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METAL ROOFING MAGAZINE

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DECEMBER 2025
Vol. 24 • No. 7

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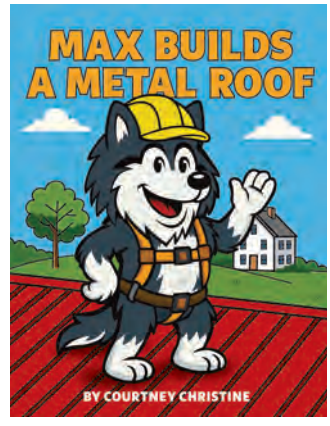
Share Your Love of Construction

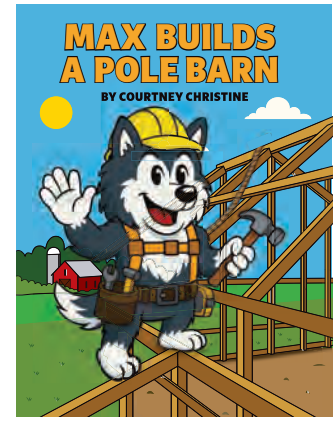
Welcome to the December edition of Metal Roofing.

This is the IRE edition of Metal Roofing. Shield Wall Media doesn't have a booth, but we will be wandering around the floor. Please ask us about Max Builds.

Max Builds is a series of children's books designed to introduce kids to the construction trades. The official Shield Wall Media office dog decided to document his career in construction. These books are the result.



The first book is *Max Builds a Metal Roof.* The second should be out by IRE, *Max Builds a Pole Barn*. We plan to release one book per quarter. Each new book will focus a type of construction covered in our magazines.



We are giving these books away. If you want one or two for family or a few to give out to your local libraries and schools, let us know. This is a chance for us to share our love of the construction trades with kids and introduce them to a viable career path.

Please help us get the books out, and if you are concerned about the number of people choosing a career in the trades ask me about sponsorship opportunities.

Let's make Max famous.

Gary Reichert, Publisher
gary@shieldwallmedia.com

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Robert Raleigh III's team at Renaissance Historic Exteriors led the restoration of Southern Michigan's Hillsdale County Courthouse. One of the main materials used to fortify the courthouse is copper. Photo courtesy of Copper Development Association, Inc.

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Gary Reichert,
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SHIELD WALL MEDIA LLC

Integrating Solar and Snow Retention

for Smarter Metal Roof Design

By Rob Haddock, CEO and Founder of S-5!

Often when the decision is made to install solar on a metal roof, the focus is on energy production, payback and aesthetics. But in regions that see heavy snowfall, another critical element deserves equal consideration: snow retention. Mounting solar without accounting for snow management can lead to roof damage, performance loss and safety hazards.

The good news? The ideal solution for both systems starts with the same foundation—a metal roof. Metal roofing not only provides unmatched durability and sustainability but also serves as the perfect platform for integrating solar PV and snow retention into one cohesive, long-lasting system.

University of Kansas School of Architecture & Design student installs S-5! ColorGard® snow retention on the student-led design-build project in Lawrence, Kansas. *PHOTOS COURTESY OF S-5!*

Metal Roofing: A Natural Platform for Solar PV

Metal roofing is the only roof type whose service life actually exceeds that of a solar photovoltaic (PV) system. A high-quality metal roof can easily last up to 70 years, while today's solar arrays average more than 30 years of productive life. When compared to asphalt shingles or membranes that likely need replacement halfway through a solar system's lifespan, the economic advantage of metal becomes clear.

On non-metal roofs, re-roofing means disassembling the solar array, replacing the roof and reinstalling the array—a process that can add extreme costs in labor and downtime. High-end tile roofing may offer comparable longevity, but it comes with a much higher price tag and mounting solar to tile is invasive and very tricky to do, so the cost is also much higher than mounting to metal.

Standing seam metal roofs, by contrast, enable non-penetrating clamp-based attachment systems that allow solar panels to be mounted quickly, securely and without compromising the roof's weathering integrity. The result is lower installation cost, higher durability and a future-proof foundation for rooftop solar.

This combination of longevity and versatility makes metal the only roofing material that truly aligns with the long-term economics of a solar investment. When the roof and solar array are viewed as a single integrated asset rather than two separate systems, the result is lower total cost of ownership and a much stronger return on investment (ROI).

The Snow Factor: Nature's Hidden Design Challenge

In northern or mountainous regions, snow adds another layer of complexity to rooftop solar design. While a metal roof's smooth surface can help shed snow efficiently, that same feature can create a serious hazard if unmanaged. A sudden "rooftop avalanche"—when a heavy blanket of snow releases all at once—can cause catastrophic damage to people, vehicles, landscaping, property and equipment below.

Snow accumulation on a metal roof is initially restrained by a temperature-dependent frictional bond between the snowpack and roof surface. Compressive forces from the weight of the snow increase its density, while downslope shear forces – often referred to as vector or drag loads – push the snowbank toward the eave. As temperatures rise or sunlight warms the metal surface, a thin layer of meltwater forms at the roof-snow interface, creating a slick surface that allows the snow to slide. Depending on roof slope and climate, snow loads can range from 20 to more than 300 pounds per square foot, producing thousands of pounds of downslope force.

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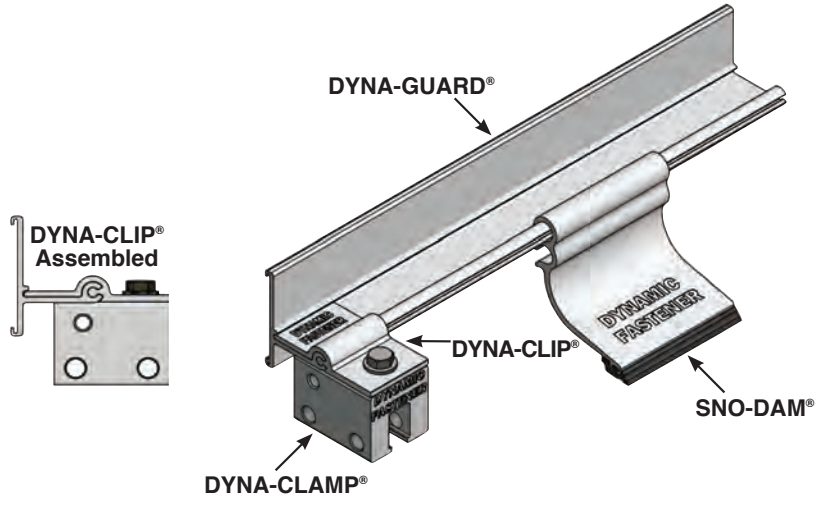

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That's why engineered snow retention is essential. Snow guards hold snow in place until it can melt gradually. But when solar panels are present, this balance becomes more complicated. Panels can act as unintended snow guards—catching and holding snow unpredictably—or worse, they can be damaged by the force of compacted snow sliding against them.

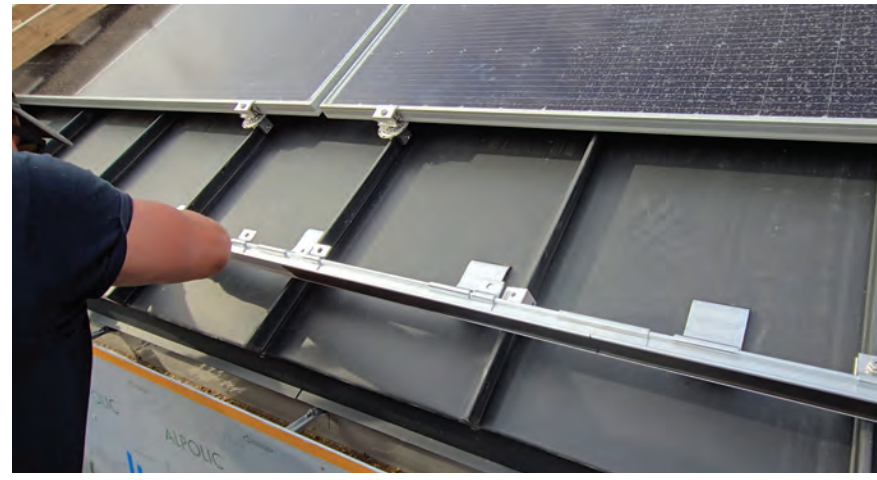
How Snow Impacts Solar Panels

Solar modules and solar mounting structures are designed to handle vertical loads from above but not horizontal pressure pushing downslope (parallel to the roof). On a moderately pitched roof, a single column of five modules may experience 2,000 pounds of downslope forces from accumulated snow.

Although PV panels appear smooth, snow often clings to them more than to the surrounding metal roof. This means you need to know the load your PV modules and racking can handle. Be sure they have a design-load rating equal to or greater than the roof design snow load. And be certain the tested ultimate loads have the appropriate factor of safety applied. Typically, this information is published within the module producer's installation manuals along with the module's appropriate mounting zones.

It's crucial to understand that the frames of solar panels are not designed for resistance to sliding snow forces. They should never be relied upon—or modified for that purpose. The module frame lips can trap snow at the lower edges, and that snow exerts enormous pressure on the frame, glass and racking components. This can lead to module damage or full detachment from the roof. Similarly, snow retention devices should never be attached to the module frames, as they are not designed to withstand those pressures. The need to design and install an engineered snow retention system in conjunction with the solar array is crucial.

When planning a solar installation in snow country, both solar and snow retention systems must be designed together to ensure they complement rather than conflict with each other. The goal is to create a roof that harvests sunlight efficiently while safely managing the forces of snow and ice throughout the winter months.



Another University of Kansas School of Architecture & Design student installs snow retention, allowing sufficient clearance for snow to shed from the solar modules. The impact on solar coverage is minimal, but the improvement in safety and reliability is significant.

With no gap and no snow retention system in place, snowpack accumulates on the modules and poses a significant risk to people and property below.

Designing for Integration

A successful solar and snow retention strategy begins with thoughtful layout. Snow guards are most effective when installed at the eave, where snow densifies and exerts the greatest compressive strength. This is where resistance to sliding snow is most effective.

However, solar installers often maximize coverage by running modules from eave to ridge, leaving no room for snow retention. The best solution involves installing a snow retention assembly at the eave and terminating the array significantly upslope, leaving a planned area between the two for snow densification.

