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WHEN IT MATTERS®



# Containing conflict

Knowing how to address disagreements can improve productivity

by Ambika Puniani Reid



Every organization regardless of size or years in business will experience its fair share of conflict. But one thing that sets excellent organizations apart from mediocre ones is how their leadership teams manage conflict among co-workers.

In *Harvard Business Review*'s article "When resentment is building on your team," author Rebecca Knight provides advice about managing organizational conflict:

- If you see a pattern of disrespectful, resentful behavior emerging within your team, address it right away. Unchecked resentment can erode morale and become contagious.
- To identify conflict early, you need to know your team well enough to spot when a respectful debate shifts to conflict and intervene when necessary.
- Once you get to know your team, you will need to learn how to encourage quiet people to open up, identify the triggers of those who are easily irritated, and distinguish between real and inflated concerns from chronic complainers.

In addition, Knight recommends changing up routines to help decrease volatile emotions. For instance, if you notice some impatience or irritation during a routine project status meeting, consider changing the meeting format. You can turn a meet-

ing that typically takes place in a conference room into a walking meeting either inside or outside your building.

Conflict is normal, and healthy conflict can lead to positive outcomes. The important thing to remember is to keep your team focused on common goals so disagreements do not spiral into something more destructive.

*Ambika*

AMBIKA PUNIANI REID is editor of *Professional Roofing* and NRCA's vice president of communications.









## CLOSE-UP

**N**RCA member River City Roofing Co. Inc., Peoria, Ill., found a unique way to honor those who bravely serve their country.

The company's headquarters are located next to a National Guard Air base, and Tim Garrison, founder of River City Roofing, wanted to pay tribute to those who serve. So the company installed a new roof system on its building and made it resemble the American flag.

Garrison used a grid system to lay out the stars and stripes and different colors of GAF EverGuard® TPO membrane to accomplish his task. Red and white TPO strips were used for the stripes, and a blue field with white star shapes were created for the canton.

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## TEAM

### Editor

Ambika Puniani Reid  
areid@nrca.net

### Associate Editor

Chrystine Elle Hanus  
chanus@nrca.net

### Editorial Assistant

Avery Timmons  
atimmons@nrca.net

### Creative Directors

Nancy Davis  
ndavis@nrca.net

Paul Gerwen

pgerwen@nrca.net

### Graphic Designers

Jairo Ayala  
jayala@nrca.net

Oshla Gray

ogray@nrca.net

### Director of

### Communications

Krista Berns  
kberns@nrca.net

### Manager of Online Communications

Madison Mahoney  
mmahoney@nrca.net

### National Advertising Sales Manager

Michael Stack  
mstack@nrca.net  
(847) 493-7554

### CEO

McKay Daniels  
mdaniels@nrca.net

### Publisher

Jeff Jarvis  
jjarvis@nrca.net

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## Cool roof colors reduce heat transfer

**Brava Roof Tile** has introduced its line of Cool Roof Colors. The new colors feature high solar reflectance and thermal emittance to reduce heat transfer and indoor temperatures.

Brava Roof Tile's Cedar Shake tile is available in Cool White, Lake Forest, Weathered and Western. Slate profiles are available in Cool Arendale, Cool Atlantic, Cool Light Arendale, Cool Weathered and Cool White. And Spanish Barrel tiles are available in Cool French Clay and Cool Terra Cotta.

**bravarooftile.com**



## Seam tape self-seals

**GAF** has made available GAF Seam Tape, a self-adhering protective layer designed to aid in sealing joints and seams on roof decks. Compatible with asphalt shingle systems, it reportedly self-seals around fasteners from overlying underlayment and asphalt shingles to protect against water intrusion at deck joints.

Made from fiberglass-reinforced SBS polymer-modified asphalt, the seam tape has a textured outer surface for traction.

**gaf.com**



## Roof membranes are resistant

**Elevate™ Commercial Roofing Systems** has added MAX PVC and fleece-backed MAX PVC XR roof membranes to its PVC product lineup.

The reflective, flexible membranes include a scrim layer with a weft-inserted reinforcement and 18 by 9 threads per inch for durability and resistance against weather. They also reportedly provide chemical, grease, fire and puncture resistance.

MAX PVC and MAX PVC XR membranes are available in charcoal, gray, tan and white.

**holcimelevate.com**



## Gloves are cut-resistant

**Ergodyne** has added work gloves, cut sleeves and knee pads to its line of personal protective equipment.

ProFlex 7073 Nitrile-Coated Cut-Resistant Gloves and ProFlex 7061 PU Coated Gloves resist cuts and are flexible, featuring form-fitting 21-gauge knit. ProFlex 7251 Fully Coated Gloves provide water and oil resistance. All three glove models also feature touchscreen capability.

Ergodyne's sleeves, ProFlex 7991 Cut Sleeves and ProFlex 7951 Sleeves offer cut resistance, thumb holes, pre-curved elbows and upper-arm adjustment straps. ProFlex 7951 sleeves also feature heat protection of up to 212 F for 15 seconds.

For knee protection, the ProFlex 575 Non-Marring Knee Pads feature a three-layer foam system and ergonomic design for cushion and stability when walking, crawling or kneeling.

**ergodyne.com**

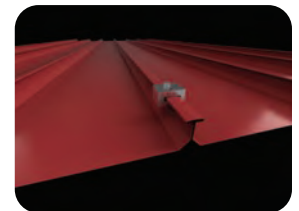


## Clamp is nonpenetrating

**S-5!** has made available the S-5-TXL clamp, designed for T-shaped standing-seam metal roof profiles with a horizontal projection of up to 1.7 inches, including the McElroy Metal Trap-Tee and Morin® SymmeTry.®

The clamp is nonpenetrating and features two setscrews that reportedly will dimple the roofing material.

**s-5.com**





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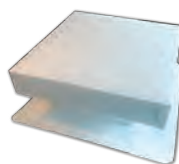
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## Ridge vent is protective

**Westlake Royal Building Products** has released Dryroll,™ a universal ridge vent and weather block.

The ridge vent reportedly helps protect against weather and exhaust heat and moisture. It comes equipped with butyl strips to seal ridge and hip areas of roof systems and provides airflow and attic ventilation with 15.6 square inches of ventilation per linear foot.

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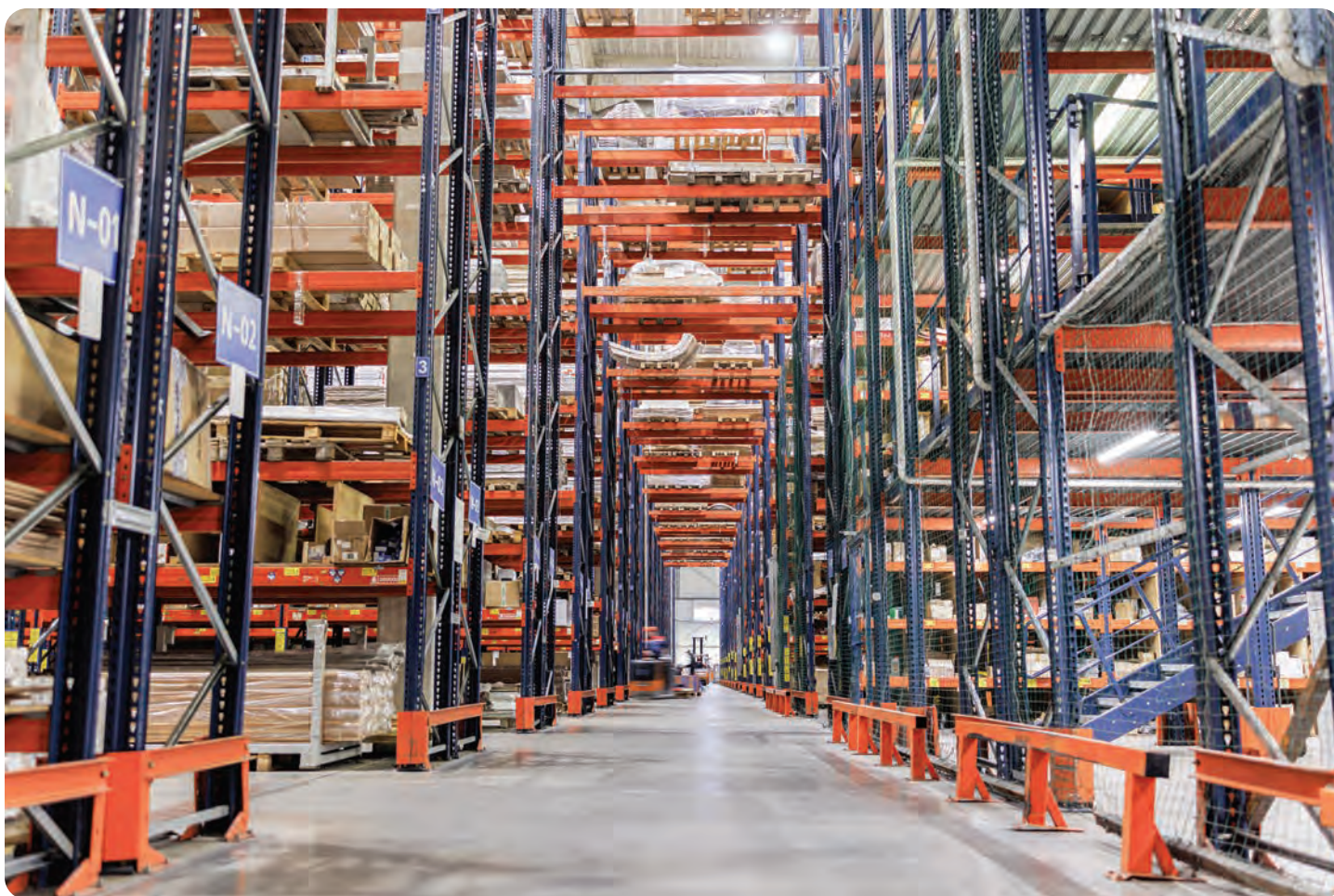
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## Can you spare a square?

The material shortages of 2021 prepared the roofing industry for the current unknowns

by McKay Daniels

In early 2021, NRCA issued its first update to members about irregularity in the availability of some roofing materials. At the time, the issue was relatively minimal: There were some worrying indications of a supply and demand imbalance.

The industry had been through other shortages following severe weather events that spiked demand, decreased supply or both. Those shortages were temporary and something the industry could plan around. But in 2021 amid the COVID-19 pandemic, the entire industry was not prepared for the material shortages that would last well over a year.

I won't go through the chronology in detail because we all lived it once already. But having put a few years behind us to let the wounds heal and "normalcy" return, it seems worth revisiting as a testament to our industry's tenacity and to reflect on where we are now and where we may be heading.

First, manufacturers were hit with raw material procurement issues early and throughout the supply chain. Port backups, shipping and logistics meltdowns and weather literally freezing factories to a halt all affected manufacturers' abilities to make their products. Many went to great lengths to keep their lines running. One manufacturer representative recently told me his company was putting pallets of raw materials onto cargo planes and flying them across the ocean to keep things running.

Second, people in the U.S. bought all the toilet paper and contractors bought all the roofing materials along with it. Panic buying, strategic buying, hoarding, call it what you will: It happened. Well into my first year as NRCA CEO in late 2022/early 2023, I was visiting contractors and would hear different versions of the same story: "This is where we used to keep the [fill in the blank], but it's where we keep the ISO now."

