISO elsewhere—pose challenges. "We don't always agree on what's the best test," he admitted.

WHERE TO GO FROM HERE-AND METALCON'S ROLE

As disasters evolve, who's responsible for keeping the industry ahead?

"I don't like to put too much reliance on waiting for the codes to change to solve all the problems," said Davis. "If a celebrity in Southern California wants to build a \$5, 10, \$20 million house, I would tell him to first engage a fire protection engineer and a structural engineer to give him some guidance. If he's going to spend that kind of money on a house, build something that's actually going to last."

Scott suggested a multi-layered approach: "It's state and local policy and codes. It's urban and regional planning and zoning... all of those layers have to fit together to create the complete package of resilience."

Anoush Brangaccio added, "If we're going to ask our consumers and our residents to do this, they need to get something back to help offset it."

That's where METALCON, the only global event dedicated to the application of metal in construction and design, comes in.

"We at METALCON have a role in this—and our role is to keep this communication going," said moderator Frank Stasiowski in closing. "We need to make sure that the innovation happening in labs and factories is matched by awareness in the field—and that's a communication challenge we're ready to take on."

WHERE TO GO FOR GUIDANCE AND ACTION

Panelists referenced several valuable tools and organizations that can help professionals and consumers make informed, resilient choices. Whether you're a builder, architect, manufacturer or homeowner recovering from disaster, these resources offer guidance, standards and real-world solutions:

1. IBHS (Insurance Institute for Business & Home Safety)

The IBHS is at the forefront of research on building resilience to natural hazards, including wildfire and wind. Their Wildfire Prepared Home program outlines steps for homeowners and builders to reduce risk.

https://wildfireprepared.org/



2. FM Global Data Sheet 9-19

FM Global provides free access to its technical data sheets, including 9-19, which outlines recommended practices for wild-fire exposure mitigation. Registration is required, but access is free.

https://www.fmapprovals.com/

3. California Department of Insurance – Wildfire Resources

For homeowners in California, the state insurance commissioner's office offers a range of tools, from insurer contact information to risk assessment programs and discount eligibility.

https://www.insurance.ca.gov/

4. Build LA Initiative

An initiative promoting fire-resilient construction and planning in Los Angeles County. This site includes resources for local permitting, building materials and fire-resistant design best practices.

https://buildla.lacity.org/

5. AIA Resilience and Adaptation Resources

Architects can turn to the American Institute of Architects (AIA) for research, guides and white papers on resilient building design and sustainability standards.

www.aia.org/resource-center/resilience-design-toolkit

6. Florida Product Approval System

A model of regulatory rigor, Florida's system requires all building products—especially roofing materials—to meet minimum performance standards. Builders and code officials can search approved materials to ensure compliance.

https://floridabuilding.org

7. METALCON

From code compliance to climate resilience, METALCON's educational programming uncovers how the fire-resistant and non-combustible properties of metal are reshaping building design in high-risk areas.

www.metalcon.com

extreme climate events. While building codes are evolving, our panelists were unanimous in a critical point: they're not keeping pace with the climate.

"The fact that there has been such disaster, it shows you cannot rely on the existing codes and standards," said Dick Davis. "We have to look closely at the science and figure out what materials to use whether it is residential, commercial or industrial construction."

Alan Scott added, "Recognize these hazardous events can happen anywhere. What happened in the past is not necessarily indicative of what will happen in future occurrences, so assessment is required." Scott shared a sobering example of a California apartment building that highlighted the flaws in current fire risk mapping. Depending on which map you used, the building was shown in both a low-risk and high-risk zone—yet it ultimately burned to the ground in the recent wildfires. "Perhaps some preassessment to determine risks might have prompted some action to reduce those before hazard happened."

Anoush Brangaccio explained the structural delays in the code-update process. "The building code is updated every three years," she said, adding that some states lag even further. Not all states have uniform building codes, and if they don't, it's time they consider implementing one.

Davis confirmed that reality: "I've seen situations where some states were still using the 2003 code when the 2015 code came out. That's how backlogged it can get. And people need to remember that code requirements are minimum requirements. There's nothing wrong with exceeding those requirements."

CLIMATE IS THE DRIVER-AND IT'S CHANGING THE GAME

"I would just add that climate change is really the key driver behind most of these tragedies," said Brian Partyka, "including stronger storms, heavier rainfall, more intense winds and worsening droughts in California."