The densification area should be approximately 15% of the roof surface area from eave to ridge. That space allows snow to clear off the solar modules and compact naturally, providing snow retention systems with the space to function correctly. The tradeoff in solar coverage is minimal, and the payoff in safety and reliability is significant.

Designing for this 15% gap at the roof's eave highlights the benefits of planning the solar and snow retention together as a single system. Too often, snow retention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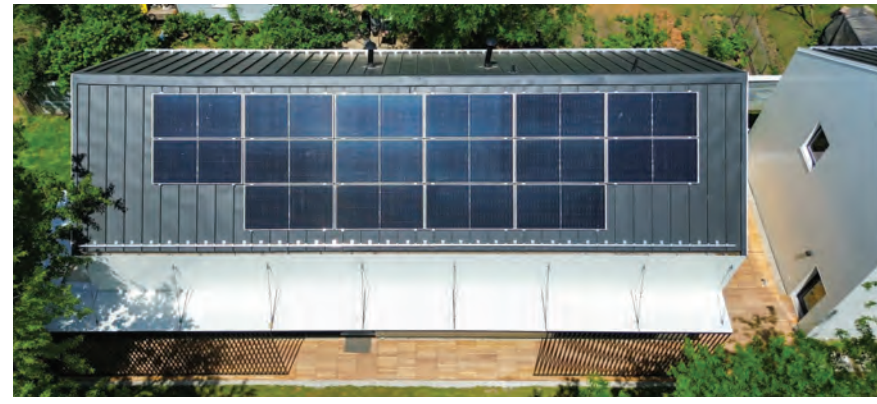
becomes an afterthought—addressed only when a problem occurs. Building owners may notice rooftop avalanches damaging property or blocking entrances and then realize a snow guard system is needed. But adding one after a solar array has been installed is rarely simple or cost-effective.

On low-slope commercial roofs, common tilted solar racking systems introduce another challenge. The spacing between rows prevents shading, which impacts the modules' energy output but also creates traps for snow sliding from nearby solar panels, drifting snow and wind-driven snow. The added accumulation behind tilted panels can create heavier loads than the roof's design snow load. These shaded areas stay colder and icier, prolonging the load even as the rest of the roof clears. The *ASCE Snow Loads on Solar Paneled Roofs* guide provides formulas and strategies for addressing these effects. The takeaway is straightforward: solar design in snowy regions is about managing snow as much as capturing sunlight.

The best approach is early collaboration among the entire team. When architects, solar engineers, roofing contractors and snow retention manufacturers work together from the beginning, both systems can be integrated seamlessly. Each professional brings valuable insight: the solar team optimizes energy yield, while the roofing and snow retention experts ensure structural integrity and safety.

Utilizing clamp-based metal roof attachments, for both solar and snow guards, makes this integration even more efficient as they attach directly to the standing seam roof without requiring roof penetrations. Roof integrity is preserved, the risk of leaks is eliminated, and future maintenance is simplified. And because both systems use the same attachment principles, they can be modeled, tested and engineered as one integral system.



Designed and built by students in the University of Kansas School of Architecture & Design's Studio 804 program, this 2,000-square-foot home showcases forward-thinking design in Lawrence, Kansas. Its sleek 20-gauge matte-black standing seam roof supports a solar array equipped with S-5! mounting attachments and snow retention—donated to help the students achieve their project goals in sustainable design.

The metal roof of the S-5! corporate office is designed to allow for a 15% gap at the eave between the solar array and the snow retention system.

Smarter Roofs, Smarter Returns

Planning solar and snow retention together isn't just about preventing damage; it's about maximizing performance and extending the life of the entire system. A standing seam metal roof offers the strength and long-term performance needed to support both technologies without compromise.

This unified approach also aligns with modern building design goals: sustainability, lifecycle efficiency and occupant safety. A metal roof paired with solar PV and snow retention becomes more than a weather barrier—it's an integrated energy protection system designed to perform for the life of the solar and/or roof.

When designing the solar zone and snow management together, each supports the other, creating a building envelope that resists the elements, produces renewable energy and protects everything beneath it. It is not just building for today's energy needs but building smarter for years to come. ***MR***

Rob Haddock, *CEO and founder of S-5! and the inventor of metal roof attachment solutions, is a former contractor, award-winning roof-forensics expert, author, lecturer and building envelope scientist. He has worked in various aspects of metal roofing for five decades.*

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How To Get Your Work Published In the *Metal Roofing Idea Book* 2026

By Karen Knapstein

The Idea Book is Metal Roofing Magazine's annual showcase of outstanding metal roofing projects. First published in 2005, this special edition has become a long-standing tradition—celebrating two decades of highlighting the best work in the industry. Each May, the Idea Book brings together a diverse collection of impressive projects from around the country (and sometimes around the world!), submitted by roofing professionals, contractors, and manufacturers.

As metal continues to gain traction in the broader roofing market, this showcase plays a valuable role in promoting innovation and craftsmanship. Whether it's a residential roof, commercial upgrade, or agricultural application, our goal is to feature projects that demonstrate the beauty, durability, and versatility of metal roofing. We also use this issue to spotlight emerging trends—such as the growing popularity of metal shingles—and new products or techniques that help contractors keep up with market demands.

There's no cost to participate. Submitting a project is free, and if selected, your company will be featured in a national trade publication that reaches decision-makers across the industry. It's an excellent opportunity to promote your capabilities, reinforce your credibility, and align your brand with excellence. As readers flip through the pages, the message is clear: This is how great a metal roof can look.

Whether you're a roofer, contractor, manufacturer, or supplier, the Idea Book offers a unique opportunity to showcase what can be accomplished with metal. By sharing your project, you're not only promoting your own success—you're inspiring others and helping move the industry forward.

Let's show what can be achieved with metal in the Metal Roofing Idea Book.

We're looking for finished projects that demonstrate expert workmanship and smart use of materials. To submit, just fill out a short online form with your company and project details, list of components used, and upload a few clear, high-resolution images. That's it—we'll take care of the rest.

If your project is selected, you'll receive a digital badge to use in your marketing and promotional efforts.

Ready to show the industry what you can do? Visit https://readmetalroofing.com/metal-roofing-project-submission-form/ or scan the QR code to upload your project. Don't wait! The deadline for 2026 Idea Book project submissions is April 16!

Questions? Contact editor Karen Knapstein at karen@shieldwallmedia.com or 715-952-1633.

Let's keep raising the standard. Let's shine a spotlight on what metal roofing can do. ***MR***

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Understanding Underlayment

How Underlayment Behaves Under Metal's Unique Conditions

By Linda Schmid

Underlayment isn't the flashiest part of a roofing system, but professionals know it's the quiet workhorse that protects everything underneath. Whether the finished roof is standing seam, exposed fastener, or another profile, the right underlayment makes the difference between decades of watertight performance and premature failure. Understanding how these products behave under metal's unique conditions – heat, movement, condensation, and long service life – is essential.

Material Science & Performance

The first question when choosing an underlayment is: what's going on top of it? A granulated ice-and-water membrane around perimeters and penetrations may suffice for asphalt shingles. But for metal panels – especially standing seam – the stakes are higher. Due to the daily expansion and contraction of steel or aluminum panels, granulated surfaces can abrade the panels scratching away protective coatings. That's why manufacturers caution against pairing granular products with metal roofs.

For metal systems, high-temperature synthetics, such as Roloshield™, or some self-adhered underlayments rated for 220°F are advised. Below that threshold, mastics can bleed out, staining walls or losing adhesion. Premium products reach 240-260°F ratings without slumping or softening, ensuring stable adhesion even under dark panels and southern exposures. High-temperature rated underlayments usually also boast high tensile strength and elongation allowing them to stretch over 250%. However, you will have to check the particular underlayment that you are considering for those features.

Regional climate should also guide selection. In coastal or hurricane-prone areas, a robust, code-approved self-adhered membrane with ICC or Miami-Dade approvals resists wind-driven rain and pressure differentials. Desert environments demand high-temperature tolerance and UV resistance. In northern climates, self-adhered ice and water shields are essential at eaves, valleys, and ridges to prevent ice dams; synthetic underlayments can cover the rest of the field for economy. Wildlife-Urban Interface (WUI) codes require Class A fire rated products including underlayment such as Titanium® FR, a single-layer, self-adhered membrane.

For top-notch performance, a self-adhered underlayment can be the best choice as they generally have self-sealing properties. MetShield underlayments, for example, soften around roofing nails, screws and roofing clips, preventing water intrusion in even the smallest points of penetration. They serve as a secondary barrier against water, condensation and vapor.

Ultra HT underlayment from MFM Building Products. PHOTO COURTESY OF MFM BUILDING PRODUCTS

Service life varies by type of underlayment: asphalt underlayments can last 15-30 years, basic synthetics 25-30 years, higher-end versions can reach 40, and peel-and-stick membranes average warranties of 20-30 years in extreme climates. Most synthetics carry warranties around 25 years or more, while self-adhered products may list 10-40 – but both typically outlast those numbers when properly installed and protected from prolonged sunlight.