Meanwhile, when hearing about the "material shortages" contractors were saying they were experiencing, manufacturers would say: "We are making more product than we ever have. There is not a material shortage. It's a demand issue. Ghost orders are sucking everything up. There wasn't enough labor to install a small amount of squares six months ago. How are 30% more squares being installed now!?"

Add a few expletives in there to personalize it, and that gist was repeated to me more than once. Often loudly.

But like a traffic jam that grinds cars to a halt only to clear 1 mile later with no sign of the source of the backup, that was the roofing industry. Everyone behaved rationally for themselves, but

it put the collective industry in worse shape.

In the years since, many manufacturers have bolstered and diversified their supply chains to make them more secure and stable. They have looked at the supply chain through a geographic lens and worked on onshoring or nearshoring their materials and production. Rather than buying a critical component from China, for example, some have developed sources in the western hemisphere and increased their domestic production. They recognized the fragility of their logistics and have taken steps to improve them.

Trucking, cargo ships and freight rail were all stretched beyond capacity in 2022, and companies are more aware than ever about logistics weak points. Many have downshifted from the "just in time" inventory gospel of past decades to maintaining buffer inventory to allow for any shipping slowdowns that can easily arise. This has proved helpful as we have recently experienced port strikes, threats of strikes, pirates and weather events.

Manufacturers not only have brought raw materials closer to the U.S. and improved their logistics situations, but they also expanded capacity. Since 2022, three new polyisocyanurate plants have opened in the U.S., and a fourth has been overhauled to increase output. And additional plants for insulation and membrane production are in the design and discussion phase. New fastener production machines have become available, and shingle production capability continues to rise.

I'm writing this column well before Donald Trump's presidential inauguration, and we don't know for sure what tariffs may be put in place, but the early

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Although no amount of logistical improvements and supply growth can fully defend against a massive spike in demand, the industry's supply chain is more resilient and less risky than it was in 2022

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discussion and statements coming from Trump's transition team is something manufacturers and the industry are watching closely.

Several raw materials our industry relies on already have large tariffs on them, so preliminary indications are prices may rise some but will not be overwhelming. The example given to me about a specific item produced in Asia was: "The tariff is currently at 800%; raising it to 810% is negligible."

What happens with oil from Canada, cement from Mexico and hundreds of products across the spectrum of our industry will remain to be seen.

An additional unforeseen aspect of our supply future is how nations respond to any U.S. trade actions. China and Mexico have indicated they intend to respond in-kind to any actions from the U.S.

For example, China announced a ban on sales to the U.S. of antimony, a mineral used in many fire retardants.



China put this ban in place in response to the U.S. restricting computer chips going to China. We should expect this type of volleying will continue and perhaps accelerate, and manufacturers will have to remain flexible and highly responsive to the changing dynamics.

If a membrane manufacturer can no longer get antimony to include in its formula and maintain its fire rating, what does it do? Chemists and engineers have alternatives and solutions at the ready.

Although no amount of logistical improvements and supply growth can fully defend against a massive spike in demand, the industry's supply chain is more resilient and less risky than it was in 2022. The effects of trade fights among nations remains to be seen, but the industry is paying close attention and proactively preserving supply lines and remaining competitive with pricing.

There is no guarantee all the toilet paper (or screws) in the nation won't disappear in the months ahead, but it is less likely than it was a few years ago. It seems prudent for contractors to not revert entirely to the long-standing practice of last-minute orders. If it is essential a roof component be on-site at a specific time and day, be sure to allow extra time for life's curveballs. They are likely to continue. 🌀🌟

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**MCKAY DANIELS** is NRCA's CEO.  
[MDANIELS@NRCA.NET](mailto:MDANIELS@NRCA.NET)

## The challenges with recruiting young people

A recent survey conducted by the Skilled Careers Coalition asked students, counselors and parents to share their views regarding skilled trades versus college and military paths, according to *Construction Executive*.

*Construction Executive* shares the following findings from the survey:

1. Citing a lack of information about opportunities, only 15% of students surveyed were considering a technical/vocational school or apprenticeship after high school.
2. 92% of students, 91.3% of counselors and 80.3% of parents surveyed agree skilled-trade workers are as important as first responders and service members.
3. 69% of students said it is outdated to assume a four-year degree is the best pathway to success.
4. 80% of parents said they have the most influence on their child's decision making, but 48.8% admit they do not have enough information about starting the technical or vocational school process.
5. 84% of parents believe skilled trades provide a stable career path, less time in school, less debt and an overall better quality of life.
6. More than half (53.9%) of counselors surveyed cite a lack of resources to help guide students interested in pursuing skilled trades or vocational programs.
7. 90% of counselors surveyed agree they need to share more information with students and parents about a skilled-trade career option.
8. 76% of all respondents agree a career in the skilled trades can lead to entrepreneurial success.

Sharing information is key to bringing young people into the industry. Visit [nrca.net/workforce-recruitment](http://nrca.net/workforce-recruitment) and [careersinroofing.com](http://careersinroofing.com) to ensure you have the materials needed to help recruit workers.



To view the Skilled Career Coalition survey, go to [professionalroofing.net](http://professionalroofing.net).







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## Proper PPE during winter is essential for worker safety



Cold temperatures, ice, poor visibility, high winds and wet conditions during the winter can lead to safety issues for construction workers, according to the National Center for Construction Education and Research. Workers must have the proper personal protective equipment to ensure they are prepared for any weather conditions that may arise.

NCCER shares the following cold-weather PPE items all construction workers should have.

- **Hard hat liner.** Hard hats do not cover workers' ears, so construction workers can use hard hat liners designed to wear with PPE that cover the ears and sometimes the neck.
- **Face mask.** A cloth bandana, gaiter, scarf or dust mask over the mouth and nose can provide protection on windy days.
- **Thick gloves.** Construction workers may need thicker gloves during the winter. Also, glove liners are designed to be worn as a base layer under thick gloves to provide extra protection.
- **Winter boots.** Workers should wear winter boots with slip-resistant treads designed to grip icy surfaces. Waterproof boots can help keep workers' feet dry, but it is important pant cuffs cover the tops of boots because water does not evaporate quickly once inside boots.
- **Thick socks.** Cotton socks hold onto moisture for a long time, which cools down the wearer's body temperature. Construction workers instead should wear wool or synthetic wool, polyester and nylon blend, which are effective insulators and have moisture-wicking properties.
- **Base layer.** Construction workers should wear layers, and the first layer—the base layer—should wick moisture away from the skin. Merino wool, polyester and synthetic blends can be good base layers.
- **Middle layer.** The middle layer—the insulating layer—should be merino wool, polyester fleece, goose down or synthetic fill jackets, which trap heat close to the body without holding onto excess moisture.
- **Shell layer.** The shell layer should be a waterproof, breathable jacket that protects against wind and rain. Common choices are polyester and nylon, and they often have a coating that helps rain and snow slide off.

- **Heated clothing.** Heated clothing can be rechargeable, which has a cord that plugs into an outlet to recharge, or battery-operated, which usually requires AA or AAA batteries. Heated PPE options include gloves, beanies, vests, socks, balaclavas, scarves and pants. Follow manufacturers' guidelines for safe use.
- **Eye protection.** Snow reflects enough sunlight to cause eye damage if people stare at it too long. Construction workers should use sunglasses or goggles with ultraviolet protection to minimize sun exposure in snowy conditions.

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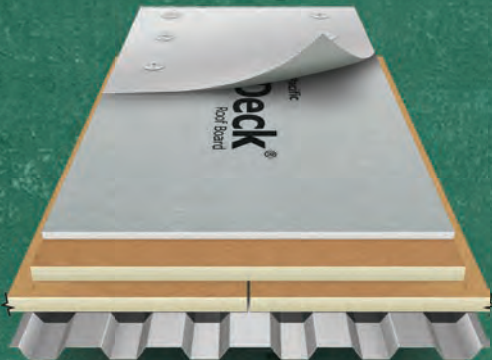
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## Wisconsin was top state for construction in 2024

Associated Builders and Contractors' annual Merit Shop Scorecard named Wisconsin the No. 1 state for construction in 2024, according to ABC.

Released annually since 2015, the

scorecard ranks all 50 states and Washington, D.C., based on policies and programs that strengthen career pathways in construction; encourage workforce development; and advocate for fair competition on

taxpayer-funded construction projects.

Wisconsin's construction industry earned the top spot because it had the highest scores on fair and open competition policies prohibiting government-mandated project labor agreements; a sustained level of positive job growth, with a five-year job growth rate of 4.4%; a 97.4% graduation rate for students in career and technical education programs and 91.4% rate of postsecondary CTE students placed in careers and/or apprenticeships programs; and a workforce development pipeline that delivers a strong construction labor supply amid a severe nationwide labor shortage.

The top 10 ranked states were:

1. Wisconsin
2. Arkansas
3. Kentucky
4. West Virginia
5. Arizona
6. Indiana
7. Florida
8. Utah
9. Mississippi
10. Tennessee

The bottom five locations were Washington, the District of Columbia, Illinois, New York and Hawaii.