Frank Stasiowski asked whether these events are catalyzing innovation or constraining it. "It spawns innovation," Partyka responded. "We've stopped talking about a metal roof and [started saying], 'Let's talk about a fire-resistant underlayment product with a two-hour burn rate."

Partyka pointed to multiple product innovations in development: "We have a two-hour fire-rated wall insulation product that's made of denim jeans, old, recycled denim jeans. It's pretty awesome to watch the innovation that happens as a result."

METAL'S EDGE IN A HAZARD-RICH WORLD

While no single material can solve every risk, metal stands out as one of the most effective front-line defenses—especially in fire-prone regions.

"Metal roofing would be a wonderful solution for areas that are prone to fire, wind and hail," said Partyka. "Will they dent in hail? For sure, they'll dent in hail...but the metal roof is going to have a Class A fire rating."

He noted that organizations like the Insurance Institute for Business & Home Safety (IBHS) are pushing for more rigorous

standards. "There's a wildfire prepared neighborhood program by IBHS... and metal roofs are mentioned in that as a non-combustible Class A fire rated [product]."

But Partyka was careful not to oversell. "It's not the end-all be-all...I don't want to say this is the cure, and everybody should have a metal roof. I think it will help to eliminate some of the possibilities of ignition."

Davis explained why not all metals perform equally in fire scenarios: "The melting temperature of aluminum is about 900 to 1,200 degrees Fahrenheit; copper is approximately 2,000 degrees; and steel is north at 2,600 degrees. Actual flame temperatures vary from 1,000 to 2,000 degrees."

TESTING, CERTIFICATION AND INSURANCE: THE APPROVAL MATRIX

"I think one of the successes in Florida has been their Florida Product Approvals system," said Partyka. "You don't have that code approval or that number, then guess what? You're not going to be able to sell your products in the state of Florida."

Davis emphasized the importance of rigorous testing. "There is a requirement pretty much everywhere for testing exterior exposure, fire exposure roof covers...that test is ASTM E108 or UL790." He warned that not all materials are held to the same standard: "Codes have more or less grandfathered or waived the tests for certain types of materials...but aluminum is not grandfathered."

Scott added, "Generally, architects aren't aware enough about resilience issues...there needs to be greater awareness among the design community about all the different standards and tests."

From the insurance side, Brangaccio detailed how Florida incentivizes high-performance materials: "We do offer discounts...relating to the roof, roof coverings, connections." She added, "We've even broken out metal roofs, and...metal roofs compared to some of the other roofs would get a higher credit for wind."

HOLISTIC DESIGN AND SYSTEM THINKING

The consensus was clear: resilience isn't about one product, one material or one code update—it's about the system.

"Whether we're talking about fire resistance or hurricanes or floods," said Scott, "designing buildings that have overall greater sustainability like designing for passive house type standards...means you're both resilient against those hazard events and...have a building that's less expensive to operate, uses lower utilities and has a lower carbon emission."

Davis drove the point home with a stark reminder: "If that fire gets inside the building, no matter how it gets in there, you could destroy the whole building." He emphasized the need to consider the entire building envelope to protect the structure from wildfire exposure—the roof, the walls, the window systems, soffits and even vent mesh. He commented that people often overlook the importance of the windows and should use fire-rated glass, which includes heat-blocking gel layers, or double-pane tempered glass, which withstands high heat better than standard glass. "Think of the window as a system, it's got



HOT TOPIC

HOW METAL IS SHAPING RESILIENT BUILDING DESIGN IN A CLIMATE OF CRISIS

BY FIONA MAGUIRE-O'SHEA, METALCON WRITER

s wildfires rage across the American West, hurricanes intensify in the Southeast, and insurance markets tighten nationwide, the demand for fire-resilient, climate-ready buildings is no longer theoretical—it's urgent. What was once seen as rare or exceptional is now becoming the new norm, both in the U.S. and globally. In the metal construction sector, leaders are taking note and taking action.

In a METALCON Online webinar, a high-caliber panel of experts came together to unpack the intersection of building science, climate policy, material innovation and insurance economics.