Even if the top films weather over time, the mastics beneath should not dry out or crack. Failures are rare if you have picked

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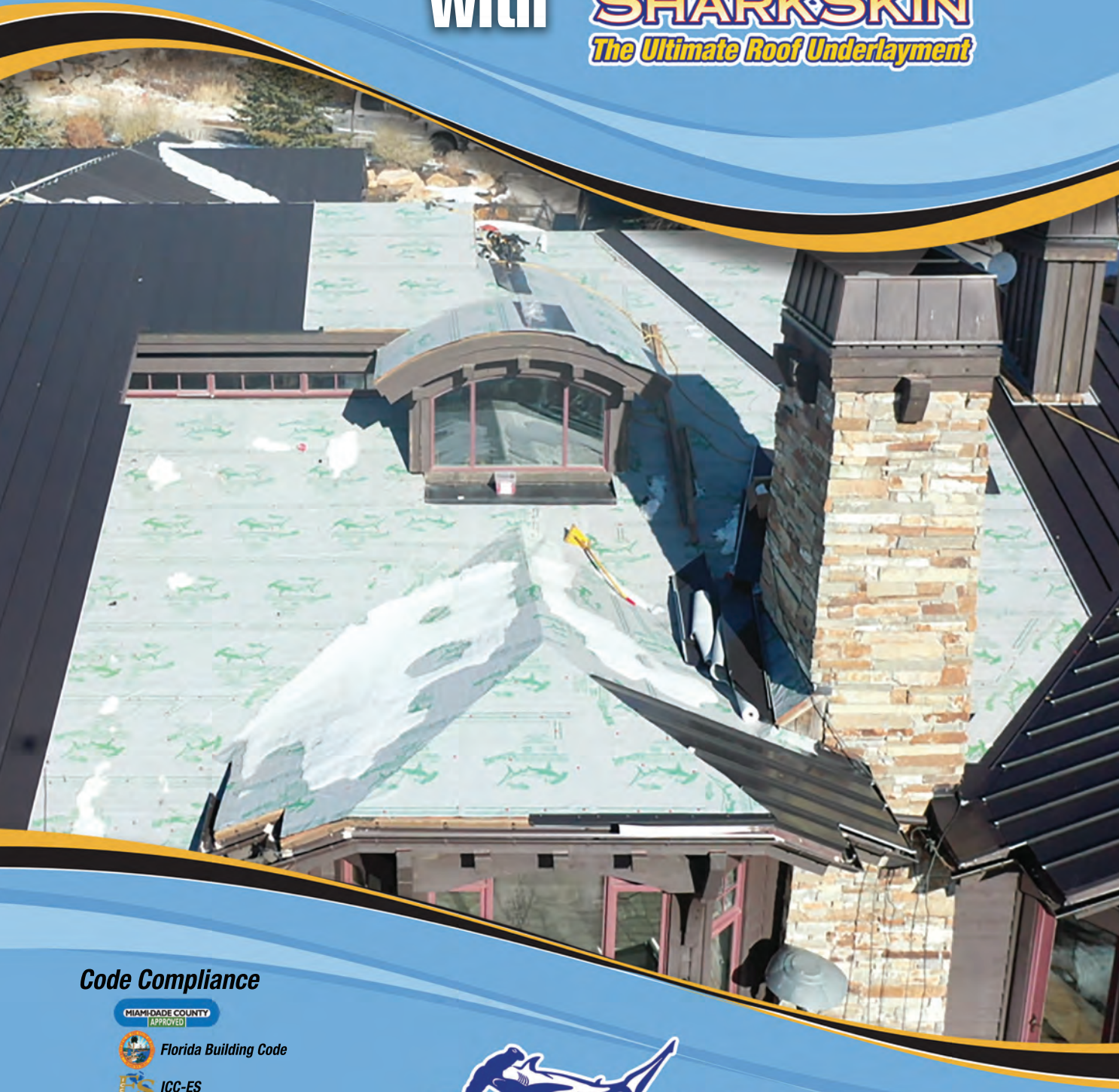

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the right underlayment for the conditions it will face, and with correct installation, the underlayment should last the life of the roof.

Slip Resistance & Safety

Walk-ability is not an afterthought – it's a safety feature. Roofing crews routinely work on steep slopes, and underlayment performance underfoot can determine how confidently and safely they move. Many synthetics feature embossed or skid-resistant surfaces tested in both wet and dry conditions, with coefficients of friction published on their technical data sheets. Titanium® UDL30, UDL50, and PSU30's Sure-Foot™ Technology are examples of highly slip-and-tear-resistant underlayments.

Manufacturers test walk-ability using "grip walk" or traction trials. The goal is to strike a balance: a surface grippy enough to hold a boot on a hot, pitched roof but not so tacky that it interferes with panel placement or adhesion. Self-adhered membranes often provide excellent traction thanks to their tacky, rubberized surfaces that bond securely to the deck.

Underlayments like M Armor Core combine these features with high traction top layers and can reflect sunlight, keeping the surface cooler for crews working in hot climates.

For steep-slope work, contractors should verify that the underlayment's pitch range matches the project, typically 2/12 to 5/12 for standard metal applications, and that it's listed for slip resistance by UL or ICC. In fact, some recommend that roofers ask about slip/walk-ability test results.

It is best to ensure that the underlayment chosen has been tested for all of the elements it will encounter. And as always, personal fall-protection systems remain non-negotiable, but choosing the right underlayment can make the job both safer and faster.

Installation Best Practices

The best underlayment can fail if it's installed incorrectly. Synthetics are usually rolled out and nailed or stapled, while self-adhered membranes require careful handling of split release liners to prevent wrinkles or bubbles. Many installers roll out about 20 feet at a time, hand-smoothing or brooming the sheet as they go for a tight bond. Overlaps should measure at least 3-4 inches horizontally and 6 inches at end laps to maintain watertight continuity.

Start at the lowest part of the roof, working upward and outward to ensure proper water shedding. In valleys and around chimneys or penetrations, codes nearly always call for self-adhered membranes rather than nailed synthetics. Along the eaves, install drip edge first, then apply self-adhered underlayment over it; at the rakes the drip edge goes on top.

Key Differences In Roof Underlayment Performance

By Mark Strait, President of Kirsch Building Systems, www.sharkskinroof.com

Roof Underlayment Categories: Mechanically Fastened (MA) and Self-Adhered (SA)

The performance requirements of the primary roof covering should dictate the roof underlayment selection, along with expected weather conditions. UV exposure rating, long-term accelerated weather cycling, and wind uplift resistance testing are the most important factors when evaluating MA and SA underlayments for metal roof systems.

MA asphalt-based roof underlayments perform poorly long term, with low resistance to wind and UV exposure.

SA asphalt-based roof underlayments are impacted negatively by long-term UV exposure, which dries out the asphalt and causes it to deteriorate more quickly, becoming brittle over time. Hot climates contribute to daily thermal cycling that also shortens asphalt's lifespan. Asphalt primer must be used to increase wind uplift resistance in High Velocity Hurricane Zones (HVHZ).

MA Synthetic Roof Underlayments

Synthetic roof underlayment weight per roll or square should be a key focus. With synthetic roof underlayments (SRUs) on the market weighing between 22 lbs and 50 lbs per roll, there is considerable disparity in quality and performance. Performance-based SRUs provide a safe and durable walking surface in addition to the performance criteria mentioned previously.

SA High-Performance Synthetic Roof Underlayments

Higher-performance SA underlayments using synthetic-butyl adhesive offer improved installation characteristics, including better UV exposure tolerance, temperature performance, wind uplift resistance, and long-term durability under metal roof systems. Some products also carry UV exposure ratings up to 12 months and performance warranties up to 50 years. ***MR***

Flashing should follow standard shingle-lap principles.

Fastening also matters. For asphalt, felt, and synthetics, cap nails with a minimum of 1" diameter should be used to distribute pressure over a large area, minimizing the risk of tearing, and improving water resistance around fasteners. In high-wind or steep-slope zones, increase fastening frequency and consider blind-nailing along overlaps for added security.

Some installers add furring strips beneath metal panels to create a half-inch air gap for ventilation, especially under copper or dark steel roofs that experience high surface temperatures. Ventilation remains crucial when using self-adhered membranes; without ridge and soffit vents, trapped moisture can condense and lead to mold, as proven by more than one field case.

Wrapping rake edges and eaves with fascia board can lend the roof some extra protection.

UV exposure limits should also guide scheduling. Synthetics typically withstand 60-120 days of exposure, while high-end self-adhered membranes can often tolerate 180 days or more. If the metal installation will be delayed, contractors should confirm with the manufacturer before exceeding rated limits; photos and field inspections for discovery of the state of the underlayment will often allow the manufacturer to grant short extensions.

Retrofit Considerations

When a roof is being replaced, the condition of what lies beneath the new cladding matters as much as the materials going on top. Any unevenness in the substrate can show through, creating "oil canning" on metal panels. A clean, uniform deck helps ensure good adhesion of new self-adhered underlayments, and both building codes and product guidelines specify what kinds of substrates and how many layers are acceptable beneath the roof system.

If an older roof already has a full-deck self-adhered underlayment in place, it's often best to add a slip sheet before applying a new layer—if permitted by code and the cladding manufacturer. The old surface may be dirty or degraded, and the slip sheet helps the new membrane bond properly.

Moisture trapped beneath an underlayment can cause major problems once temperatures rise. As liquid water turns to vapor, it expands roughly 3,000 times, creating pressure that can lead to bubbles or "mole runs." For that reason, the deck must be completely dry before the new underlayment is installed.

Older homes with plank decking can pose special challenges. Knots in aged boards contain turpentine-like resins that can liquefy when heated, softening modified bitumen and producing dark drips between boards—especially when damaged planks are replaced with new wood. Careful inspection and surface preparation go a long way toward ensuring a clean, stable base for today's high-performance roofing systems.

Field Experience & Contractor Feedback

Installers consistently praise modern synthetics for their light weight, easy handling, and fast coverage. Tear resistance during carrying and rolling out is high, and the products stay flat once installed. Self-adhered membranes earn top marks for adhesion, secondary waterproofing, and rugged walk-ability, particularly in valleys and perimeters where leaks are most likely to occur.

One recurring tip from the field: handle the wind. Large rolls can act like sails, so many crews cut them into manageable sections before unrolling. Once secured, both synthetics and self-adhered products can usually be safely walked on immediately.

Underlayments also ship better than they did at one time; most are now packed standing on end, which reduces "clumping" or telescoping when unrolled. Contractors report fewer issues with curling edges or uneven adhesion, especially with thicker, premium membranes.

Conclusion

A metal roof's longevity is only as good as the layer beneath it. Underlayment may never be seen once panels are installed, but it endures every temperature swing, storm, and footstep during construction. For roofers, mastering the differences between synthetics and self-adhered membranes and understanding the code, climate, and installation details that govern them translate directly into fewer callbacks and longer-lasting roofs.

As with most aspects of professional roofing, excellent underlayment installation is mainly down to knowing the materials, respecting the manufacturer's data sheet, and taking the time to do the job right. The roof surface may get all the glory, but the underlayment also helps keep the home snug and dry. ***MR***

Preventive Maintenance

The Companies With the Top Preventive Roof Maintenance Programs Across the US

The roof is a crucial component of any commercial property. It protects inventory, secures equipment and ensures continuous business operations. Given these considerations, preventive roof maintenance is not an optional cost but a strategic investment. If you're in the market to fortify your roof and extend its lifespan, consider these top roofing companies from across the nation and their available solutions.