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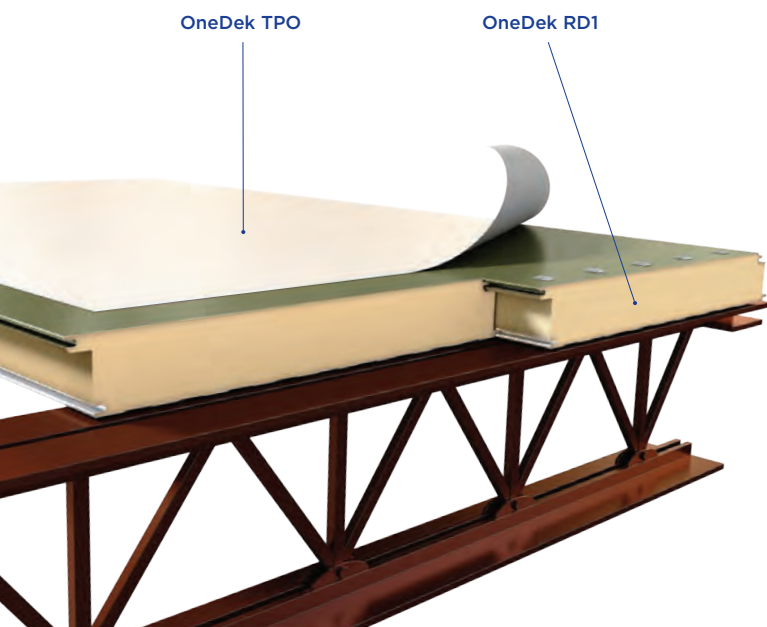
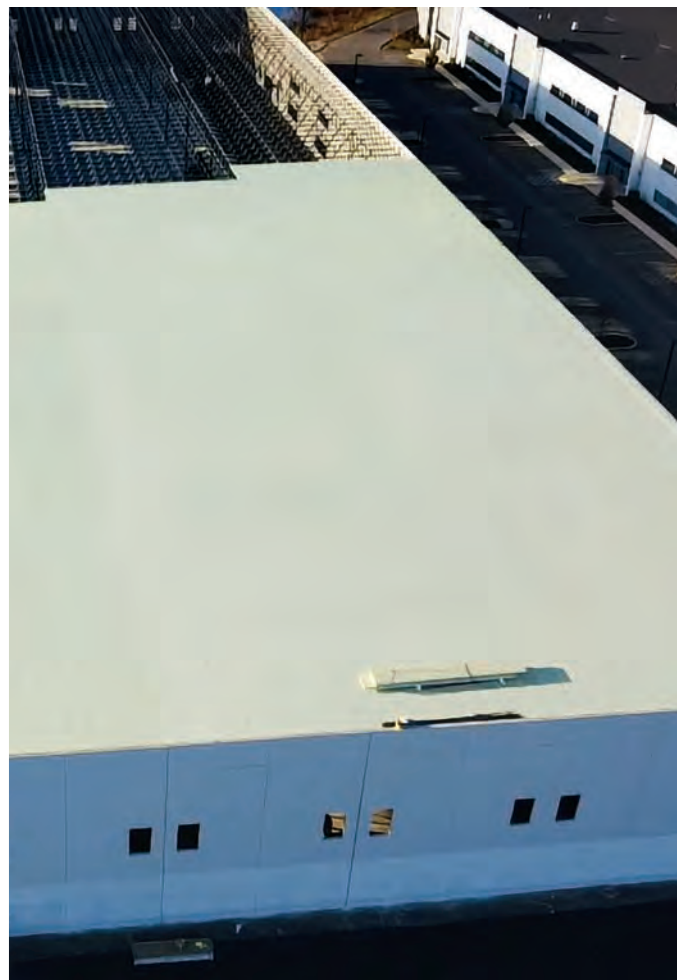
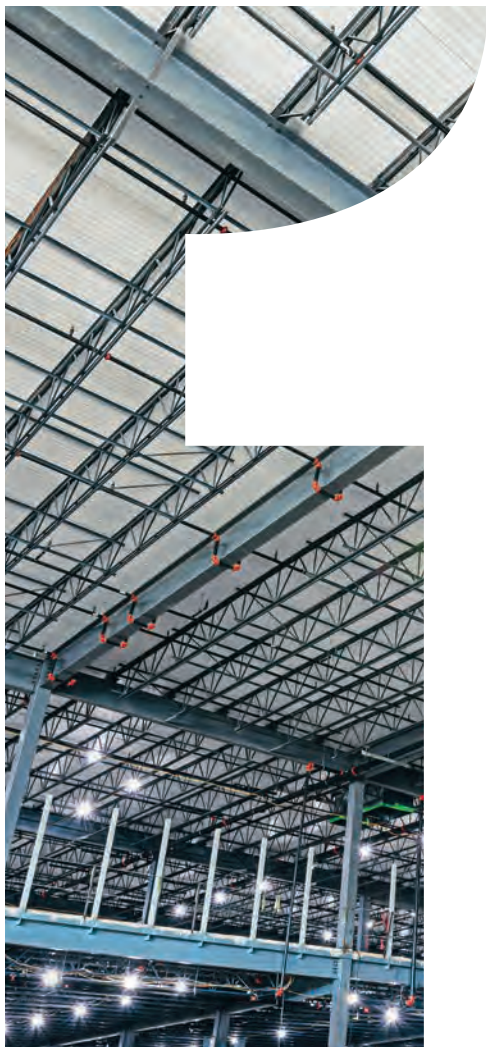
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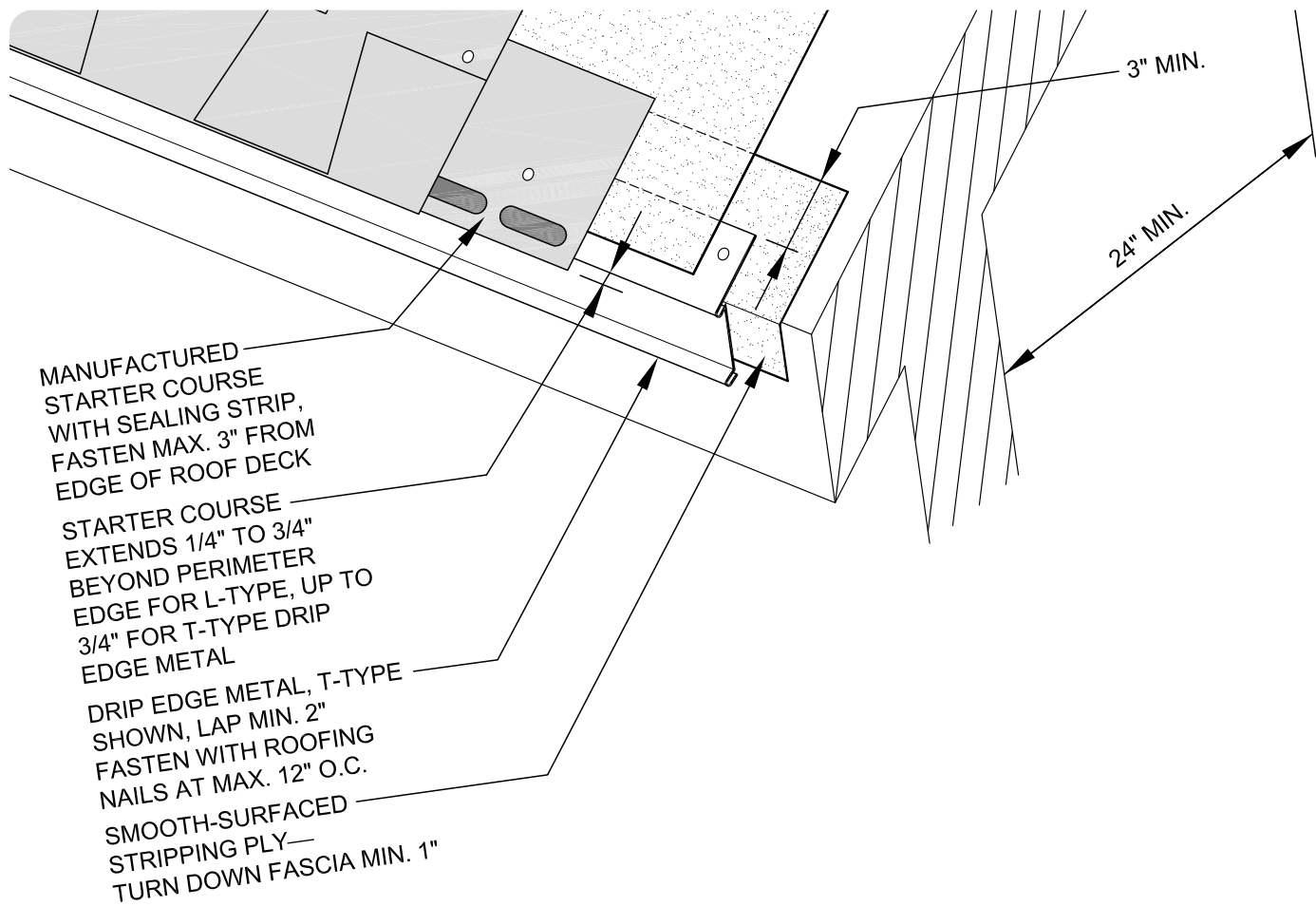
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## A new resource

NRCA has updated its steep-slope manual with important changes

by Maciek Rupar

**N**RCNA has released *The NRCA Roofing Manual: Steep-slope Roof Systems–2025*. The new volume supersedes the previous edition published in 2021 and joins three other volumes in The NRCA Roofing Manual series. The complete current set includes:

- *The NRCA Roofing Manual: Steep-slope Roof Systems–2025*
- *The NRCA Roofing Manual: Metal Panel and SPF Roof Systems–2024*
- *The NRCA Roofing Manual: Membrane Roof Systems–2023*
- *The NRCA Roofing Manual: Architectural Metal Flashing and Condensation and Air Leakage Control–2022*

The steep-slope manual presents time-tested best practices and technical information concerning the design, materials and installation of steep-slope roof systems. It is intended for designers developing steep-slope roof system designs for specific projects. NRCA defines steep-slope roof systems

as a category that generally includes water-shedding types of roof coverings installed on slopes exceeding 3:12.

### How it is organized

The steep-slope manual addresses five roof covering types and includes an appendix. Asphalt shingle roof systems, clay and concrete tile roof systems, metal shingle roof systems, slate roof systems, and wood shake and shingle roof systems each have a dedicated section to serve as self-contained references for designers.

Each section is organized as follows:

- Chapter 1—Roof Assembly Configurations provides descriptions of roof assembly configurations based on best practices. The configurations reference detailed information in later chapters intended to help a designer select materials and practices suitable for a specific project.
- Chapters 2 through 5 address roof decks, underlayment, primary roof covering and roof accessories.
- Chapter 6 addresses roof system replacement and roof re-cover applications, except for clay and concrete tile, slate and wood shake and wood shingle roof systems.
- Chapter 7 contains construction drawings for common detail conditions that must be addressed in steep-slope roof system installations.
- An appendix about building code compliance based on the *International Building Code*,® 2024 Edition and *International Residential Code*,® 2024 Edition, rounds out each self-contained section.

A separate appendixes section contains information about topics not

addressed in detail in the main body of the manual, including radiant barriers, synthetic roof covering products, designing steep-slope roof systems for wind resistance and Insurance Institute for Business & Home Safety FORTIFIED Roof™ program provisions for steep-slope roof assemblies.

The new manual introduces a long list of revisions. The deck and underlayment chapters include the greatest concentration of changes. Revisions related to updated code requirements for wind resistance are found throughout the manual, including appendixes. Also, new construction details were added to all roof covering-specific sections.

### Roof decks

With this update, NRCA no longer recommends oriented strand board wood panels be used as substrates for steep-slope roof systems because NRCA is concerned with OSB's long-term performance. Experience has shown OSB is subject to dimensional changes, ridging and fastener backout resulting from changing moisture conditions roof deck substrates typically encounter.

When encountering existing OSB wood panel roof decks in roof replacement scenarios, NRCA suggests designers consider replacing OSB with new plywood panels or installing new plywood panels over existing OSB panels in good condition.

NRCA recommends plywood panels intended for use as roof sheathing in steep-slope roof assemblies meet or exceed the requirements set forth by U.S. Product Standards (PS) PS 1, "Construction and Industrial Plywood."

NRCA also increased its minimum

plywood roof sheathing thickness recommendation for asphalt shingle, metal shingle, and wood shake and shingle applications from nominal 1/2 of an inch to 5/8 of an inch nominal thickness for 16-inch rafter spacings and from 5/8 of an inch to 3/4 of an inch nominal thickness for 24-inch rafter spacings. These new recommendations are consistent with NRCA's existing recommendations for clay and concrete tile and slate applications.

Chapter 6—Reroofing includes updated recommendations for the attachment of wood panel roof deck sheathing based on IRC 2024 provisions.

### Nail-base insulation

Expanded and updated NRCA recommendations for nail-base insulation address problems commonly reported where nonvented or vented nail-base insulation is used in steep-slope roof assemblies.

When nail-base insulation is used, a base layer of polyisocyanurate board insulation should be installed first followed by nail-base insulation panels with all nail-base joints offset from the base layer joints and fastened to the structural deck.