With METALCON 2025 on the horizon, the session was moderated by Frank A. Stasiowski, FAIA, CEO and founder of METALCON and PSMJ Resources. He was joined by Alan Scott,

FAIA, director of sustainability at Intertek; Dick Davis, former fire engineer and technical specialist with FM Global; Brian Partyka, vice president of business development of Carlisle Companies; and Anoush Brangaccio, senior policy advisor at the Florida Office of Insurance Regulation.

From testing standards and code lag to community planning and insurance incentives, the discussion emphasized one central theme: metal has an integral role to play in the future of resilient construction.

CODES ARE CATCHING UP-TOO SLOWLY

Recent catastrophic fires and storms have revealed painful shortcomings in how the construction industry approaches resilience. Many buildings, especially older ones, were not designed to withstand the hazards resulting from today's encouraged to apply for CertainTeed's Credentialed Contractor Program.

"CertainTeed offers free training on our solar shingles through online videos," Wickham said. "Further we have trainers that go to the customer's jobsite to train them on installation."

Solstice Shingles have a 19.85% efficiency rating, which is pretty comparable to traditional solar panels which often have an efficiency rating in the low 20s. The shingles are rated 70 watts.

"When it's rated 70 watts, that is how much energy the panels output," Wickham said. "People get confused and think that they will only get 19.85% of the 70 watts," he said. "You have to explain to them that the 19.85% efficiency rating refers to the percentage of the sunlight the panel is exposed to that is captured and turned into solar energy."

WARRANTIES

Warranties are usually between 15 and 30 years on asphalt shingles, and in CertainTeed's case their shingles, whether solar or asphalt have a solid 25-year warranty on manufacturer's defects and labor. It is best if the whole roof needs replacing at the same time because homeowners may not want to have to replace a portion of the roof, then a few years later have the professionals back to fix the rest of the roof.

If the inverter has a problem and certified solar shingle roofers installed the inverter, CertainTeed stands behind it.

Integrated solar systems have an advantage over conventional solar panels; they avoid the possibility of shingles being harmed during the installation of the solar panel rack and thereby revoking the roof's warranty.

Another consideration with solar energy is that solar panels' power output slowly declines over the years. CertainTeed guarantees that these shingles will at minimum perform in this manner: 98% of labeled power output during the first year. Thereafter, the power output will decline annually by no more than .055% for 24 years. This means that in the 25th year of operation, a power output of at least 85% of the original labeled output would be achieved.

INSTALLATION

Some solar shingles can require specialized flashing, underlayment, and may be more complex to install, while others can be much simpler. CertainTeed's Solstice Shingle is screwed in, allowing roofers to install it with standard roofing tools, and crews can be trained fairly easily. It is designed to install alongside the asphalt panels and, therefore, can be installed on



just a portion of the roof if desired.

SOLAR SHINGLE REPAIRS

Though the product and installation be of the highest quality, sometimes something goes awry. When one Solstice Shingle requires repair, all of the solar shingles are affected Wickham said. This is due to the wiring system. When one solar shingle goes out, you must replace it, and you will have to remove the shingles above to do so. If under warranty, the labor for this repair would be covered. Many solar panel systems also require faulty panel replacement for the system to work, especially if the system is older. It depends on how a system is wired and whether it has modern microinverters or DC optimizers.

SHINING A LIGHT ON THE FUTURE

CertainTeed entered the solar arena in 2010 with its Apollo series of solar tiles and shingles. The Solstice product line of panels and shingles were then introduced in 2023. In 2024, the company started its partnership with SunStyle, which was originally a European product with a beautiful aesthetic which actually integrated the solar energy generation into the shingle. Now Solstice Shingle has made installation faster and easier while providing a new aesthetic that helps the shingles to blend in with the asphalt shingles.

These exciting solar products could help your company expand your footprint in energy efficient products that many customers are looking for today. And there's more to come.

Wickham said the CertainTeed team expects the next generation of solar shingles to bring repair improvements, making it easier to remove one shingle without disturbing the rest of the shingles. Further down the line, they are hoping to create solar shingles that will work with different types of roofs such as composite or metal. The future of solar roofing looks bright. Now is the time for homeowners to take advantage of the federal solar tax credit, which is set to expire at the end of this year.



SOLAR SHINGLES 101

ARE SOLAR SHINGLES A PROSPECTIVE ADD-ON TO YOUR ROOFING OFFERINGS?