1. DDP Roofing Services, Inc. – Best in Orlando

DDP Roofing Services, Inc., https://ddproofing.com/, provides top preventive roof maintenance programs for commercial properties near Orlando. It's a premier choice in the Southeast that has achieved top-tier certifications, ensuring its solutions meet the highest industry standards.

Key features:

- Preventive plans with semiannual or quarterly inspections
- Assessments tailored to the building's needs and the owner's budget
- A customer portal for consistent, detailed reports and real-time updates
- A highly skilled team that can handle large-scale, complex roofing projects
- 24/7 roof repair services for emergencies

2. GSM Roofing – Best in the Mid-Atlantic

GSM Roofing, https://www.gsmroofing.com/, provides exceptional roof maintenance, repair and protection programs in Pennsylvania, New Jersey, Maryland and Delaware. It's known for its rapid response guarantee, as its team acknowledges leak requests within an hour and repairs the issue within two business days.

Key features:

- Preventive solutions with semiannual inspections
- Comprehensive services, including debris removal from gutters and drains
- A customer portal for tracking roof reports, history and payments
- Detailed cost estimates for essential repairs
- 24/7 roof repair services for emergencies

PHOTO CREDIT: SIMON HURRY ON UNSPLASH

3. Texas Roof Management Inc. – Best in Texas

Texas Roof Management Inc., https://texasroof.com/, excels in treating roofs as a manageable asset, creating customized preventive roof maintenance programs for clients throughout Texas. It offers everything from commercial roofing to emergency repairs and rooftop safety systems.

Key features:

- Preventive programs with regular inspections
- Streamlined and comprehensive roof reports
- Clear cost estimates for all maintenance and repair work
- Long-term warranties for commercial roofing installations
- 24/7 roof repair services for emergencies

4. Maximus Roofing – Best in California

Maximus Roofing, https://maximusroofing.com/, offers a maintenance program specifically designed to combat the state's harsh climate, from intense UV radiation exposure to heavy seasonal rainfall. It's known for its energy-efficient coating systems, protective solutions that can extend roof life by more than 15 years and a team of certified technicians.

Key features:

- Preventive plans with regular inspections
- Strategic maintenance schedule before and after the rainy season

- Detailed reports after each maintenance visit with documentation and recommendations
- Well-documented professional maintenance for manufacturer warranty protection
- 24/7 roof repair services for emergencies

What to Look for in Preventive Roof Maintenance Programs

Here are some of the details that roof experts look for in a maintenance plan:

- **Scheduled multipoint inspections:** The program must include at least semiannual inspections, particularly before and after harsh weather and seasonal changes.
- **Comprehensive and actionable documentation:** Reports must include a detailed analysis of the roof's condition, accompanied by photographic evidence, clear repair or maintenance recommendations, and transparent cost estimates.
- **Proactive repairs and cleaning:** The maintenance plan must cover essential services, such as removing debris, drain clearing, sealing pitch pans and addressing other minor issues.
- **Priority and emergency response:** A high-quality asset protection plan must guarantee priority service and fast response times for emergency repairs.

Choose the Right Roof Maintenance Partner

A preventive maintenance program is a predictable, manageable expense compared to the high, unexpected costs of emergency repairs and the resulting interior damage. Don't cut corners — invest in a top-tier plan. Partner with a dedicated roofing company to turn roof maintenance from a reactive expense to a strategic advantage. ***MR***

EVENTS CALENDAR

JANUARY

Jan 13-15: Metal Construction Association (MCA) Winter Meeting 2026, Hyatt Hill Country Resort and Spa, San Antonio, Texas. metalconstruction.org

Jan 14-16: Chicago Roofing Contractors Association (CRCA) Trade Show & Seminars, Drury Lane, OakBrook Terrace, Illinois. crca.org

Jan 20-22: International Roofing Expo (IRE) 2026, Las Vegas Convention Center, West Hall, Las Vegas, Nevada. This is where roofing and exteriors professionals don't just attend—they belong. Join the largest gathering of roofing and exteriors suppliers, products, equipment, hands-on demonstrations, and MORE! theroofingexpo.com

FEBRUARY

Feb 10-12: North/East Roofing Contractors Association - NERCA 98th Convention, Mohegan Sun Casino, Uncasville, Connecticut. https://nerca.org/

Feb 25-27: 58th Annual NFBA Building Expo 2026, Oklahoma City Convention Center, Oklahoma City, Oklahoma. Nfba.org

MARCH

March 3-7: CONEXPO-CON/AGG 2026, Las Vegas Convention Center, Las Vegas, Nevada. conexpoconagg.com

APRIL

April 14-15: Roofing Day In DC, The YOTEL Washington DC. Roofing Day in D.C. features expert speakers and panelists to inform and inspire attendees, who participate in an afternoon of meetings with their members of Congress and their staffs. https://nrca.net ***MR***

Before making travel arrangements, check with the show producer to confirm there have been no changes to event dates, venue, or show hours. To have events included here, contact Karen Knapstein, 715.952.1633, karen@shieldwallmedia.com.

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Hand-Seamed Panels

Why veteran installers still rely on hand seamers for precision and control

JANUARY 2006 FLASHBACK

Originally published in January 2006, this article reminds us that while tools and technology evolve, craftsmanship never goes out of style. The discussion about hand seamers versus mechanical seamers still rings true today—every roofer must balance efficiency with precision. Two decades later, the same questions remain: When is a hand seamer the better choice? How do you ensure the tightest, most reliable seam? The insights here highlight that even as the trade advances, roofing is still a craft guided by skill, touch, and pride in doing the job right.

Mike Winters, owner of Mike's Metal Works in Bozeman, Montana, uses hand seamers (top) and a mallet to seam copper standing seam panels on this Montana residential jobsite. *MIKE'S METAL WORKS PHOTOS*

By Swenson Shear

The tool is an extension of the hand. For anyone installing standing seam metal roofing, the hand seamer almost has to be a part of the hand.

Many metal roofers argue the old way is the best way — a hand seamer will do a better job than a mechanical seamer with any material for standing seam metal roofing, if the operator knows what he's doing. Architectural standing seam metal roofing is used in all sorts of applications — residential, commercial, and institutional — and in wide variety of substrates — steel, aluminum, copper, zinc, titanium, terne, and stainless steel. Some are being used bare, some painted. For function, the roof is only as good as its seam.

Mechanical seamers were developed to save time and labor, which they do. But very few installers trust the seam from a mechanical seamer as much as the old reliable hand seamer.

Mike Winters, owner of Mike's Metal Works in Bozeman, Mont., says using a hand seamer is about "intimate contact" between the craftsman and the roof panel. "A good sheet metal worker sees more with his fingers than he will ever see with his eyes," he says. "On some of the smaller jobs, it's all I use. A mechanical seamer won't work when you're finishing detail work like roof to wall transitions, hips, double locks on hips. I use a hand seamer on everything except the longer field runs, anything longer than six feet. We work our roofs into artwork."

The bottom line is mechanical seamers can't get into every place a roof needs to be seamed. Those contractors who are doing the job right have learned where those places are and put their hand seamers to good use. That's the best way to assure the job is done right.

"We use a hand seamer only when we have to," says Mike Wilson, sheet metal superintendent for CEI Roofing in Howell, Mich. "We use a mechanical seamer except with specialty project, like if there's too much radius. And for a four-foot panel, it's not worth it to break out the big mechanical seamer."

Wilson recalls one job where CEI was forced to use a hand seamer for an entire roof — the mechanical seamer was in need of repair. "It didn't take that much longer, but it was a lot more work for the men," he says.

Wilson says the mechanical seamer leaves a smoother seam, so it's better and faster.

R.H. Marcon Inc. of State College, Pa., uses the hand seamer on every job — to start standing seam roofing panels for the mechanical seamer. The hand seamer also gets a workout in places where mechanical seamers can't reach. "It's easier to get the panel started, especially at the eave, with a hand seamer," says Fritz Wild, of Marcon. "We also use it for short pans or where you run into a hip or a high wall. When you run into a wall, you lose that last couple feet, so the hand seamer comes in handy."

This article was originally published in the January 2006 edition of Metal Roofing Magazine.

Hand seamers also are durable. Wild says the hand seamer used by Marcon's two metal crews is the one they bought when they got into metal — in 1985. Back then, the company rented mechanical seamers for each job. He says it didn't take long to realize a mechanical seamer would be a good investment.

Hand seamers come in various sizes, with blades starting at 3 or 3-1/2 inches wide and running up to 14 inches. Winters has eight different hand seamers for roof work and would prefer to use them over mechanical seamers anytime, except that the mechanical seamer is considerably faster and requires less

elbow grease. "Still, you've got to follow that seamer up and down the roof to make sure it's working correctly," he says, noting the mechanical seamer needs to be adjusted for different gauges and substrates. "It could take several hours to get the machine dialed into the metal you're working with, so it seams correctly," he says.

Winters says mechanical seamers can run into problems where there are clips or transitions. If the roof panel isn't seamed properly at any point, you can un-seam it and make the necessary adjustments. That's not a big deal if you are using a hand seamer and notice the problem right away. It's easy to deal with if you're watching the mechanical seamer and catch the problem before the seamer runs 20 feet up the roof. Then, you could be faced with un-seaming that 20-foot portion of the roof. "If you want to do it right you may have to remove the panel," Winters says.

Crocker Architectural of Oxford, Massachusetts, uses hand seamers because owner David Crocker believes they do a better job, provide a tighter seal. Hand seaming also works better with specialty projects, like curved panels. *CROCKER ARCHITECTURAL PHOTO*

Some believe doing it right means using a hand seamer, especially when working on areas more susceptible to standing water or ice buildup. "Hand seaming just does a better job," says David Crocker, owner of Crocker Architectural in Oxford, Mass. "You get a tighter seam and it's easier to do with specialty profiles. It's an old, old tool, the hand seamer and the mallet."

About 90 percent of the standing seam work done by Crocker Architectural is with copper, while the remaining 10 percent is painted steel and aluminum. "We like working with copper," he says. "You can solder copper, but with painted steel and aluminum, you're depending on a sealant to keep it all watertight."

For curved projects, Crocker recommends using a hand seamer, as opposed to a mechanical seamer. "The electrical seamer can run right off the roof," he says.

Installers say it doesn't take much training to work with a hand seamer.