Self-adhering flashing tape should be installed over all vented nail-base joints to seal all air gaps and confine the airflow to the ventilating space.

Designers using vented nail-base insulation in areas with a history of ice damming should upsize the ventilation space to prevent ice buildup at eaves.

NRCA cautions designers about using nail-base insulation products manufactured with fire-retardant-treated wood panels and does not recommend them as a fastening substrate for steep-slope roof systems.

### Other deck types

The deck and reroofing chapters address structural composite decks and faced and sealed wood sheathing. Structural composite roof decks are marketed under the Loadmaster brand and engineered for specific applications and assembled in place from corrugated steel panels and fiberglass-reinforced gypsum panels and may include polyisocyanurate board insulation. When a steep-slope roof system is to be installed

over a structural composite roof deck, NRCA recommends an appropriately designed nailable substrate of plywood panels, wood planks or wood boards, or spaced wood sheathing be installed over the structural composite roof deck to provide an adequate substrate for the steep-slope roof system.

Faced and sealed wood sheathing roof decks are marketed under the ZIP System® brand and are constructed of OSB panels with integral water-resistant facings and flashing tape applied over panel joints. NRCA recommends installing single-

layer mechanically attached underlayment fastened in accordance with building code requirements over faced and sealed wood sheathing roof decks.

### Other components

Chapter 3 has updated information about synthetic underlayment. IBC 2024 and IRC 2024 permit synthetic underlayment sheets that comply with ASTM D8257, “Standard Specification for Mechanically Attached Polymeric Roof Underlayment Used in Steep Slope Roofing,” to be used on asphalt shingle, clay and concrete tile, metal shingle and slate roof systems. NRCA recommends designers select materials complying with ASTM D8257 and specify the minimum water vapor transmission rating when specifying synthetic underlayment.

Chapter 3 also addresses taped deck underlayment applications. In these applications, self-adhering flashing tape is applied over all joints in the roof sheathing and a single layer of underlayment is then fastened. A taped deck application is intended to prevent water entry through roof sheathing joints and is one of the prescriptive options IBC 2024 and IRC 2024 provide for steep-slope roof system underlayment in high-wind regions. Chapter 3 also adds an illustration of double-layer underlayment attachment in high-wind regions,

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which is another prescriptive code option for asphalt shingle and clay and concrete tile roof systems in high-wind regions.

NRCA has revised its best-practice recommendation for detailing eaves with water and ice-dam protection underlayment. First, a self-adhering polymer-modified bitumen sheet stripping ply is applied directly to the deck at the eave edge and turned-down fascia. Drip-edge metal is fastened over the stripping ply and then a full sheet of water and ice-dam protection underlayment is applied.

With this update, NRCA recommends the use of drip-edge metal at all eaves and exposed rakes for clay and concrete tile, slate, and wood shake and shingle roof systems.

### Wind resistance

The manual references IBC 2024 and IRC 2024 wind resistance provisions and includes updated wind design maps based on

ASCE 7-22, “Minimum Design Loads and Associated Criteria for Buildings and Other Structures.”

An expanded and updated Appendix 3—Wind Uplift for Steep-slope Roof Systems explains in considerable detail the methods ASCE 7-22 specifies for determining design wind loads for steep-slope roof systems. The appendix also discusses selecting an appropriate wind-resistant roof system as well as the responsibilities assigned to designers by building code for properly determining and clearly identifying wind design data.

Appendix 4—FORTIFIED Roof™ Requirements is new for 2025. It is a guide to the FORTIFIED Roof portion of IBHS’s FORTIFIED Home™ standard for resilient home construction. The appendix includes 20 construction drawings. FORTIFIED Roof specifies steep-slope roof assembly construction enhancements for new and retrofit applications



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intended to increase roof assembly resistance to damage from natural hazards such as hurricane-strength winds and hail. The taped deck underlayment application provisions in current I-Codes originated with the FORTIFIED Home program.

**Construction details**


All primary details for the treatment of eaves with water and ice-dam protection underlayment have been revised to include a self-adhering stripping ply applied directly to the deck and turned-down fascia a minimum of 1 inch. The same revision has been applied to the corresponding eave with gutter details.

There are new details for hot exhaust vents and rooftop equipment curbs in each roof covering-specific section.

Revised clay and concrete tile, metal shingle and slate roof

system steep- to low-slope transition details include a two-piece sheet-metal flashing.

**How to get it**

You can purchase electronic or hard copy versions of the new manual at [shop.nrca.net](http://shop.nrca.net). NRCA members can download the manual as well as *NRCA Construction Details: CAD Files—2025*, which includes the updated NRCA steep-slope roof system construction details, free of charge at [shop.nrca.net](http://shop.nrca.net). 

**MACIEK RUPAR** is an NRCA director of technical services.

Located in the Single-Ply Roofing Clinic area on the show floor, Booth #1077, there will be eight opportunities over the 3-day show to attend an interactive clinic, highlighting EPDM, TPO, and PVC roofing materials.

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- 12:15 PM – 1:00 PM: Single-Ply Terminations & Details
- 1:45 PM – 2:30 PM: Labor Savings and Innovations in Single-Ply Roofing
- 3:15 PM – 4:00 PM: Quick Applied EPDM Membrane for Single-Ply Roofing

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## Data leaks and phishing will continue to threaten contractors

Four hundred eighty-one construction organizations were listed on data-leaking websites used by ransomware attackers in 2024—a 41% increase year over year—according to a report from Tampa, Fla.-based cybersecurity technology company ReliaQuest.



Phishing also continues to be a problem for contractors. Spearphishing, a phishing attempt personalized to a victim, accounted for nearly one in five incidents, according to the report.

Another primary threat to construction contractors is credential exposure. According to data from ReliaQuest's cybersecurity protection product, GreyMatter, credential exposure incidents account for 75% of all construction alerts, an 83% increase from the previous year.

ReliaQuest predicts phishing attacks, cloud exploitation and attacks via infostealers will increase in 2025. Once credentials are published and sold, threat actors can gain access to sensitive data or deploy additional malware.

To protect themselves, contractors need to be alert. One of the metrics ReliaQuest used to measure performance is the mean time to contain a threat. On average, companies in the construction industry contain a threat within about five hours. However, companies that used automation and artificial intelligence had times closer to five minutes.

According to the report, contractors should also:

- Audit cloud accounts and resources
- Pay close attention to cloud permission levels that could grant extensive access
- Enforce the principle of least privilege for all third parties and contractors
- Enable multifactor authentication for accounts
- Implement a digital risk protection strategy to continuously monitor for exposed credentials

## Half of contractors do not have cyber insurance despite cybersecurity fears

A recent survey from insurance firm Travelers shows half of surveyed contractors do not have cyber insurance, according to Construction Dive.

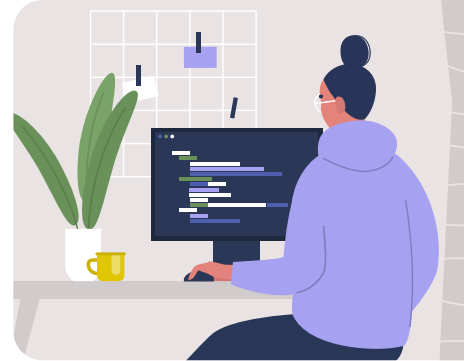
The 2024 Travelers Risk Index asks business insurance decision-makers from U.S. companies of various sizes and industries about the issues that worry them most. Conducted by Hart Research, the survey had 1,202 respondents across eight industries, including construction.

Cyber threats were the top concern for survey participants with 62% saying they worry some or a great deal about cyber risks.

Contractors' top three fears were hackers gaining unauthorized access to financial accounts; the failure to operate the company because of cyber events; and a security breach or hackers. However, contractors still are behind when it comes to protection against cyber threats.

Although 80% of construction industry respondents believe having proper cybersecurity controls in place is crucial, 70% do not use endpoint detection and response tools; 70% do not have a post-breach team; 56% do not have an incident response plan; 50% lack cyber insurance; and 45% do not use multifactor authentication for remote access.

Travelers published a cybersecurity guide that recommends companies take steps such as conducting audits or reviews of data privacy and security measures; interviewing in-house or third-party IT professionals about a system's data security and privacy protection capabilities; and implementing safeguards such as multifactor authentication, endpoint detection, and response and data backup.



To view the 2024 Travelers Risk Index, go to [professionalroofing.net](https://professionalroofing.net).



NRCA has partnered with BPM Insurance Services and Acrisure to create NRCA's Cyber Liability Insurance Program. Information is available at [nrca.net/insurance/nrca-endorsed-insurance/nrca-cyber-security](https://nrca.net/insurance/nrca-endorsed-insurance/nrca-cyber-security).



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## Participate today, change tomorrow

NRCA invites all industry  
professionals to attend Roofing  
Day in D.C. 2025

by Deborah Mazol

On April 8-9, the roofing industry will gather in Washington, D.C., for Roofing Day in D.C. 2025, the premier industry advocacy event of the year. This annual event provides an opportunity for lawmakers to hear the industry's voice regarding key government policy issues. As power shifts in Congress and the White House, roofing industry professionals are invited and urged to participate to demonstrate the breadth and diversity of the industry.

With hundreds of participants attending in the past, Roofing Day in D.C. has become one of the largest advocacy events in Washington, D.C. Roofing Day in D.C. is the fulfillment of former NRCA CEO Reid Ribble's vision of how the industry can expand its influence and enhance its image with federal policymakers. The event brings together all segments of the industry to advocate collectively regarding matters critical to its continued success. Roofing Day in D.C. is a collaboration among NRCA members; industry stakeholders; and national,



regional, state and local associations and designed to expand the professionalization and prosperity of the industry.

### Training and education

Roofing Day in D.C. provides participants with specialized advocacy training, in-depth issue briefings, and educational and networking opportunities.

On April 8, a welcome program will be held at the Grand Hyatt Washington and feature a mock congressional meeting, a briefing addressing key advocacy issues from policy experts, meetings with team leaders to tailor messages to individual members of Congress, and a networking reception with unique opportunities for field workers and first-time attendees.

On April 9, participants will enjoy a morning program beginning with a congressional keynote speaker and additional speakers to inspire an afternoon of successful advocacy. In the afternoon, participants will have three to four meetings with senators, representatives and congressional staff to convey the roofing industry's message.

To make participation as easy as possible, all meetings will be scheduled by NRCA and Advocacy Associates, a Washington, D.C.-based consulting firm that specializes in managing large advocacy events. NRCA has long partnered with Advocacy Associates. Its state-of-the-art online platform ensures attendees have up-to-the-minute scheduling changes and all the information they need to advocate for the industry including research about key legislation and policy papers.

Available through individualized links, participants will again have access to an online platform that hosts schedules of congressional meetings, position

papers, talking points, links to video meetings, automated thank-you note templates and other features.

### Key issues

Participants can prepare for the event by viewing position papers for key policy issues that will be the focus of meetings with members of Congress on NRCA's website, [nrca.net/roofingday](http://nrca.net/roofingday). Selected with input from members of the Roofing Day Advisory Committee, these issues unify all segments of the industry. The 2025 advocacy issues will focus on federal legislation to address workforce challenges and pro-growth tax reform.