BY LINDA SCHMID

aving money on energy bills is always appealing to homeowners, who often look to highly efficient appliances and quality insulation to help with that. Another option is solar energy. This isn't news of course; people have been cutting down on their energy bills with solar panels for decades. What is more current in the industry is roofing that incorporates electricity-generating technology right into the shingles.

Now you can take advantage of this trend to upsell solar shingles as part of the roof package. People like the aesthetic as, instead of intrusive panels attached over the roofing, these shingles meld into the roof. Further, customers can shrink their carbon footprint and turn a traditionally depreciating roof into an asset that saves them money.

Solar shingles have been on the market for the last decade or so, and CertainTeed was among the first companies to develop them. We interviewed CertainTeed's Andrew Wickham, Senior Director of Product for Solar, to find out the basics.

SOLAR SHINGLES DESIGN

How do these shingles work? They work like traditional solar panels, and they are largely designed like traditional panels, except they are shaped into shingles and wrapped in a composite material that does not allow moisture in. Durability can vary depending on the solar shingle chosen, but CertainTeed's Solstice* Shingle features Class 3 impact resistance meaning it can withstand weather extremes including hail. It passed wind resistance testing with wind velocity of 110mph, class F, and the TAS 100 wind-driven rain test which involved winds of 110mph along with water streaming at 8.8 inches per hour aimed at the solar shingled roof's eaves. These tests qualified the shingles to obtain Florida High Velocity Hurricane Zone authorization.

COMPARISON TO TRADITIONAL SOLAR PANELS

Often the cost of a roof incorporating solar shingles is comparable or slightly more than the cost of a conventional roof with solar panels installed over it. The cost of course depends on the product chosen, the labor required, and the markup the roofer chooses.

Installation can be done by a solar tech, or you can choose to install the system yourself. A homeowner can't install the system itself. If you choose to install the solar shingles and hire an electrician to handle the electrical work on the ground, you are setting the price point. Training on solar shingle installation should be accessible through the vendor per Wickham. Licensed roofers are

improperly installed insulation over the soffit or intake vents. sure to avoid blockage or restriction of airflow, such as due to and close enough to each other to ventilate the entire attic. Be

erly functioning system, the intake amount should never be less the shingle/vent manufacturer's instructions. To create a propfree ventilation area of the total system. However, always follow 50-60% and exhaust vents should comprise 40-50% of the net As a recommended practice, intake vents should comprise should be close to equal, with slightly more intake than exhaust. The net free ventilation area of intake and exhaust vents

mance. Using different vent types together often is inconsistent iting of the attic ventilation system and adversely affect perforsame roof above a common attic space may cause short-circu-However, combining different types of exhaust vents on the may be necessary for proper ventilation in each attic space. A combination of different types of intake and exhaust vents than the exhaust amount.

INSULATION AT THE UNDERSIDE OF DECK ADDITIONAL CONSIDERATIONS: ATTICS WITH

with the vent manufacturer's installation instructions.

eave to ridge between each rafter space. require additional steps to ensure there is open airflow from when venting this kind of attic. However, this approach may exhaust vents, and balance between intake and exhaust apply related to the amount of ventilation, placement of intake and unconditioned or a conditioned attic. The same principles It is possible to implement this attic configuration with an

ations. These designs require continuous eave and ridge ventilabe suitable in both new construction and roof replacement situwith a space between the decks for ventilation. This option may deck on spacers to create a surface for installing asphalt shingles An approach called above-deck ventilation installs a second a built-in ventilation space is an option for new construction. one option. Using Structural Insulated Panels (SIP) that include Placing baffles between rafters prior to insulation installation is between the insulation and the underside of the roof deck. There are various approaches to accomplish open airflow

ADDITIONAL CONSIDERATIONS: lation design. tion unless cross ventilation is present in the above-deck venti-

ing solar radiation. Failure to do so may accelerate the aging of products by facilitating the dissipation of heat caused by incomof maximizing the service life of the overlying asphalt roofing insulation to permit ventilation will have the long-term benefit to create a space between the underside of the roof deck and the have insulation placed at the deck level. Taking the extra steps for the construction of conditioned attics, which of necessity It is possible to employ the previously discussed approaches

asphalt roofing materials.