"It's not real hard to use, but there is a little knack to it," Wild says. "Most anyone with sheet metal experience can handle it. If you're conscientious enough, smart enough, you can pick it up in about an hour's worth of learning."

Wild says the crews use the seamer on panels made of copper from Revere Copper, aluminum from Petersen Aluminum and Una-Clad, and steel from Integris Metals. Wild says copper is the easiest to work with, because of its softness. Aluminum is next easiest, and steel, "is the worst to work with," Wild says. "You have to take a little extra time, be a little more precise. When you're starting out, if you don't get it on right, you can screw up the bend, maybe wreck a panel, but it doesn't happen very often." ***MR***

Read more roofing articles from yesteryear at readmetalroofing.com

Crocker Architectural of Oxford, Massachusetts, uses a hand seamer for specialty jobs — like this cupola on the First Unitarian Church in Newton, Massachusetts. *CROCKER ARCHITECTURAL PHOTOS*

METALCON Announces Top Products Award Winners

Exhibitors at METALCON, the world's only global event dedicated exclusively to the application of metal in design and construction, showcased their most groundbreaking innovations for consideration in the prestigious Top Products Award. The top three winning products were unveiled at this year's show in Las Vegas. Winners were selected through an electronic voting process held both before and during the event, with nearly 1,000 industry professionals casting their votes.

The 2025 METALCON Top Products Award winners are:

Judy Gellar, center, Vice President of Trade Shows at METALCON presents the first place Top Product Award to Malco Tools. *AWARD PHOTOS COURTESY OF NEUBEK PHOTOGRAPHERS.*

FIRST PLACE

Company: Malco Tools, Inc.
Category: Contractor Tools & Equipment
Product: TurboShear® Rotary Panel Cutter (TSPC1)

Malco Tools' new TurboShear® Rotary Panel Cutter (TSPC1) brings next-level power and precision to the job site. Designed for pros, it effortlessly cuts through metal roofing, wall panels, trim, flashing and vinyl siding. Dual opposing cutting wheels self-advance for smooth, clean cuts with less hand fatigue. Built from hardened alloy steel, its replaceable cutting discs handle tough materials, while a clear sight line ensures accurate, quiet performance every time.

"While winning an award is always exciting, the METALCON Top Product Award is especially meaningful because winners are chosen by the trade professionals who use these products every day," said Rebecca Talbot, vice president of marketing at The Malco Group. "Our mission at The Malco Group is to develop innovative new products and solutions that meet the real needs of those working in the field, and receiving this recognition is validation that we are doing just that—we couldn't be more thrilled!"

Judy Gellar presents the second place Top Product Award to Rob Haddock, founder and CEO of S-5! AWARD PHOTOS COURTESY OF NEUBEK PHOTOGRAPHERS.

SECOND PLACE

Company: S-5!
Category: Accessories
Product: ColorGard 2.0 snow guard system

After 30 years and 18,000 linear miles of proven performance, S-5!'s ColorGard® 2.0 sets a new benchmark in snow retention. Engineered for virtually all metal roof types, it delivers greater versatility, simplified assembly and faster installation. The system's true lay-and-play design requires no preassembly, saving time and effort on the job site. Now a three-time industry award winner since its launch, ColorGard 2.0 features an innovative internal splice that fits directly over S-5! clamps and brackets—saving time and eliminating the need for any field cutting (except at the end of the assembly). The system dramatically reduces the risk of rooftop avalanches, ensuring reliable protection and peace of mind.

"It's an honor to have ColorGard® 2.0 recognized with the METALCON Top Products Award," said Rob Haddock, S-5! Founder and CEO. "This award underscores our dedication to advancing snow retention technology through innovation and engineering excellence. ColorGard 2.0 represents the next generation of performance and simplicity—delivering smarter design, faster installation and the trusted reliability that defines the S-5! brand."

THIRD PLACE

Company: Steel Dynamics, Inc.
Category: Walls
Product: TruGrain Made with Tru-Steel HD

Steel Dynamics, Inc. (SDI), has partnered with TruLog™ to

introduce Tru-Steel HD® digitally printed steel to the log cabin market. Launched in early 2025, TruLog's TruGrain steel log siding features the ultra-realistic Natural Hickory pattern, digitally printed onto steel sheet for a true woodgrain look. With SDI's advanced printing technology, patterns don't repeat for up to 32 feet, creating stunning, low-maintenance steel log cabins that look just like real wood.

"We're thrilled to have won this award, especially given the collaborative nature of this product," said Spencer Lieland, Tru-Steel HD Sales Manager. "The Tru-Steel HD team worked directly with TruLog to develop a woodgrain image that would perfectly fit their one-of-a-kind TruGrain steel panels. This is a win for both teams!"

To be eligible for consideration, products must have been introduced to the market after Jan. 1, 2024 and their manufacturer a participating exhibitor at METALCON 2025.

"Las Vegas provided a great setting to connect with our industry and celebrate this year's top product award winners," said Judy Geller, vice president of trade shows at METALCON. "We're already looking ahead to Orlando, where we'll continue to showcase the latest advancements shaping the future of metal construction and design." ***MR***

Judy Gellar presents the third place Top Product Award to Steel Dynamics for its TruGrain made with Tru-Steel HD. AWARD PHOTOS COURTESY OF NEUBEK PHOTOGRAPHERS.

Scenes from METALCON 2025

METALCON 2025 took place last month in Las Vegas, bringing together professionals from across the globe for three days of education, innovation and networking. From pre-show workshops and certification programs to free educational sessions and inspiring keynotes, attendees earned continuing education credits while gaining actionable insight into the trends shaping the future of metal construction and design.

Courage and Service: Clint Romesha Opens METALCON 2025

Clint Romesha, Medal of Honor recipient and bestselling author of *Red Platoon,* set the tone for the show with a moving keynote on courage, leadership and the value of service.

"These moments I share help me more than you realize," Romesha said. "I grew up in a small town on a farm… I have respect for the trades. I was brought up that you have to give back more than you take."

The equipment-filled Roper Whitney/ Tennsmith/ Roll Former exhibit space was an attention-grabbing presence on the exhibit floor.

Reflecting on the Battle of Kamdesh, he shared, "I had 50 other guys with me that day, and if it wasn't for them, I wouldn't be here… You only get that camaraderie by serving in the military."

Romesha drew parallels between the mindset of veterans and those working in the trades, emphasizing teamwork, accountability and resilience:

- "Give the grace for failure and the opportunity to fix it."
- "Put it back where you found it."
- "Let's try to make tomorrow better than today."

"Veterans are a good fit for the trades and the community," he said, earning a standing ovation from the crowd.

Economic Clarity from Alex Chausovsky

On day two, renowned economic analyst Alex Chausovsky offered a concise and optimistic outlook for the construction economy. "We've been through similar challenges before," he said. "Now, we can project with confidence that we will figure this out. We can do this together."

Chausovsky reaffirmed the strength of the U.S. economy, noting its $30 trillion scale and continued global leadership. His key advice for business leaders: retain your workforce, communicate often with suppliers, and reinvest to stay profitable amid change.

State of the Industry

Leaders from the Metal Construction Association (MCA) convened for

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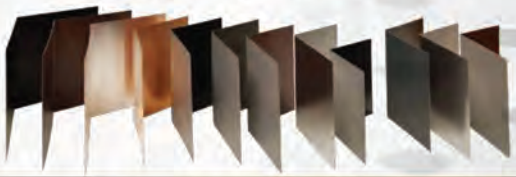

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Interest in metal-framed buildings is growing. ACT Building Systems pre-engineers CFS buildings. The company's booth featured a model building — and finished off the display with an X-Wing fighter and pilot. PHOTOS COURTESY OF SHIELD WALL MEDIA.

The display machine from Zimmerman featured a transparent side so tooling could be viewed easily.

SWI Machinery's Marxman slitter was just one of the pieces of equipment that could be seen in action at METALCON 2025 in Las Vegas.

There was always action going on in the METALCON Training Zone. Sponsored by Sherwin Williams, the Training Zone was a dedicated area of the exhibit hall that featured live demonstrations and education using a variety of mock-ups and materials such as painted steel, aluminum, zinc, copper and other exotic materials.

Product demonstrations at the Top Product Award-winning Malco Tools booth draws a crowd and garners a lot of attention.

ASCO USA held equipment demonstrations over the course of the three-day trade show. Demonstrated here is the V2.5 long folder.

METALCON 2025 marked the North American debut of the Schroeder PBA folder and MHSU shear—two powerful additions to MetalForming's architectural lineup designed for exceptional speed and safety. Attendees also had the opportunity to explore new in-plant roll-forming solutions from VIETSTEEL, along with equipment from Jorns, Schechtl, Schlebach, and Stolarczyk.

the annual State of the Industry panel, exploring both challenges and opportunities shaping today's metal construction market. While 2025 may be less favorable than anticipated, bright spots remain across residential roofing and wall applications, particularly as metal continues to displace traditional materials like glass and wood.

Speakers pointed to rising homeowner interest in metal systems—driven by concerns over wildfires, high winds and hail—as a key force behind the material's continued expansion. Interest in metal has surged, with increasing adoption in mid-tier homes and large-scale residential developments.

Panelists also discussed growing advocacy efforts in Florida and California, where policy changes are promoting wind- and fire-resistant, sustainable building practices. MCA's outreach with state and local partners continues to strengthen awareness around the resiliency and sustainability of metal as a preferred construction solution.

New Tech Machinery showed off its next-generation SSQ III MultiPro Roof and Wall Panel Machine, outfitted with an attention-grabbing Stars & Stripes wrap.

The Mac-Tech exhibit included statistics of how much machines cost to run per hour, helping potential investors visualize how equipment can build their bottom line.

Overall, the message was clear: education and exposure are fueling metal's momentum, helping the material gain market share across commercial, residential and architectural segments alike.

METALCON 2026 takes place at the Orange County Convention Center in Orlando, Florida, October 7–9. ***MR***

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- ❑ Best Buy Metals
- ❑ Bradbury Group
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Hesitation Tax

Sitting On The Sidelines Is Not A Business Strategy; In Fact, It's Ruining Your Brand

By Brian Holland, Fleet Advanrtage

In today's unpredictable global economy, construction firms and contractors are now taking a pervasive "wait and see" business approach. Economic slowdowns, persistent inflation, and the tariff changes have understandably led many construction company owners and project managers to hit the brakes on significant capital investments.