Specifically, solutions to address workforce challenges are increased funding for Perkins Career and Technical Education State Grants, reform of the Workforce Innovation and Opportunity Act to allow more employers to easily access these vital training resources, and immigration reform that meets the workforce needs of the roofing industry.

To support legislation that promotes pro-growth tax policy, industry professionals will advocate for the bipartisan Main Street Tax Certainty Act and American Innovation and R&D Competitiveness Act. The Main Street Tax Certainty Act makes permanent the 199A Qualified Business Income Deduction for pass-through entities. This deduction is set to expire at the end of 2025 if Congress does not act, severely disadvantaging many employers. The American Innovation and R&D Competitiveness Act restores the ability for business owners to immediately deduct research and development expenses, which currently must be amortized over five years for domestic companies.

Past Roofing Day in D.C. events were

successful because of participants, and progress and success have been achieved regarding most of the issues attendees presented to Congress. But this engagement must be year-round and frequent.

Since Roofing Day in D.C. began in 2018, Congress has increased funding for Perkins Career and Technical Education State Grants each year totaling roughly \$200 million, bringing the total to around \$1.4 billion. This funding is critical to helping employers meet their workforce development needs.

Previous participants helped secure passage of the bipartisan Infrastructure Investment and Jobs Act that included a strong buildings component into law. Roofing Day in D.C. attendees also supported passage into law the Strengthening Career and Technical Education for the 21st Century Act to ensure workforce development programs work well for the roofing industry. Important provisions of the Energy Savings and Industrial Competitiveness Act, legislation to promote energy efficiency in commercial, industrial and residential buildings, were passed, as well.

Roofing Day in D.C. advocates also succeeded in nearly doubling the number of members co-sponsoring the Main Street Tax Certainty Act.

The primary goal of Roofing Day in D.C. is to establish long-term relationships with lawmakers in Congress that ultimately will help achieve important policy goals for the roofing industry's future. Although advocacy is the primary goal, NRCA encourages companies to take advantage of the team-building aspect this event can provide and stand ready to assist with area tours and hospitality.

## Strength in numbers

NRCA strongly encourages all industry professionals to participate in Roofing Day in D.C. 2025. All participating companies also are encouraged to include one or more field workers; elected officials benefit greatly from hearing from the industry's dedicated workforce. Registration fees are \$95 per person for company representatives and \$35 for field workers, students and spouses. Additional information about Roofing Day in D.C. 2025 and registration information, including a tentative itinerary and hotel links, are available at [nrca.net/roofingday](https://nrca.net/roofingday).

As a roofing industry professional, you need to be a part of this transformational event. Your participation is vital to helping make your business and the industry more successful and prosperous. Lawmakers need to hear directly from constituents regarding issues of importance, and this is your opportunity to make your voice heard.

On behalf of NRCA's leadership, we look forward to seeing you April 8-9! 🍷🌟

To view the advocacy issues and photo gallery from Roofing Day in D.C. 2024, go to [professionalroofing.net](https://professionalroofing.net).

**DEBORAH MAZOL** is NRCA's director of federal affairs in Washington, D.C.

## Rate of recordable injuries and illnesses at lowest level in 20 years

The Department of Labor's Assistant Secretary for Occupational Safety and Health Douglas Parker issued the following statement in November 2024 regarding the Bureau of Labor Statistics 2023 Survey of Occupational Injuries and Illnesses: "Today's report from the Bureau of Labor Statistics reveals that the rate of recordable workplace injuries and illnesses in 2023 fell to its lowest level since 2003. Private industry nonfatal injuries and illnesses decreased 8.4% from 2022.

"We are encouraged by these significant improvements in injury and illness rates in 2023. Looking at the BLS report and our own recent analysis showing fewer worker deaths in OSHA's purview, our formula of strong enforcement combined with collaboration between government, labor and the private sector to make workplace safety and health as a core value is making a difference in the lives of America's workers.

"Despite the progress reported today, OSHA's work is far from complete. Too many workers are injured or sickened every day in the United States, mostly from preventable incidents. We all must continue our commitment to making sure that every worker is able to go home healthy and whole.

"Safety and health is not a partisan issue, and we hope the strategies associated with these outcomes will continue."

NRCA designs, develops and delivers safety training and health and management courses and publications to help roofing professionals navigate workplace regulations and compliance. NRCA's health and safety resources are available at [nrca.net/safety/guidelines-resources](https://nrca.net/safety/guidelines-resources).

INJURIES  
DECREASED

8.4%

## Roofing contractor faces proposed \$262,631 in penalties

Occupational Safety and Health Administration inspectors have cited Fino Exterior Inc., Lake Zurich, Ill., for exposing workers to falls from elevation. This is the eighth time since 2020 the company has been cited, according to OSHA. The company is not an NRCA member.

Inspectors observed employees of Fino Exterior working on top of residential structures without legally required fall-protection equipment on four occasions in 2024. OSHA cited the company for 13 safety violations during three inspections in four months and proposed \$262,631 in penalties.

In addition to lack of fall protection, OSHA cited Fino Exterior for permitting employees to work near energized power lines; not providing employees with required hard hats; failing to train workers regarding fall-protection hazards and prevention; lack of eye protection for workers operating pneumatic nail guns; and improper use of ladders.

Falls are the leading cause of death in the construction industry. NRCA's classes, webinars and products offer information to ensure employees are properly trained and stay safe. Visit [shop.nrca.net](https://shop.nrca.net) for more information.





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## DOL guide aims to combat harassment in construction

The Department of Labor's Office of Federal Contract Compliance Programs has released A Guide to Combatting Harassment in the Construction Industry, which aims to help federal contractors understand what constitutes harassment and provides information to workers who may experience harassment.

DOL's guide lists various actions that are examples of harassment, including:

- Making unwelcome remarks related to a protected characteristic and guising them as a joke
- Displaying, in writing, derogatory remarks related to a protected characteristic at a job site
- Failure to maintain women's restrooms to the same standards as men's restrooms as a part of creating a hostile or abusive work environment for women on the job site

- Criticizing someone's participation in a job or industry because they are deemed to not belong because of their sex
- Using racial slurs and nicknames

The guide also highlights best practices and the effects harassment can have on job-site safety.

In June, the Equal Employment Opportunity Commission issued its own guide of best practices for preventing harassment in construction after conducting a yearlong investigation that concluded construction stands out as an industry with "egregious incidents of harassment."

To view the Department of Labor's Office of Federal Contract Compliance Programs and the Equal Employment Opportunity Commission's guides for preventing harassment, go to [professionalroofing.net](http://professionalroofing.net).

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## NRCA sends its first U.S. team to compete in the World Championship of Young Roofers

by Avery Timmons

Every two years since 1988, the International Federation of the Roofing Trade has held the World Championship of Young Roofers. Young roofing workers travel from around the world to represent their countries and compete in steep-slope, metal, low-slope and façade events.

In 2024, NRCA sent the first team from the U.S. to Innsbruck, Austria, to compete.

### Training

Sponsored by Carlisle Construction Materials, Carlisle, Pa.; GAF, Parsippany, N.J.; Georgia Pacific, Atlanta; OMG Roofing Products, Agawam, Mass.; Owens Corning, Toledo, Ohio; and SRS Distribution Inc., McKinney, Texas, the U.S. team included:

- Luke Freudiger and Adam Wilcher from The Durable Slate Company, Columbus, Ohio, who competed in the steep-slope competition and were coached by John Chan.
- Kasey Green and Doug Rojas from Global Roofing Group, Phoenix, who competed in the metal competition and were coached by Shawn Wood.
- Marco Espinosa and Alexander Gutierrez from KPost Company, Dallas, who competed in the low-slope competition and were coached by Glauco Gutierrez.

According to Wood, the experience was “educational, exciting and exhausting.” Before the competition, Green and Rojas only had a few months to train with European metal roof systems featuring details not typical to U.S. practices, such as rolled seams.



Top to bottom: Team USA contestants train for the competition; the team on-site at the World Championship of Young Roofers

Chan's team also faced a learning curve when preparing for the steep-slope competition.

"We had never installed those types of insulation boards or insulation," he says. "It was all new to us, but we were fortunate to be there and learn about different materials."

Despite challenges, during the months of "intensive" training, Gutierrez says his team members learned additional valuable skills they were able to bring with them to the competition.

"Throughout the training process, Marco and Alexander honed their skills in critical areas such as precise installation techniques, safety standards, material knowledge and effective teamwork," Gutierrez says.

## The competition

Once they arrived in Austria, Team USA was supported by fellow competitors.

"The best part for me was meeting other competitors from all over the world," Wood says. "Everyone was excited we were there and extremely helpful in getting us up to speed with how everything operated. I'm glad I was part of this and hope to be again in two years."

Gary Howes, chief operating officer for The Durable Group, Columbus, attended as a spectator. He says though he has watched the competition in the past, having the opportunity to support Team USA this year was a special experience.

"I was so impressed by how [the competitors] stayed so focused on the task at hand despite the incredible pressure they all felt. They performed like true professionals," Howes says. "One competitor told me he looked forward to improving in the craft enough to someday come back and be a mentor himself."

Green calls the experience a "once-in-a-lifetime opportunity."

"Competing alongside such talented young roofers was humbling and inspiring," he says. "Their expertise and daily experience were evident. I feel incredibly privileged to have represented the U.S. in this competition."

Although Team USA did not place in its







Team USA arrives at the competition

competitions, it set a precedent for future U.S. teams by stepping up and going first.

The following teams received medals for placing first, second or third in their respective categories:

- Steep-slope competition: Team Austria received first place; Team Switzerland received second place; and Team Germany received third place.
- Metal competition: Team Hungary received first place; Team Switzerland received second place; and Team Germany received third place.
- Low-slope competition: Team Austria received first place; Team Switzerland received second place; and Team China received third place.
- Façade competition: Team Switzerland received first place; Team Germany received second place; and Team Latvia received third place.

## Looking ahead

The next World Championship of Young Roofers competition is scheduled for 2026. Gutierrez hopes NRCA will continue to send a team to the event.

“By sending young roofing workers to compete on the world stage, the U.S. is sending a message about the importance of skilled trades and the potential for future growth and development within the roofing industry,” he says.

Gutierrez offers advice to future members of Team USA: “Preparation is the key to success. But most of all, enjoy the opportunity and live in the moment as it will be a memorable experience and honor you will carry forever.” 🌐🔧

**AVERY TIMMONS** is *Professional Roofing's* editorial assistant.



A Team USA contestant competes in the metal competition

To view more photos from the 2024 World Championship of Young Roofers, go to [professionalroofing.net](https://professionalroofing.net).







# BALLOONING EFFECTS

## OPTIMIZING ROOFTOP MECHANICAL EQUIPMENT DEPLOYMENT REDUCES LOAD TRANSFER

by Bilal Alhawamdeh, Ph.D., Brian Montgomery, P.G., and Ondre Pekarovic, ME

**I**nstalling rooftop mechanical equipment can optimize space, reduce noise pollution and streamline maintenance. The equipment must resist wind and seismic loads and be able to transfer the loads to the host structure via an anchor system.