CONDITIONED ATTIC SPACES

ARMA's technical bulletin, "Protecting Against Damage from thawing over that space. More information can be found in the heat in the attic space to mitigate or eliminate the snow and re-freezing at the colder eave area. Ventilation can reduce causes cyclical snow thawing over the warmer portions of a roof from the conditioned space of a building rises into an attic and management. Ice dams form during cold weather when heat Ice damming is another issue related to attic temperature

AND ROOF SYSTEM ASSEMBLIES **VENTILATION: A KEY ELEMENT OF ATTICS**

Ice Dams."

the lower portion. near the upper portion of the roof while cooler air draws in at allow warm air to rise and escape through exhaust vents at or Outside air flows through an attic space when intake vents Natural attic ventilation is effective because warm air rises. tion into all three attic configurations discussed previously. climates. ARMA strongly recommends incorporating ventilaand mildew growth, and mitigates ice dam formation in cold sive moisture in the attic space, reduces the likelihood of mold improves the energy efficiency of the building, removes excestem, maximizes the service life of asphalt roofing materials, space immediately beneath the deck of an asphalt roofing sys-Ventilation, which is the free flow of outside air through the

VENTILATING ATTICS BECOMMENDED PRACTICES FOR

tion is important, and three factors should be considered: Installing an appropriate minimum amount of attic ventila-

- of the attic floor • Size of the attic; measured length x width (area)
- Placement of the two types of vents (intake and exhaust)
- Airflow rating of the vents

in Climate Zones 6, 7, and 8, a vapor barrier is appropriately of properly located intake and exhaust vents is present and, by building codes in some cases, provided an acceptable ratio tilation area per 300 square feet of attic floor area is permitted attic floor area. Reduction to as low as one square foot of venventilation area equal to one square foot per 150 square feet of Building codes generally recommend a minimum net free (expressed as net free ventilation area)

at the ridge or upper portion of the roof to provide efficient located on the underside of enclosed eaves. Install exhaust vents the eaves or in the lower portion of the roof. These are often necessary to create a functioning system. Place intake vents at Proper location and quantity of intake and exhaust vents are

individual vents for either intake or exhaust, space them equally ridges are an excellent and popular option. If using a series of in all areas of the attic space. Continuous vents along eaves and The location of intake and exhaust vents must ensure airflow

exhaust of heat and moisture from the attic space.

TECH BULLETIN

CONSIDERATIONS IN ATTIC VENTILATION SYSTEM SELECTION

By The Asphalt Roofing Manufacturers Association (ARMA)

Editor's Note: The Asphalt Roofing Manufacturers Association (ARMA) has prepared many technical reports to aid roofers in the proper installation of various asphalt roofing systems. ARMA [https://www.asphaltroofing.org/] has granted Roofing Elements Magazine permission to publish this report for the benefit of roofers.

he 2021 International Residential Code defines an attic as "the unfinished space between the ceiling assembly and the roof assembly." Attics generally fall into one of three configurations. The most common places insulation on top of the ceiling of the underlying rooms, resulting in an unconditioned space not regulated for temperature and relative humidity. In some cases, HVAC equipment for the conditioned portion of the building is located in this unconditioned space. Ventilation for this attic space may or may not be present.

A second attic configuration incorporates insulation at the underside of the roof deck using an adhered, batt, or loose form of insulation. Although this may also include insulation on top of the ceiling of the underlying rooms, the attic space is not conditioned for temperature or humidity control. HVAC equipment serving the conditioned areas of the building may be placed in this unconditioned space. Ventilation for this attic space may or may not be present.

A third attic configuration places insulation at the underside of the roof deck level and conditions the space beneath by using HVAC equipment to control temperature directly and relative humidity either passively or actively. This conditioned space may or may not be habitable. Ventilation between the roof deck and the insulation may or may not be present.

Each attic configuration interacts with and affects the asphalt roofing systems installed over the attic space. Thoughtful consideration of these interactions can lead to improved roofing system service life.

CONSIDER THE FUNCTIONS OF ATTIC VENTILATION

Moisture conditions and temperature in attics are important considerations tied closely to the geographic location of the building. Attic configurations that work well in one climate may not function well in others. Failure to properly manage moisture and temperature has consequences for the building and the roofing system above the attic.