However, for construction companies operating work truck and equipment fleets, this hesitation comes with a steep, often invisible, cost: a "hesitation tax" that silently erodes profitability, compromises safety, and undermines a company's distinct, competitive advantage. For the construction industry, this can mean risking project delays, missed deadlines, and costly idle crews. While the immediate focus may be on navigating broader corporate challenges, the imperative to move products efficiently and fiscally responsibly demands that fleet modernization rises to the top of the strategic agenda.

The stark reality is this: failing to act now on upgrading aging equipment and trucks will inevitably cost more in the long run.

The Invisible Burden: Unpacking the "Hesitation Tax"

The idea of a "hesitation tax" is simple yet profound. It represents the compounding financial penalties incurred by delaying essential truck upgrades. An aging work truck and equipment fleet presents a looming crisis of escalating operational expenses. Maintenance costs surge dramatically as vehicles age, with proven analyses indicating that older vehicles are significantly more expensive to operate. For construction, those rising repair costs can quickly snowball into lost productivity and missed project milestones.

Moreover, today's economic tides are constantly shifting. While the global economy in 2024 showed significant growth, trade tensions have persisted in 2025, and "Trade War 2.0" remains a concern, with major economies implementing or considering protectionist measures.

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These geopolitical factors directly impact the cost of new equipment.

Tariffs on imported steel, aluminum, and critical components add thousands of dollars to the price of a new truck, and these increases are often passed down the supply chain. In construction, every day a replacement vehicle is delayed can disrupt schedules and drive up project costs. By hesitating and sitting on the sidelines, construction companies are essentially guaranteeing that their future capital outlay for new trucks will be higher. The "wait and see" approach risks paying more tomorrow for what could be ordered at a better price today and delivered sooner.

Beyond Compliance: Safety as a Strategic Imperative

Beyond the immediate financial drain, an aging fleet poses significant safety risks. Modern heavy-duty trucks are not just about hauling cargo; they are sophisticated machines equipped with advanced safety technologies that fundamentally reshape fleet operations. Features like predictive cruise control, adaptive braking, and automatic tire inflation systems are no longer luxury add-ons but essential tools for accident prevention. In the construction world, preventing accidents is not only about road safety but also about keeping crews and job sites operating without interruption.

Predictive cruise control, for example, uses GPS and mapping data to optimize speed based on topography, reducing sudden acceleration and braking, which in turn significantly improves fuel mileage. Adaptive braking systems automatically adjust stopping power and maintain safe distances, drastically reducing the likelihood and severity of collisions.

Advanced Driver Assistance Systems (ADAS) offer a powerful dual benefit: they enhance safety by mitigating human error and simultaneously drive down operational costs. ADAS can reduce collisions by a significant margin, with some reporting a 47% reduction since widespread adoption. Furthermore, adaptive cruise control and predictive

gear shifting optimize vehicle performance and fuel consumption, leading to improved fleet fuel efficiency and reduced emissions.

Investing in these technologies is not just about compliance; it's about creating a safer working environment for drivers, protecting valuable cargo, and safeguarding the company's reputation, all while securing a powerful return on investment through reduced accident costs, lower insurance premiums, and substantial fuel savings.

Strategic Modernization: Turning Uncertainty into Opportunity

The prevailing "wait and see" strategy, the C-Suite's go-to game plan in uncertain times, fundamentally misjudges the current economic landscape. Everything is changing, and it is changing rapidly. The global economic barometer might be mixed, but companies still have an obligation to their customers, constituents, investors, and employees to keep their equipment and transport fleets in peak condition to avoid costly downtime. This means making the right investments into their fleet for optimal efficiency.

Making fleet modernization a priority at the C-level requires reframing it from a mere expense to a strategic investment in predictable costs and long-term savings – no matter the economic climate. Newer trucks, particularly those in a flexible lease program, are unequivocally better, safer, more efficient, and can provide business agility toward the bottom line. They offer reduced fuel consumption, lower maintenance needs, and access to cutting-edge safety features. To overcome the "hesitation tax" and accelerate fleet modernization while controlling risk, construction organizations should consider:

- **Competitive Monthly Costs:** Shifting from fixed, "all-in" monthly expenses to an unbundled structure that allows fleets to evaluate finance types, as well as fuel and maintenance programs separately.
- **Reduced Capital Outlay:** Exploring flexible leasing options for diesel trucks that minimize upfront capital expenditure while providing access to modern equipment.
- **Maintenance and Compliance Support:** Leveraging nationwide partnerships that offer integrated maintenance and compliance services, offloading the burden and ensuring adherence to ever-evolving regulations. This includes meeting job site safety requirements and DOT regulations.
- **Multi-Year Planning:** A strategic multi-year procurement plan acts

as a guide for executives, directing all aspects of equipment acquisition, maintenance, replacement, and lease surrender/remarketing. It allows construction organizations to anticipate and prepare for future needs, technological advancements, and additional regulatory changes.

Flexible leasing programs also offer additional benefits toward the bottom line right now, primarily due to the restored 100% bonus depreciation rate from the President's Big, Beautiful Bill. Bonus depreciation, which is commonly referred to as additional first-year depreciation, is a favorable taxpayer incentive to encourage businesses to invest in qualifying property. This change directly impacts construction companies because their immediate tax write-offs are considerably reduced.

While the Section 179 deduction remains a valuable tool for direct expensing up to $1,250,000, its benefit is often overshadowed by the larger scale of truck acquisitions, where bonus depreciation is used to play a critical role in minimizing taxable income. This means the upfront tax advantages of owning a fleet are now less compelling than they once were.

For many construction organizations with heavy-duty fleets, leasing is a more attractive option. Companies that opt for a true operating lease don't directly claim depreciation on the trucks; instead, they can deduct the entire lease payment as a business expense. This offers a consistent, predictable tax benefit that isn't subject to the fluctuating rates of bonus depreciation.

Sitting on the sidelines is not a business strategy; it is ruining the brand. The longer companies hesitate, the greater the chance they will pay more tomorrow due to persistent tariff threats and inflationary pressures. Accelerating fleet modernization is not just about avoiding future costs; it's about seizing the opportunity to gain a competitive edge today, ensuring operational resilience, and fulfilling the core responsibility of delivering products efficiently, safely, and fiscally responsibly. For construction, that also means delivering materials on time and keeping every job site running smoothly The cost of inaction is too high to bear. ***MR***

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Suicide Prevention

The Importance of Mental Health First Aid Training in Roofing: A Call to Action

By Christee Roberson, Graham Roofing

Suicide remains one of the most urgent — and often unspoken — crises facing the construction industry. According to the CDC, construction workers die by suicide at a rate nearly four times higher than the general population. These numbers are heartbreaking, but they also highlight an important truth: the silence and the stigma surrounding mental health can sometimes be deadly.

As leaders, colleagues, and friends, we can take steps to help change this narrative. By training employees, opening lines of communication, and creating workplaces where it is safe to talk about mental health, companies can help save lives.

Roofing and construction professionals face unique pressures: physical demands, seasonal work, travel, financial stress, and often a "tough it out" culture. Many workers may feel they can't show vulnerability or ask for help. This makes it even more important for employers and peers to acknowledge mental health as a core safety issue just like fall protection or PPE.

Mental health is just as important as physical safety on the jobsite. Yet, for many of us in the roofing industry, resources and training around mental health have been hard to come by. At Graham Roofing, we have learned this lesson through heartbreaking experiences, and today I want to share why I believe every company and every leader should get trained in Mental Health First Aid, especially as we recognize Suicide Prevention Month.

A Hard Reality: When Tragedy Strikes at Work

In 2019, our company faced a crisis. An employee was struggling with a serious mental health challenge. I needed help with how to manage this situation both for the employee struggling and all our other employees that watched what was happening. I searched for resources and found almost nothing. Fortunately, he received help from his pastor and a local counseling group. That same year, two of our employees died by suicide. As a leader, I was devastated and left asking, How do I help my team deal with this?

In those moments, I called in a local counselor to help my employees process their grief. It was the only thing I knew to do. Then in 2021, tragedy struck again when a long-time former employee took his own life. Once more, we leaned on the counselor, but I knew we needed a better plan.

Finding Real Resources

Determined to find answers, I discovered Mandy McIntyre through National Women in Roofing. She had faced similar crises in the company that employed her. She had done some research and had a way forward. She was going to get certified to teach others Mental Health 1st Aid Training. So, in 2022, I took the Mental Health First Aid certification program through MHFA, with Mandy facilitating the class. Finally, real help, real tools, and real training.

After completing the course, we incorporated a mental health program into our Safety Manual and Employee Handbook. We trained another team member as well, knowing that prevention and preparation matter most before the crisis comes.

Putting Training Into Action

Not long after receiving training, we had to terminate an employee for a major safety violation. It was clear he was struggling with mental health challenges, and our team equipped with Mental Health First Aid training managed the situation carefully.

When he became upset, we immediately drew on our training. We kept him calm, contacted our local Community Counseling Center which had an after-hours Mental Health Mobile service, and stayed with him until professional help arrived. The team created a plan for his care, and to our relief, he called the next day saying he had finally gotten the help he needed. Weeks later, he checked in again to share that he was still in therapy, taking his medication, and on track.

This is what it looks like when training saves lives.

RESOURCES

- Mental Health & Suicide Prevention in Construction Mental Health First Aid (MHFA; https://mentalhealthfirstaid.org/)
- Find a Training – Search for upcoming MHFA courses nationwide.
- Workplace Mental Health First Aid – Tailored for employers and employees. Level Up Consultants (https://levelup-consultants.com/mental-health)

Suicide Prevention Hotlines

- 988 Suicide & Crisis Lifeline (U.S.) – Call or text 988 anytime to connect with trained crisis counselors.
- Crisis Text Line – Text HELLO to 741741 for free, 24/7 support.

Construction Industry Resources

- Construction Industry Alliance for Suicide Prevention (CIASP; https://www.preventconstructionsuicide.com/) – Industry-specific tools, training, and awareness campaigns.
- National Alliance on Mental Illness (NAMI; https://www.nami.org/) – Resources, support groups, and education.