Traditionally, curbs—elevated platforms integral to roof structures—have been used when installing rooftop mechanical equipment. Curbs should be appropriately flashed, securely attached and sealed as part of a roof system. Extensive planning and strict coordination between the design team and tradespeople often lead to a rigid approach with limited flexibility for accommodating changes.

Recently, a new, more flexible installation method has emerged that seeks to further optimize the deployment of rooftop mechanical equipment by eliminating field fabrication.



## ENGINEERED ROOF ANCHOR SYSTEMS

Because of the low invasiveness and modularity of securement, engineered roof anchor systems can streamline rooftop mechanical equipment deployment following roof membrane installation. Some engineered anchor solutions align with manufacturer warranties despite the penetrative methods by which the anchors are mechanically fastened to the structural deck. This provides a path for tension loading.

In the aftermath of several hurricane seasons, Federal Emergency Management Agency Mitigation Assessment Teams have consistently highlighted the vulnerability of rooftop equipment to wind damage. Wind-induced failure of rooftop equipment, such as exhaust fans, HVAC units, relief air hoods, ductwork and boiler stacks, can result in these components being forcefully dislodged from their positions, including supporting curbs, access panels and sheet-metal enclosures.

Dislodged equipment turned into wind-borne debris poses risks to buildings, property and individuals. The most common issues are inadequate anchorage, equipment strength and corrosion. This suggests securing rooftop equipment to resist wind loads is essential to protecting the integrity of the building envelope and avoiding exposing the building's interior to higher wind loads and possible water intrusion. This billowing (ballooning) effect is a well-recognized phenomenon; the wind-uplift pressure, or the difference in pressure across the membrane, can balloon the roof membrane as much as several feet vertically between seam lines (see Figure 1).

Wind kinetic energy, a function of wind speed and air density, preloads a rubber roof membrane with elastic potential energy. Proper mechanical attachment of a roof membrane around curbs eliminates the possibility of loose membrane balloons contacting and transferring loads to rooftop mechanical equipment; roofing plates and fasteners dissipate the elastic energy.

In contrast, arbitrary positioning and elevating

rooftop mechanical equipment on prefabricated support structures such as metal frame kits and trays on mechanically attached roof systems can negatively affect anchor system installation. In these situations, the membrane can balloon and contact the rooftop mechanical equipment system, placing an additional load currently undetected by load standards.

Load standards, such as ASCE 7, "Minimum Design Loads and Associated Criteria for Buildings and Other Structures," and others, aim to regulate the safe deployment of rooftop mechanical equipment by providing structural designers with analytical methods to properly size an anchor system as a function of wind speed.

Rooftop mechanical equipment load standards resolve total wind impact into horizontal (overturning) and vertical (uplift) forces. However, load standards are insensitive to roof system type and possibly underestimate the total load transfer of wind kinetic energy onto rooftop mechanical equipment, specifically on mechanically attached roof systems.

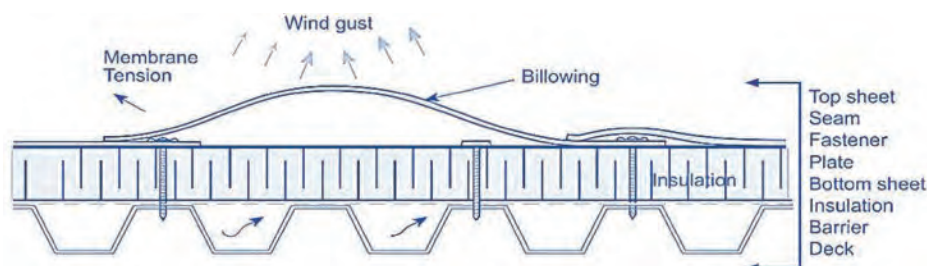


Figure 1: Wind effects on mechanically attached roof system

The billowing of a single-ply roof membrane under wind-uplift pressure can cause a significant load transfer from a mechanically attached roof system to rooftop mechanical equipment. Ongoing experiments at the Bronco Construction Research Center at Western Michigan University, Kalamazoo, Mich., show rooftop mechanical equipment anchor points can be stressed beyond current load standards when deployed on mechanically attached roof systems.



Dynamic roofing facility at Western Michigan University, Kalamazoo, Mich.

## DYNAMIC ROOFING FACILITY

Wind-uplift testing can quantify the load transfer between single-ply roof membrane balloons on mechanically attached roof systems to rooftop mechanical equipment, specifically measuring the impact of clearance between rooftop mechanical equipment and roof membrane and evaluating the significance of the relative position of an anchor to a seam. These findings can be compared with load standards to provide a better appreciation and awareness of this issue.

The dynamic roofing facility at Bronco Construction Research Center can accept up to 24- by 12-foot, 18-inch-thick low-slope roof specimens under uniform static and cyclic loading up to 300 pounds per square foot uplift pressures (see photo). The facility comprises a lift-operated top chamber with viewports and a bottom reactionary table frame. The wind-uplift chamber operates via a closed-loop control system employing a fan blower (100 horsepower), servo-controlled flap valve (simulating wind gusts), controller and pressure sensors. A primary pressure sensor is used for control feedback. Two secondary pressure sensors deployed in the opposite corners of the chamber verify pressure uniformity across the system.

The dynamic roofing facility applies four target pressure levels (25, 37.5, 50 and 75 psf) to the rooftop mechanical equipment using 30 gusts per

target pressure following CSA A123.21-20, “Standard Test Method for the Dynamic Wind Uplift Resistance of Membrane-roofing Systems.” Each gust is 8 seconds ( $T_1$ ) and consists of a 4-second target pressure component ( $T_2$ ) enveloped by transient periods followed by a 2.4-second zero pressure component ( $T_3$ ). The dynamic response of the rooftop mechanical equipment unit to the chamber suction was captured as a time history of four load sensors.

A full-scale mechanically attached roof system mockup was constructed with an HVAC unit attached using four load sensors (load cells) embedded in a series with their anchor points reacting against the frame of the dynamic roofing facility.

## RESULTS


During the wind-uplift application inside the dynamic roofing facility, the load transfer to rooftop mechanical equipment from ballooning of the membrane in a mechanically attached roof system resulted in significant damage to the HVAC unit.

### Impact of clearance

Load transfer significantly varies depending on the clearance between mechanically attached roof systems and rooftop mechanical equipment across all pressure levels. Jurisdictional standards and industry practices may establish a minimum clearance of 4 inches, historically tied to using 4- by 4-inch dimensional lumber sleepers for supporting rooftop mechanical equipment. Although this dimension has been adopted in some cases for modern engineered supports and anchor systems, current guidelines often recommend greater clearances (e.g. 6 to 18 inches) to accommodate drainage airflow and maintenance access, depending on local building codes, equipment manufacturer guidelines and specific site requirements.

At lower pressure levels, an increase in clearance to 8 inches markedly reduces the load transfer from 473 pounds to 225 pounds, achieving a reduction of more than 50% (see Figure 2). However, at





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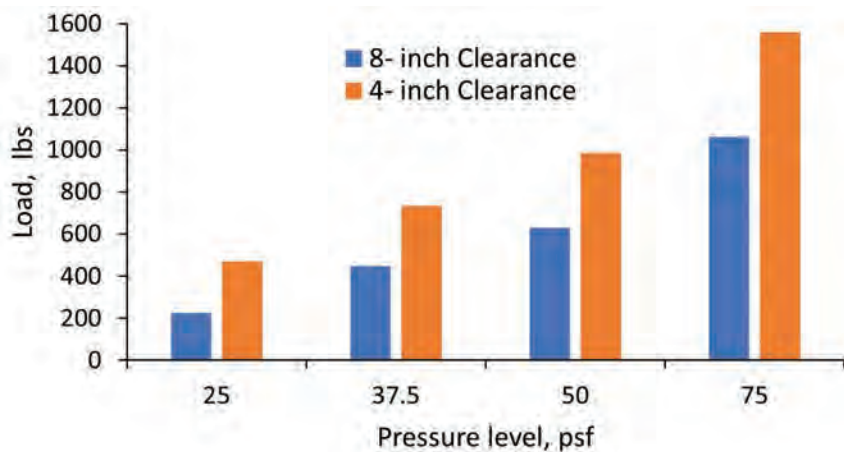


Figure 2: Comparison of total load transfer from a mechanically attached roof system to rooftop mechanical equipment for 4- and 8-inch elevation clearances

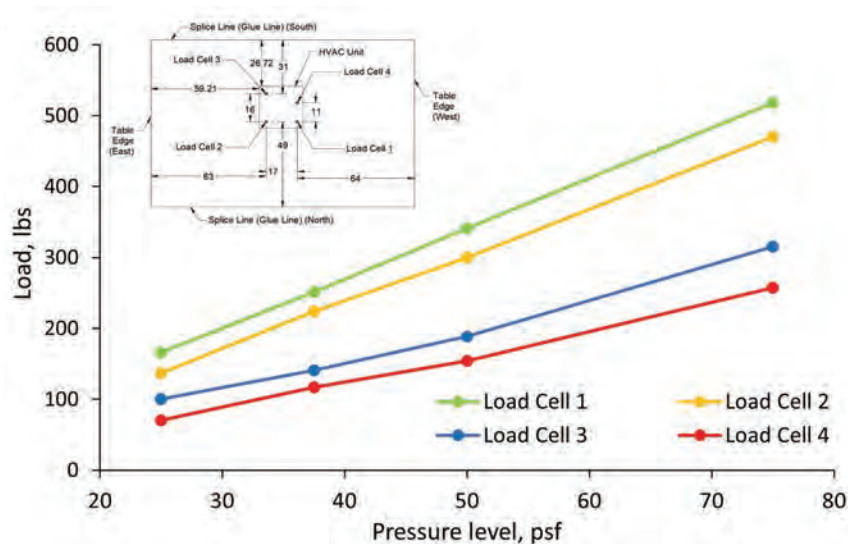


Figure 3: Comparison of load transfer from mechanically attached roof system to four anchors of rooftop mechanical equipment at 4-inch clearance

higher pressure levels, the advantage of increasing the clearance decreases the reduction in load transfer to less than 30%. This highlights the importance of considering clearance when designing a mechanically attached roof system, particularly its effectiveness in reducing load transfer and varying pressure levels.

#### Impact of position

During one experiment, the HVAC unit was secured to the dynamic roofing facility frame at four points arranged in a 16- by 16-inch square.

The four anchor points and associated load cell apparatus were not evenly spaced with the mechanically attached roof system seam lines and the edges of the dynamic roofing facility frame table as depicted in the schematic shown in Figure 3.

The four anchor points of the rooftop mechanical equipment sustained variable load transfer from the mechanically attached roof system across all pressure levels (see Figure 3). Consistently, load cell 1 captured the highest load across all pressure levels, trailed by load cells 2, 3 and 4. At 25 psf and 75 psf pressure levels, load cell 1 captured 166 pounds and 518 pounds of uplift load, respectively. In comparison, load cell 4 at these pressure levels sustained only 70 pounds and 257 pounds of uplift, respectively.

In summary, the uplift load recorded by load cell 1 was 137% higher at 25 psf and 101% higher at 75 psf compared with those measured by load cell 4, indicating a substantial difference in tensile load distribution between the two anchors. The anchor load positively correlates with the membrane area, creating a ballooning load. Increasing the distance of an anchor point from a seam line increases the uplift force on an anchor.