It is critical to handle moisture entering the attic from the building below. Water vapor generated by occupants of the building is the key source of this moisture. If excess moisture enters an unconditioned attic space and is not handled effectively, it may condense on surfaces during colder times of the year. This may cause wood framing, decking, walls, and ceilings to deteriorate. In some cases, mold may begin to grow on surfaces. Without proper ventilation, excessive moisture fluctuations within an attic may cause the deck components to expand and contract and buckle the overlying shingles. In a conditioned attic, an effective HVAC system manages moisture that enters the space and reduces or eliminates moisture-related issues. In an unconditioned attic, effective ventilation balanced with intake and exhaust airflow removes excess moisture.

Attic temperature is another important variable to address. Unconditioned attics may experience wide fluctuations in interior temperature as roof surface temperatures increase during sunny days and decline during cloudy times and after the sun sets. Heat buildup in an attic may accelerate the aging of asphalt roofing products, and heat transfer from the attic into the occupied areas of a building reduces energy efficiency. Ventilation helps take the heat out of the attic space. Insulation above the ceiling of the underlying rooms helps prevent heat transfer between occupied areas and attic spaces. Consult local building codes for the minimum R-value of insulation required above the ceiling.

*DISCLAIMER OF LIABILITY: This document was prepared by the Asphalt Roofing Manufacturers Association and is disseminated for informational purposes only. Nothing contained herein is intended to revoke or change the requirements or specifications of the individual roofing material manufacturers or local, state and federal building officials that have jurisdiction in your area. Any question, or inquiry, as to the requirements or specifications of a manufacturer, should be directed to the roofing manufacturer concerned. THE USER IS RESPONSIBLE FOR ASSURING COMPLIANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

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Hcertainteed

DRAIN FLASHING

FLASHING A DRAIN ON A ROLLED ROOFING SYSTEM

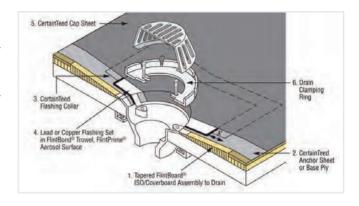
oof leaks are a nuisance that can lead to property damage and lost workdays. Most flat roof leaks occur as the result of an improperly flashed penetration. One of the most important flashing details to master is a drain. That's because a drain's primary function is to collect water and divert it away from the roof system. Ensuring a drain is flashed properly and with precision will keep it watertight and prevent pooling or ponding in these areas.

Fortunately, this extremely important flashing detail can be secured against leaks if you follow these proven techniques. Read on for a step-by-step guide to flashing a drain on a rolled roofing system.

STEPS TO FLASH A DRAIN

CertainTeed Flintlastic SA Cap, Flintlastic SA MidPly or Flintlastic SA PlyBase, FlintBond SBS Adhesive and FlintPrime Aerosol:

- 1. With any drain detail, you want to make sure you have positive slope from the field down into the drain. The FlintBoard Hinged Target Sump offers a quick, material-efficient way to achieve a positive slope.
- 2. When working with self-adhered membranes, prime all metal surfaces. Apply FlintPrime Aerosol to the top surface of the drain, and let that flash off until it's tacky to the touch-approximately 30 minutes. Tape off exposed bolts to avoid getting primer in the thread.
- **3.** Position your base sheet and roll out over the drain. Allow the bolts to penetrate through the membrane before cutting out the drain access. Your base sheet should be positioned to avoid sidelaps running across the drain of either the base or the cap sheet.
- **4.** The membrane should extend slightly over the drain edge. As with any self-adhered membrane, apply a weighted roller to remove any entrapped air.
- **5.** Once your base sheet is in place, install a field-cut flashing collar of Flintlastic SA PlyBase or Flintlastic SA MidPly sized to ultimately extend 4" beyond the lead on all sides.



- **6.** Position the collar and press the bolts to the membrane before cutting out the drain access.
- 7. Position your lead centered on the flashing collar. Be sure to round the edges of both the flashing collar and the lead.
- **8.** Use a mallet to define the bolt locations before cutting holes. Use the same technique to cut the drain access.
- **9.** Now, set your lead in a 1/8" bed of FlintBond SBS-Modified Adhesive Caulk or Trowel Grade. Set either to the back surface of the lead or onto the collar and apply pressure with a hand roller.
- **10.** Apply FlintPrime Aerosol to the top surface of the lead, and again, let that flash off until it's tacky to the touch approximately 30 minutes.
- 11. Now you can install your cap sheet. Make sure you're completely covering the drain bowl. You don't want any sidelaps or endlaps in this detail. Just like the base sheet, the fastest way is to roll out your membrane, allow the bolts to come through, and cut out your opening.
- **12.** Once you've fully waterproofed the drain bowl, install the clamping ring.