Why Training Matters for Roofing Professionals

Roofing is tough, both physically and mentally. We deal with high-stress environments, long hours, and dangerous conditions. The reality is that suicide rates are significantly higher in construction compared to many other industries. As leaders, we owe it to our teams to be prepared.

Mental Health First Aid gives us the skills to:

- Recognize early warning signs of a mental health crisis.
- Approach conversations with compassion and confidence.
- Connect employees with real resources in the moment they need it most.

My Ask: Get Trained Before You Need It

The worst time to search for resources is in the middle of a crisis. Suicide Prevention Month reminds us that preparation is everything. At Graham Roofing, our journey has been painful—but it has also been transformative.

My ask is simple: get trained on Mental Health First Aid before you need it. Do it for your family, friends, team, your coworkers, and your industry. Together, we can break the silence, remove the stigma, and make sure no one feels alone when facing mental health challenges. ***MR***

Christee Roberson *grew up in Columbus, Mississippi and graduated Cum Laude in 1995 from Mississippi University for Women earning a B.S in Accounting.*

After working at Graham Roofing since 1997, Christee became the majority owner of Graham Roofing Incorporated in West Point, MS in 2018. She has built and maintains important relationships with customers, vendors, contractors and community leaders while overseeing the day-to-day operations of the company. Christee pushes Graham Roofing to lead the industry in professionalism, high safety standards, and ethical behavior.

She has led Graham Roofing to be more involved with the local education system through material donations, guest lectures, event sponsorships, and through advisory board positions.

Christee is passionate about educating and mentoring the future workforce for the State of Mississippi. She is one of the founding members of the FORGE Foundation. FORGE is a local 5013c comprised of a group of local businesses who are passionate about seeing the skilled trades industry thrive. She is current chair for National Women in Roofing (NWiR) and serves on various boards such as Associated Builders and Contractors of MS (ABC MS) and BuildMS (formerly MCEF).

Best Residential Roofing

MRA Selects Projects from Opposite Coasts as Winners of Roofing Competition

The Metal Roofing Alliance (MRA) announced it has selected two winners for this quarter's Best Residential Metal Roofing Project competition—outstanding projects that demonstrate the benefits of metal roofing for every region and every season.

This quarter's winners are from opposite ends of the country, and they represent the wide variety of climate extremes and styles that are common to their areas. From hurricane to wildfire country, the winning homes are similar only in the need to maximize protection, longevity and reliability. For these reasons, metal roofing was the material of choice for these two outstanding projects.

MRA Best Residential Metal Roofing winning project #1 for Q-3: Re-roofing project in Anna Maria, Florida, installed by Blue Vision Roofing Inc. [https://bluevisionroofing.com/]

Re-roofing project in Anna Maria, Florida installed by Blue Vision Roofing Inc. [https://bluevisionroofing.com/] Photos courtesy of the Metal Roofing Alliance/Blue Vision Roofing

Complexity was the name of the game for this beautiful project, but durability is the end result. Inspired to replace their older metal roof in order to match a newly-built addition, the owners needed no convincing that a new standing seam metal roof was the right choice for their home. Their old roof had withstood multiple hurricanes and was still in good shape after 25 years, so the owners trusted their new galvalume metal roof would also stand the test of time as well as extreme high winds and hurricanes without issue.

Other benefits of the new metal roof included a low maintenance, concealed fastened standing seam system, which is designed to keep the home protected and prevent rust, given the home is just feet away from the coastline.

The gorgeous silver color and high performance coating also is energy efficient and adds excellent curb appeal. The material was rolled and cut onsite by Sunshine Metal Supply and expertly installed by Blue Vision Roofing.

"Just like every other home we work on, we brought integrity and honest workmanship to ensure the homeowner was pleased with their new standing seam roof," said Antonio Plancarte of Blue Vision. "For us, our customers' vision truly is our mission."

MRA Best Residential Metal Roofing winning project #2 for Q-3: Re-roofing project in Maple Valley, Washington, installed by Mountaintop Metal Roofing [https://www.mountaintopmetalroofing.com]

Re-roofing project in Maple Valley, Washington, installed by Mountaintop Metal Roofing [https://www.mountaintopmetalroofing.com] Photos courtesy of the Metal Roofing Alliance/Mountaintop Metal Roofing

The second winning project for this quarter's competition is a master of disguise. The beautiful new roof might look like a traditional wood shake roof that is so prevalent in the Pacific Northwest, but it is much safer and more durable.

The homeowners chose a metal roof to reduce the high maintenance and wildfire dangers that come with a cedar shake roof. With so many angles, valleys and ridges (45 different roof planes in total), this project required serious skill and expertise. In the end, the owners were thrilled about the longevity, look and fire resistance provided by their new metal roof.

Manufactured by Classic Metal Roof, the new roof demonstrates the great style flexibility that metal roofing can offer. Called "The Great American Shake," the metal shingles resemble the look of cedar shake so closely, it takes an expert eye to tell the difference.

"We enjoy every project we do but every now and again you get a special project. This roof was definitely one of our favorite roofs to complete," said Jon Sanders of Mountaintop Metal Roofing. "It turned out absolutely beautiful and our customers will never have to worry about their roof again."

About the MRA

Representing the residential metal roofing industry in the United States and Canada, the Metal Roofing Alliance (MRA) was formed to help educate consumers about the many benefits of metal roofing. For more information about MRA membership, residential metal roofing resources and tools, visit MRA at www.metalroofing.com. ***MR***

Surveys & Data Analysis

The Art and Science of Getting Reliable Data

By Jacob Prater

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I love analyzing data and finding out what it can tell me. I don't think I'm alone in this, but maybe I'm a bit more enthusiastic about it than some. Before analyzing any data, it's important to know what you're looking at and what it can be used for. That means you need to have an idea of how the data was collected.

Survey data can be really useful—especially if it's collected properly—and understanding what that looks like is a valuable skill. A well-executed survey will include several things: a clear purpose, a targeted population, a good response rate, clear questions, and reasonable analysis. Short is good, too.

To explain why methodology and approach matter (and to give you a chuckle), a buddy of mine once said, "If you wake up in the morning and scratch your ass and then scratch your nose and think the world stinks, maybe you should look at what you're doing."

Good results from a survey require that you ask the right people the right questions. There are some classic examples of incorrect predictions based on biased sampling—like when *The Literary Digest* incorrectly predicted that Roosevelt would lose the 1936 presidential election because their survey sample was biased toward affluent Americans who owned cars and telephones. That mistake illustrates how easy it is to get bad results. Needless to say, if you're missing a major—or even minor—portion of the people you need to be asking, you can end up with erroneous results. This is the essence of sampling bias.

Dealing with sampling bias in survey responses is tricky. To avoid bias, some analysts apply weighting factors to adjust for over- or under-sampling specific groups (political pollsters do this all the time—it's a bit of hand-waving). It's not uncommon to apply weighting factors to make results appear more "realistic." These factors may be informed by other data at best, or simply made up at worst. While common, this kind of data massaging should only be used when you have solid demographic data to inform the weighting.

For example, say you polled 100 people and 60 said they prefer tacos to hamburgers, with 40 not responding. If other survey data shows that the entire town loves Mexican food, it's a safe bet that opening a taco truck would be successful.

Sampling bias can also appear for other reasons. Some people just don't like to respond to surveys. I got a kick out of an editorial in one of Shield Wall Media's publications where Gary Reichert said he won't share his data with the government (and I agree—when you don't have to, why would you?). Sometimes people are cautious, and often they should be. But what if the people who don't respond are part of a group with a different outlook from everyone else? That's tough to correct for. The only way to predict this kind of bias is to compare historical data with past survey results.

This comparison is also a great test of validity—whether the data actually measures what you think it measures—but it can only be done in hindsight.

Since sampling bias is a problem, best practice is to know your target population and get the highest response rate possible. That means using multiple methods—email, phone, mail—to reach people. Getting a representative sample while keeping costs manageable is the trick. Experts suggest that 5–30% response rates are good, and anything over 50% is excellent. A survey in this ballpark produces good data. (Any credible survey should disclose its response rate—that's part of the "check the methods" step you should take when interpreting results.)

Beyond interpreting survey results through past data—like comparing marketing forecasts to previous forecasts and actual performance—you can also test your data for internal consistency. A colleague of mine uses a technique where he splits his data in half at random, builds a response model with one half, then tests random samples from the other half against it.

This may not apply in all cases, but it can help determine whether your sample is representative and what sample size you need. You might decide to invest in a larger sample once, then use that to determine what's "enough" for future surveys. More is usually better—but efficiency matters too. The goal is to ensure the data is reliable, meaning it's reproducible.

Now, let's say population, sampling, and bias aren't issues—then the next challenge is asking good questions. One thing we have to face is that what people say and what they do don't always align. Public and private opinions differ, even in surveys. Ideally, we should all strive to be the same person in every setting—at work, at home, and anonymously online—but that's rarely the case.

For illustration, imagine asking, "How many friends do you have?" Most acquaintances won't say "no" when asked if they're your friend, especially not in front of others. But if you ask who would loan you a tool, a car, or pick up the phone at 2 a.m. to help in a crisis, the list gets shorter. People have different definitions of friendship and often aren't honest with themselves about it, especially under social pressure.

This is the problem with emotionally loaded questions—they invite idealized answers. Instead, questions should be specific and grounded in real behavior. For instance, to measure how many people would help a friend in a crisis, ask respondents to describe a time they did so. If they never have, that tells you something.

People often respond with idealized versions of themselves, especially about health, exercise, or recycling. They present a "best self" that doesn't match reality.

Other pitfalls include leading and repetitive questions. Leading questions bias responses by pointing people toward a particular answer—basically creating a survey that confirms what you already believe (confirmation bias). I've even seen survey results dismissed outright because the organizers didn't like the outcome. In one case, a group ignored numerous critical responses, calling them "haters" who didn't understand the process. My jaw was on the floor. The response rate was high—well above 30%—the population was clearly defined, and the data was consistent.

Repetitive questions can also cause confusion. Asking the same thing in different ways may make respondents think the meaning has changed. While it might seem useful to test for consistency, it often produces confounding results and should be avoided.

Once you've gathered your data, you still need to handle it carefully. It's like running with scissors—it can go well or it can go very badly. A classic example of poor analysis is "New Coke." In the mid-1980s, Coca-Cola introduced a sweeter formula after internal and external taste tests (like the Pepsi Challenge) suggested people preferred sweeter drinks. The result was a marketing disaster—not because the taste testers were wrong, but because loyal customers didn't want a new product. The survey should have first asked if customers wanted a change at all.