To illustrate, the anchor on load cell 1 was impacted by a mechanically attached roof system balloon measuring 3,725 square inches, and the anchor on load cell 4 collided with a balloon measuring only 2,950 square inches. Larger balloons possess greater elastic potential energy and transfer greater loads onto an anchor system than smaller balloons.

## WIND LOAD CALCULATIONS

The uplift force ( $F_v$ ) exerted on a rooftop HVAC unit is determined following the minimum design loads standard in ASCE 7, which considers several factors: velocity pressure ( $q_h$ ), wind directionality ( $K_d$ ), gust effect ( $GC_r$ ) and top surface area of rooftop mechanical equipment ( $A_r$ ). In ASCE 7-22, equation 29.4-3, this relationship is expressed as:

$$F_v = q_h \times K_d \times GC_r \times A_r$$

For instance, with given values of  $q_h = 25$  psf,



$K_d = 0.85$ ,  $GC_r = 1.5$  and  $A_r = 4 \text{ ft}^2$ , the calculated uplift force is 127.5 pounds. This analysis explicitly represents the uplift force caused by aerodynamic wind flow. According to ASCE 7 load analysis, the uplift forces for this scenario range from 128 to 383 pounds, corresponding to a pressure level spectrum of 25 to 75 psf.

However, empirical data from a more stringent 4-inch clearance scenario reveals uplift forces ranging from 473 pounds to 1,560 pounds across the same pressure spectrum. These empirical results indicate uplift forces can be between 270% and 308% higher than those predicted by standard load analysis methods.

The interaction between the ballooning of a mechanically attached roof system and its rooftop mechanical equipment predominantly influences the load transfer mechanism observed in the dynamic roofing facility. Specifically, hydrostatic conditions within the dynamic roofing facility chamber negate any uplift effect on rooftop mechanical equipment as demonstrated in the study's setup.

In the tested scenario, the wind-uplift table generated no uplift force on the rooftop mechanical equipment; all anchor reactions resulted solely from the membrane ballooning against the equipment frame. This observation underscores the critical role of the roof membrane's dynamic behavior when influencing load transfer mechanisms under wind-uplift conditions.

## TAKEAWAYS

We note the following conclusions and recommendations from the experiments:

- Engineered roof anchor systems can optimize rooftop mechanical equipment deployment by eliminating field fabrication, standardizing components and reducing weight.
- Wind-induced failure of rooftop equipment is common. Securing rooftop mechanical equipment to resist wind loads is essential to protecting the integrity of the building envelope and avoiding exposing the building's

interior to higher wind loads and possible water intrusion.

- The load transfer from mechanically attached roof systems to rooftop mechanical equipment as a result of membrane ballooning can be significant. Clearance below raised rooftop mechanical equipment is crucial in reducing load transfer. Increasing the clearance from 4 to 8 inches can reduce the load transfer by more than 50% at lower pressure levels.
- The relative position of an anchor to a seam also affects load transfer. Load cells closer to seam lines capture lower loads than load cells farther away. The size of a wind-borne roof membrane balloon in contact with a rooftop mechanical equipment system determines the uplift force on an anchor.
- Wind load calculations based on load standards in ASCE 7 may underestimate the uplift forces on rooftop mechanical equipment. Empirical data from a 4-inch clearance scenario shows uplift forces that can be 270% to 308% higher than those predicted by ASCE 7. Continuous improvement of rooftop mechanical equipment anchor system designs that consider ballooning effects is recommended. 🌀🔍

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**BILAL ALHAWAMDEH, PH.D.**, is senior research associate at Bronco Construction Research Center, Western Michigan University, Kalamazoo, Mich.; **BRIAN MONTGOMERY, P.G.**, is director at Bronco Construction Research Center, Western Michigan University; and **ONDRE PEKAROVIC, ME**, is research engineer at Bronco Construction Research Center, Western Michigan University.



Clearance below  
raised rooftop  
mechanical  
equipment  
is crucial in  
reducing load  
transfer

# EDUCATED ROOFING



Dan Perkins Construction handcrafts a copper roof on a school complex in Michigan

**BY** Chrystine Elle Hanus

**L**ocated in the center of Michigan's Upper Peninsula, Ishpeming Public School District serves about 700 students who attend elementary, middle or high school.

Established in 1868, Ishpeming Public School District's mission is to prepare all students to be self-motivated, responsible and productive citizens in a rapidly changing world.

During 2023-24, the school district undertook a project to replace the roof systems on a building complex that combines Ishpeming's middle and high schools. NRCA member Dan Perkins Construction Inc., Ishpeming, Mich., was selected as the roofing contractor to install a new batten-seam copper roof system.



## PARTNERS IN TIME

During the past two decades, Dan Perkins Construction has collaborated with Ishpeming Public School District on many community projects (see “Service beyond roofing”), including two free roofs through Dan Perkins Construction’s annual ritual of donating a free roof on a community structure.

“We donated and installed a standard standing-seam roof system on the playing field pavilion and concession stand one year, and we put a copper roof system on the Art Park Pavilion at the school a few years later,” says Dan Perkins, president of Dan Perkins Construction.

When the school district’s larger roofs needed replacing, administrators called on Perkins.

“Because of our long-term, interwoven relationships with Ishpeming Public School District, we were called in early to help with the specifications for the job,” Perkins says. “The project did go out for competitive bids, but we were the lowest bid because we are a local business. Subsequently, we were selected for the job.”

The Dan Perkins Construction team began work on the project in June 2024 after the schools closed for summer break. The three-story building complex is joined by a roof that has three cupolas—the center one is 120 feet high and contains an original copper weathervane in the shape of a sailing ship.

To prepare the roof areas for work, scaffolding was erected by Badger Scaffold LLC, Green Bay, Wis., around the building complex.

“The scaffolding was built all the way up to the tops of the cupolas, making it possible for our crew to work without harnesses for the duration of the job,” Perkins says. “We staged materials on the flat-roof sections on the north side of the school using a 60-foot material handler.”

The 30,000-square-foot copper portion of the roof was about 96 years old and originally fabricated from 16-ounce copper with internal gutters 5 feet above the eaves.

“The internal gutters were problematic and caused regular leaking, so it was decided they should be eliminated in favor of an external gutter

system mounted on new sub-fascia and trim,” Perkins explains.

## TEAR-OFF AND INSTALL

The crew removed the old patinaed copper from the steep-slope roof sections and recycled the material, saving a few hundred pounds to be used by the schools’ arts and trades departments.

Crew members then fastened new 1/2-inch-thick oriented strand board panels on top of the wood roof deck and then applied Owens Corning Titanium® PSU30 self-adhering polymer-modified rubberized asphalt underlayment. Next, the team attached 1 1/2-by 1 1/2-inch wood battens 30 inches on center on top of the membrane followed by 20-ounce batten-seam copper roof panels fabricated and installed by Dan Perkins Construction craftsmen.

All the copper roofing and cladding for the project was fabricated from 3-by 10-foot copper sheets supplied by Oakland Metal Sales Inc., Auburn Hills, Mich.

For the cladding fascia, frieze boards, cupolas and gutter trim details, Dan Perkins Construction craftsmen fabricated the components from 24-gauge aluminum-zinc-alloy-coated steel (Galvalume®) flat sheets and coil stock with a Kynar 500® finish supplied from McElroy Metal, Bossier City, La. All trim details were custom-painted to match the schools’ building trim color.

“This included many fussy and intricate details on the cupolas,” Perkins says.



**Project name:** Ishpeming Public School District complex

**Project location:** Ishpeming, Mich.

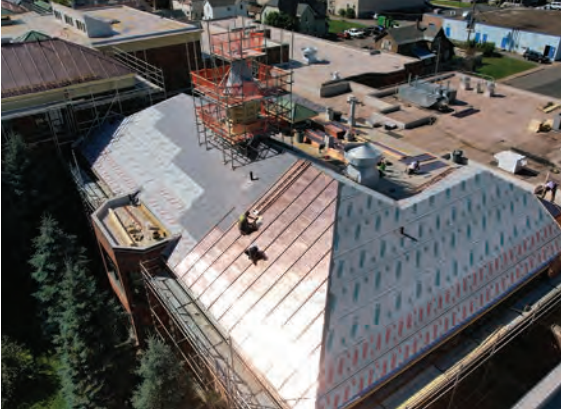
**Project duration:** June 1-Oct. 16, 2024

**Roofing contractors:** Dan Perkins Construction Inc., Ishpeming, Mich., and Nasi Roofing LLC, Minocqua, Wis.

**Roof system types:** Batten-seam copper and PVC membrane

**Copper supplier:** Oakland Metal Sales Inc., Auburn Hills, Mich.

**Steel supplier:** McElroy Metal, Bossier City, La.



Aerial view of new roof system under construction

In addition, the team installed a new three-rail bronze snow-retention system engineered and supplied by Alpine Snow-Guards, Morrisville, Vt., and soldered copper snow guards to the panels. The team also refabricated the copper weathervane that included a new shaft and ball bearings.

“Everything on the job was fabricated by hand, and this took time,” Perkins says. “Many of the guys on the crew were learning for the first time the traditional techniques and systems for manufacturing and installing batten-seam copper roofing.”

For the 53,500-square-foot low-slope roof areas, in 2023, a team from NRCA member Nasi Roofing LLC, Appleton, Wis., removed the existing EPDM membrane and added two inches of polyisocyanurate insulation followed by mechanically fastening Duro-Last® 50-mil-thick PVC membrane in gray.

In 2024, the Nasi Roofing team returned to complete low-slope work over the gymnasium where it adhered 10,500 square feet of Duro-Last X® PVC membrane in white and tied the roof areas to the copper work completed by Dan Perkins Construction.

“Our crew demonstrated outstanding coordination and collaboration with multiple contractors over a two-year timeframe,” says Todd Nasi, owner of Nasi Roofing. “Everyone involved was great to work with and remained focused on providing

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## SERVICE BEYOND ROOFING

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Twelve years ago, Dan Perkins, president of Perkins Construction Inc., Ishpeming, and his wife, Pam, turned their lawn into vegetable gardens and planted fruit trees. As the gardens grew, they created Partridge Creek Farm, a nonprofit that provides local food access to Ishpeming’s struggling neighborhoods and education to connect the community with their food and one another.

The Perkinses engaged the community in the project, formed a board of directors and staff, built six downtown gardens, developed a robust farm-to-school program and now are working on a 3.5-acre intergenerational farm to provide 50,000 pounds of local produce to Ishpeming Public School District’s cafeteria and pantry. Through the nonprofit, a career and technical education training program called Flipping the Food System also was developed to provide training in resilient local agriculture for high school juniors and seniors in Ishpeming.

In 2023, Partridge Creek Farm expanded and another nonprofit, Partridge Creek Compost, was formed to divert compostable waste out of the county landfill. Through Partridge Creek Compost, the first fully compliant industrial-scale composting site in Michigan was built.

“In our engagement with Ishpeming schools, I have witnessed the joy of hearing a cafeteria full of schoolchildren chanting our slogan ‘Feed the worms’ at the top of their lungs during our lunch pep talks about composting their uneaten food,” says Dan Perkins. “Developing a system of post-consumer compost diversion that is not contaminated with trash at the institutional level takes an intense amount of education and coordination with staff.”