For a video by CertainTeed's Joe Thompson that includes these step-by-step instructions, visit blog.certainteed.com and search for "Joe Knows."



WESTLAKE ROYAL BUILDING PRODUCTS™ CITADEL™ PRO

Westlake Royal Building Products[™] (Westlake Royal), a Westlake company (NYSE:WLK), has introduced Citadel PRO, a self-adhered poly-coated base sheet that provides superior protection and simplified installation for roofers, when compared to mechanically fastened base sheets. Citadel PRO, which will be available in the Florida market, features a styrene-butadiene-styrene (SBS) modified asphalt core that self-seals around nail or screw penetrations to offer increased leakage protection.

Citadel PRO is equipped with a peel-and-stick application to maximize deck adhesion and a poly-coated top surface for increased cap sheet adhesion while eliminating the need for special tools or hot asphalt in the adhesion process while also providing superior moisture resistance and thermal stability. The poly-surface provides excellent foot traction and offers up to three months of UV resistance, perfect for uncovered exposure during the construction process.

Designed to be used with Westlake Royal TileSeal™ HT, Westlake Royal MetalSeal™ HT and GatorSeal® underlayments, Citadel PRO carries a 30-year manufacturer's warranty when installed under Westlake Royal TileSeal HT and MetalSeal HT and a 20-year warranty when used under GatorSeal. Citadel PRO has been rigorously tested and certified to meet ASTM D1970 standards and Florida Building Code for both HVHZ and non-HVHZ regions as listed in FL14317; it is available in 3' x 66.7' rolls covering 200 square feet.

WestlakeRoyalBuildingProducts.com

AMERICAN WEATHERSTAR PONDLEVEL 610

American WeatherStar has introduced PondLevel 610—a quick-curing, highly durable compound designed to eliminate ponding water on flat and low-slope roofing systems.

It's formulated to fill low spots or building crickets for improved drainage, PondLevel 610 helps extend roof life and ensure proper water runoff across a variety of substrates, including aged roofing substrates and concrete. It eliminates ponded water areas on flat roofs and has exceptional adhesion and extreme resistance to water and freeze-thaw cycles.

Furthermore, it has a fast cure time—can apply roof system within 4 hours—and cures to a flexible and highly durable waterproof membrane.







AETHER GO-TO-MARKET PLATFORM

Aether, a Y Combinator-backed startup, has launched a software platform designed for roofing contractors that combines roof measurement, quoting, proposal generation, lead management, follow-ups, and job tracking into a single system. The platform uses aerial imagery and proprietary AI to generate roof measurements—including slopes, facets, ridge lines, and square footage—without requiring an on-site visit. Contractors can generate digital proposals that include branded templates, multiple pricing options, financing details, and e-signature capability. The system also allows for real-time proposal tracking and status updates.

Aether includes lead management tools that score and prioritize prospects based on their likelihood of needing a new roof. It automates reminders and follow-ups to reduce missed opportunities. The platform features an "AI Agent Hub" to handle repetitive tasks such as sending follow-up emails, updating pipeline stages, and assigning jobs. A "Workflow Builder" lets users automate task sequences, such as lead assignments, scheduling, and production notifications, without writing code.

Designed for scalability, Aether supports additional trades such as solar installation, HVAC, and energy efficiency upgrades. It uses a shared CRM and unified customer records to coordinate across multiple services. Aether is intended to help contractors streamline operations, reduce manual tasks, and manage their sales and production workflows more efficiently.

www.aethernrg.com

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COVENT®

Introducing the CoVent Exhaust Fan Vent, an all in one exhaust fan vent designed for metal roofs. CoVent is ideal for interior exhaust fans that are equipped with a 3" or 4" flex hose. This exhaust vent is intended for bathroom and attic venting. CoVent is not designed for dryer vents. Packed and ready for installation!



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