It's also possible to detect when survey results are manipulated or taken out of context. Politics is full of examples. Consider a question like, "Does housing affordability and availability matter to you?" Most people will say yes. But when results like that are used to suggest respondents support specific government policies, the analysis has gone off the rails. Either the question was poorly written, or it was intentionally misleading. This kind of thing is why many people don't respond to surveys—and why, when interpreting results, you should always look at both the questions and the conclusions.

Another way data can mislead is through the uncertainty of innovation. You never know exactly when innovation will happen or what its effects will be—but it's fair to assume that necessity drives innovation. Pressure and hardship often push people to change. A friend once told me that "inspiration and desperation" drive innovation—he's right. Seeing someone else succeed (inspiration) or being forced to adapt (desperation) both spark change.

This applies to technology adoption, like robotic dairies, where need drives progress. Even if you identify the forces driving change, they don't always predict what kind of innovation will result.

These aren't all the issues that can arise in data collection and analysis—but understanding them goes a long way toward separating bad data and weak conclusions from solid data and reliable insights. ***MR***

Jacob Prater *is a soil scientist and associate professor in Wisconsin. His passion is natural resource management along with the wise and effective use of those resources to improve human life.*

Werner Recalls 20’ and 24’ Multi-Max Pro Ladders

On August 14, 2025, Werner issued a recall affecting approximately 122,250 of its 20-foot and 24-foot Multi-Max Pro multi-purpose ladders (models ALMP-20IAA and ALMP-24IAA) due to a defective locking mechanism that may jam or fail to fully engage, posing a serious fall hazard

These ladders, distinctive for their silver bodies, blue tops, blue “Multi-Max Pro” side-rail label, and long black rope along the back, were sold exclusively at Home Depot (in-store and online) between November 2021 and February 2024, retailing for approximately $200 to $281

Werner and the U.S. Consumer Product Safety Commission (CPSC) announced that there have been 18 reported falls, 14 of which resulted in injuries such as bruises, lacerations, head trauma, and fractures to the wrist, leg, and ribs.

For professionals who depend on tall, sturdy ladders every day—whether for roofing, siding, painting, or general construction—this recall is critical. A locked but faulty mechanism can collapse under load, putting workers at risk of serious injury when handling heavy materials or working on unstable surfaces like roofs.

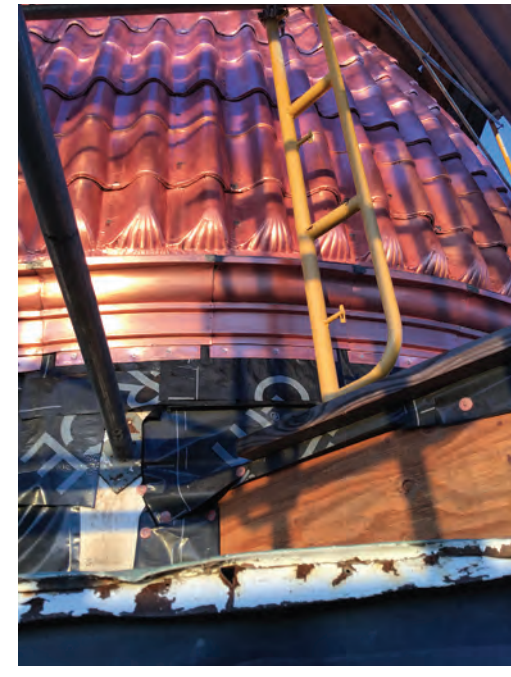
A sudden collapse from 20 or 24 feet can cause major injury—or worse. Furthermore, workers’ compensation or contractor liability could be triggered by injury incidents involving recalled equipment. ***MR***

Preserving a Landmark

Intensive Renovations Revitalize the Historic Hillsdale County Courthouse

By Copper Development Association, Inc.

Southern Michigan's Hillsdale County Courthouse has stood as a symbol of community and justice for more than 125 years. But like many historic structures, decades of weathering, piecemeal repairs, and material deterioration have taken their toll. What recently began as a roofing project ultimately became a



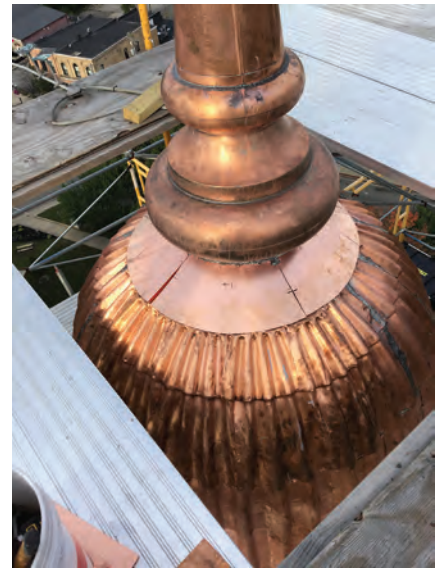
comprehensive exterior restoration effort.

Robert Raleigh III, whose team at Renaissance Historic Exteriors led the restoration, recalls that the scope expanded quickly once their bid was accepted.

"We were selected to do the roof work, but we had cautioned the county that there were a lot of other issues invisible to us but not included in the bid package and probably significant unforeseen damages," says Raleigh. "This project was paid for by American Rescue Plan Act (ARPA) monies, which allowed governments the flexibility to use funds for infrastructure improvements.

Fixing More Than A Century of Wear

The county recognized that the clay tile roof and its integrated metal gutter system were failing. As the gutter system's apron lies underneath the tile, both roof and gutter lining had to be redone



simultaneously.

In turn, the installation of a new copper gutter system precipitated the replacement of the copper cornice system on the building, which was also deteriorated.

"A lot of the exterior architectural sheet metal installed at the turn of the last century is now at the end of its life span,[LP1]" says Raleigh. "It needed to be replaced almost in its entirety because of the corrosion that happens with that type of material."

Traditional wood framing on the building supports the sheet metal components. The framing was often exposed — either directly or indirectly —

to moisture, causing the wood to weaken. In most cases, replacing underlying structure also necessitates replacing the overlying architectural metalwork. This beautiful but deteriorating exterior, both inside and out, was where the team focused its efforts.

Digging Into the Challenge

With more than 30 years of experience in the industry, Renaissance Historic Exteriors knew from the outset that this project would be challenging. The team not only had to work on scaffolding high up a clock tower, but also discovered issues with the underlying structure the further they got into the project. In addition, the replacements needed to be historically accurate, with the final result emulating the original.

"The goal was not to change the appearance of the exterior while improving the function and longevity of the new system and work to comply with current code requirements," says Raleigh.

The project included installing a high-performance underlayment beneath the new clay tile roof and copper systems, ensuring greater durability and protection compared to the traditional

materials previously used. Most of the new metalwork was copper, chosen for its superior corrosion resistance and long service life. Unlike the tin and terne-coated metals it replaced — which required periodic repainting — copper provides a maintenance-free solution that will perform reliably for decades.

A significant amount of structural and reshoring work was done to support the new exterior, the roofing, and the gutters. Some framing in the attic and within the tower had to be upgraded because of deterioration.

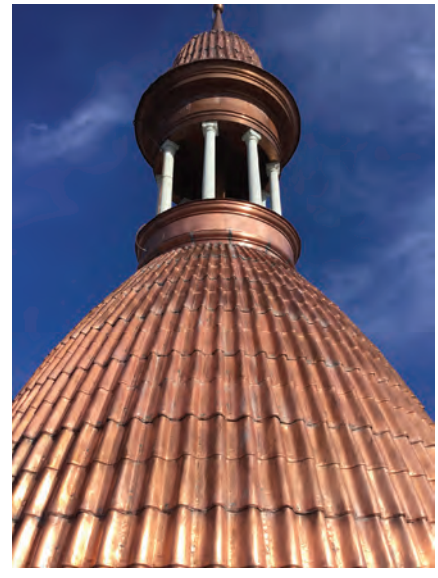
"Until you start to dig in or disassemble the facade, you don't know how bad it is," says Raleigh.

Materials To Last Another Century (and More)

When the existing clay tile roof was removed, the team saved and reinstalled the tiles on the main body while supplementing with new tile purchased from Lexington, Ohio-based Ludowici Roof Tile. The courthouse had also built an addition several years ago with an asphalt shingle roof, so this was updated to new roof tile, also from Ludowici.

"Getting suppliers to turn those essential materials around in a timely fashion and have them fabricated to match and fit is tricky," says Raleigh, adding that the project took about two years to complete. "You need suppliers willing to work with you to get those things turned around quickly."

One of the main materials used to fortify the courthouse is copper. Designed to last more than 100 years and be virtually maintenance-free, copper forms the cornice system's detailed brackets and modillions. Assemblies were custom-manufactured in-house in Belvedere, Illinois — the raw copper was attained from Revere Copper (Rome, New York). New copper shingles were created to match the original copper dome's Spanish-style appearance. At the gutters, soldered seams ensured their durability, weather tightness and corrosion resistance, while expansion seams were positioned to allow the metal to expand and contract safely



with temperature changes.

"Copper is definitely a lifetime material," says Raleigh. "It is very serviceable and malleable and [LP2] you can solder it."

"The joints are also lifetime joints, unlike a pre-painted metal, whether galvanized or aluminum," he continues. "Once it's been painted, your only choice is to utilize a caulk or sealant, which has a limited life cycle and needs to be maintained.

"Soldering these joints in copper eliminates that maintenance."

Standing the Test of Time

The team removed, refurbished, powder-coated, and reinstalled a cast-iron balustrade system on the iconic clock tower. The previously dysfunctional clockworks were updated to modern or electronic clock systems. The tower's ornamental stone was carved to match the original components, restoring the

courthouse and tower to their original beauty and granting them enduring resilience.

"When an old structure starts to show its age, restoring it with these new components that are true and keep the building water-tight is really satisfying," says Raleigh. "It's a great accomplishment to be able to return this structure to the community to enjoy for another century."

The restoration's craftsmanship and historical sensitivity earned the Hillsdale County Courthouse a 2025 North American Copper in Architecture Award, honoring the project among the continent's most distinguished copper applications. ***MR***