For the past 20 years, Dan Perkins also has volunteered with Ishpeming Lions Club. In 2023, while serving as district governor of the Upper Peninsula’s 47 Lions Clubs, he prioritized food insecurity, and many of the clubs in the district participated in the Farm to School Institute professional development training offered by Partridge Creek Farm at the Intergenerational Farm site in Ishpeming.

In addition, as environmental chair for Ishpeming Lions Club District 10, Perkins helped create a district matching grant for Lions Clubs that want to engage with local schools to help fund and build school gardens and farm-to-school programs. In his role, Perkins also assists Upper Peninsula communities with building compost diversion programs.



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Dan Perkins Construction craftsmen at work



New wood battens for the copper panels



Newly completed roof system

the school district with a long-lasting roof they can count on for years to come. We're incredibly proud of the teamwork and dedication displayed throughout this project."

In addition, the Dan Perkins Construction crew worked with Mike Daniels, owner of Sierra Seamless Inc., Iron River, Mich., who fabricated and installed the gutters, covers and copper downspouts.

## BACK TO SCHOOL

In October 2024, the Dan Perkins Construction team completed work on the Ishpeming Public School District project. Because of intricate details at the cupolas, eaves and fascia as well as customized installation work formed by hand on the battens and caps, the project took six weeks longer than anticipated.

"Fortunately, the school was patient with us," Perkins says.

Although the team was challenged with learning curves that come from fabricating roofing and installation methods dating back hundreds of years, the stellar result of the painstaking craft is seen by all who visit the schools.

"This truly was the job of a lifetime for our company," Perkins says. "It was a great opportunity for our crew to learn and apply the ancient craft of copper batten-seam roofing on a historical building. Many on our team have graduated from or have family attending the school. My wife and all our children graduated from Ishpeming High School, and with our involvement in various school programs, the legacy of our roof on the building is that much more rewarding to us." 🌿🌿🌿

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**CHRISTINE ELLE HANUS** is *Professional Roofing's* associate editor and an NRCA director of communications.





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## Project:

### St. Peters Cathedral, Erie, PA

**Scope of works:** Slate Re-Roof, Standing Seam Copper Roof, and Gutters Replacement

**Contractor:** A.W. Farrell & Son, Inc. Erie, Pennsylvania

**Copper Roof and Gutters:** Armor Fab, LLC, Erie, Pennsylvania. 30-SQ of Copper Roofing. 750' feet of gutter

**Project Manager:** Randy Pace

**Assistant Project Manager:**

Tony Lazarony

**Slate Foremen:** Sean Irwin and Gary Fish, and Journeyman Paul Gibbs from Roofer's Local 210. 230-SQ of Slate

**Copper Work Foremen:** Kody Pace and Chris Hogue from Sheetmetal Local 12

In 1873 ground was broken to begin the building of the St. Peters Cathedral in Erie, Pennsylvania. A slate roof was installed on the steep pitches, along with a standing seam copper roof at lower pitches, and copper gutters set-into the stone perimeter of the roof.

Prior to the re-roof \$2 million in "gold leaf" was applied to the walls and ceilings inside the church. This meant the winter prior to the new roof installation the existing roof had to be protected. The re-roof began in the Spring of 2023, with the 150-year-old slate being removed first, as Sharkskin Ultra SA® was installed to protect the Cathedral.

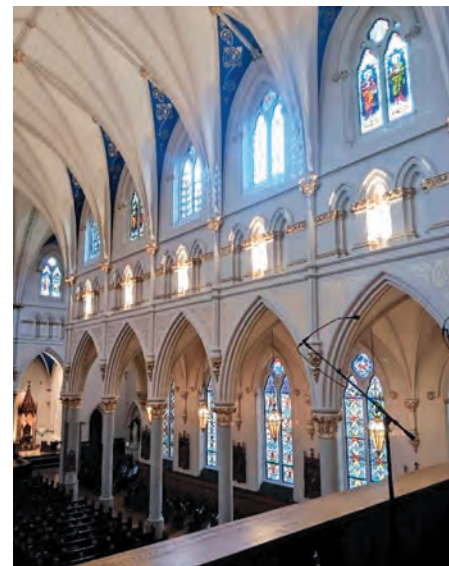
Sharkskin Ultra SA® was chosen for the re-roof of the St. Peters Cathedral, in Erie, Pennsylvania, for its long term 50-year warranty and High-Temp rating under the new Greenstone Slate roof and Standing Seam Copper Roof. In addition, the Cathedral is approximately a little more than a mile from Lake Erie. Lake Erie is known for its strong "lake breeze" winds. The men from A.W. Farrell & Son, Inc., have experience with Sharkskin Ultra SA® and know once installed properly, it's not going to blow off.

In addition, the walking surface of the



Sharkskin Ultra SA® provided the men setting the roof scaffolding, and roof jacks with a safe walking surface. The scaffolding set directly on top of the Sharkskin Ultra SA® was leak-free during the roof installation. Sharkskin Ultra SA provided leak-free protection on the entire project from start to finish, as well as providing 12-Month UV Protection.

With the top of the Cathedral steeple at 300' and the distance to the top of the gutters at 80'-100', it was important that the project ran smoothly. Every pallet of slate had to be "ring tested," which means a hammer is used to test the slate, to make sure there are no cracks. The slate will ping in just the right way to confirm, soundness. In addition, slate was pulled from three separate pallets onto one, to maintain even color dispersion across the roof



plane, to eliminate blotches of lighter and darker slates.

The standing seam copper roof panels and copper gutters were fabricated locally by Armor Fab, LLC, owned by Robert Pace. The copper gutters were made in 20' lengths and craned up to the roof. The on-site crane was invaluable for the installation of both the Copper Sheetmetal work and slate roof installation.

Another beautiful roof installation from the men at A.W. Farrell & Son, Inc.

# AN IMPORTANT

In the construction industry, sustainability can mean so many things. Is it how a product was made? The end use of the product or application? The material's end-of-life reuse and recyclability? The term "sustainability" is often used and rarely clarified even as it continues to evolve throughout the general construction industry and, specifically, with regard to roof systems and roofing applications.

Cover boards can play an important role in low-slope membrane roof system sustainability.

## RESILIENCY

At the highest level, a roof assembly should last its expected life cycle. One of the most resilient roof system components on the market today is a cover board. The reason a cover board exists is to add resiliency to every roof system on which it is installed. The right cover board can help resist fire, punctures, and high impacts from hail or wind-driven debris.

Part of a sustainable roof system is its resiliency. Why is resiliency important? According to The American Institute of Architects, as much as 68% of all commercial low-slope roof systems have mechanical equipment placed on them. Adding to the resiliency need: Mechanical technicians and service people don't always understand roof system components or limitations, and dropping of tools, for instance, can lead to a significant puncture incident. This low-impact puncture/foot traffic/service worker damage cannot be underestimated as it may compromise the performance of the roof when further exposed to the elements (rain, wind, hail and fire).

New to the roof sustainability discussion is installed solar panels. As opportunities for harnessing solar energy increase, roofing contractors are seeing more solar panels installed on low-slope roof systems. Solar arrays, while beneficial to sustainable design,

Cover boards can enhance the sustainability of low-slope roof membrane systems

by Hamed Kayello, Ph.D.



Photos courtesy of Georgia-Pacific, Atlanta.



# COMPONENT



can carry an increased risk of fire-, puncture- and impact-related damage. How can a roof system designer create the necessary roof system resiliency and allow for opportunities for solar growth?

Think of a roof membrane as a monolithic surface designed to keep a roof system safe and whole. A rigid cover board made of a noncombustible material installed below the membrane and above the insulation can help mitigate some risks associated with adding rooftop solar arrays. By pairing a membrane with a rigid cover board, you can enhance the performance of the entire roof assembly should rooftop solar panels be a consideration during the life cycle of the roof.

Insulation also is an important roof system component, and it seems as though energy codes are requiring additional insulation to increase energy efficiency and thermal performance. A rigid cover board can provide increased compressive strength to protect the insulation from cavitation or crushing.

Additionally, a cover board can provide increased puncture resistance to prevent potential insulation saturation associated with moisture intrusion from leaks. Damage to insulation can negatively affect its thermal performance resulting in increased energy consumption to heat or cool the building.

## OTHER CONSIDERATIONS

Determining roof assembly resiliency and sustainability must include a closer inspection of each component involved. It's best to take a holistic approach to what a roof is meant to do, which is to protect the structure, investment and contents. Does your chosen component help the roof system achieve these goals in an optimal, versatile way?

With regard to choosing a cover board, research the product to ensure the choice will help the roof system achieve set goals. Use multiple lenses to determine what's important and what the product is supposed to do. For example: A manufacturer might recycle products



Using a cover board on a single-ply membrane roof can increase the median life expectancy by four years.

to add perceived benefits such as landfill diversion. Although a product might be highly recycled, is it meeting resiliency requirements? If not, the roof could potentially fail. There is a connection between resilience and long-term sustainability.

An FMI study commissioned by Georgia-Pacific in 2020-21 identified 100 roofs of varying types throughout the U.S. The study found using a cover board on a single-ply membrane roof increased the median life expectancy by four years, reduced operation and maintenance costs by an average of \$1.40 per square foot over a 20-year lifespan and increased the percentage of roof assemblies (52% to 86%) that met their full life expectancies compared with a single-ply membrane roof without a cover board.

## FIND A GOOD PARTNER

Roofing professionals looking for manufacturers with a sustainability or resiliency structure should ask whether manufacturers have a stewardship or sustainability team to help them navigate sustainable design measures similar to the way a technical person or consultant would provide guidance with building codes.

Responsible management of environmental resources is vital to providing products and services to help people improve their lives while using fewer resources and respecting the environment.

Georgia-Pacific believes in five environmental stewardship priorities: innovation; energy efficiency; air quality; water; and responsible resource management. On the manufacturing side, the company believes manufacturing in-market minimizes the impact of truck freight as does trucking products from shorter distances.

Georgia-Pacific has significantly improved its resource efficiency and waste reduction. For example, if part of a product isn't used in the manufacturing process, it's turned into another product. The company is constantly considering and looking at improving energy efficiency in operations as well as improving systems in our manufacturing facilities nationwide.

To read Georgia-Pacific's corporate stewardship report, go to [professionalroofing.net](https://professionalroofing.net).

In addition, many manufacturers use Environmental Product Declarations to help consumers and contractors understand product components and scoring. EPDs can help guide decision making in sustainable design but should not be the only consideration. Performance supporting resiliency and overall life-cycle analysis of the roof system are primary factors to consider.

As an industry, we should try to improve efficiencies across the board, combining product and process together, from researching ways to source critical raw materials to improving our methods of job-site delivery and installation.

## WORKING TOGETHER

With a topic this complex and a market chock-full of product solutions, there isn't a single solution to roof system sustainability. Each company needs to better focus on doing its part. Contractors should consider collaborating with the design community, manufacturers and distributors while following guidelines set forth by governing bodies to ensure all performance needs for roof systems are considered. 🌱🔧

**HAMED KAYELLO, PH.D.**, is product manager—gypsum for Georgia-Pacific, Atlanta.



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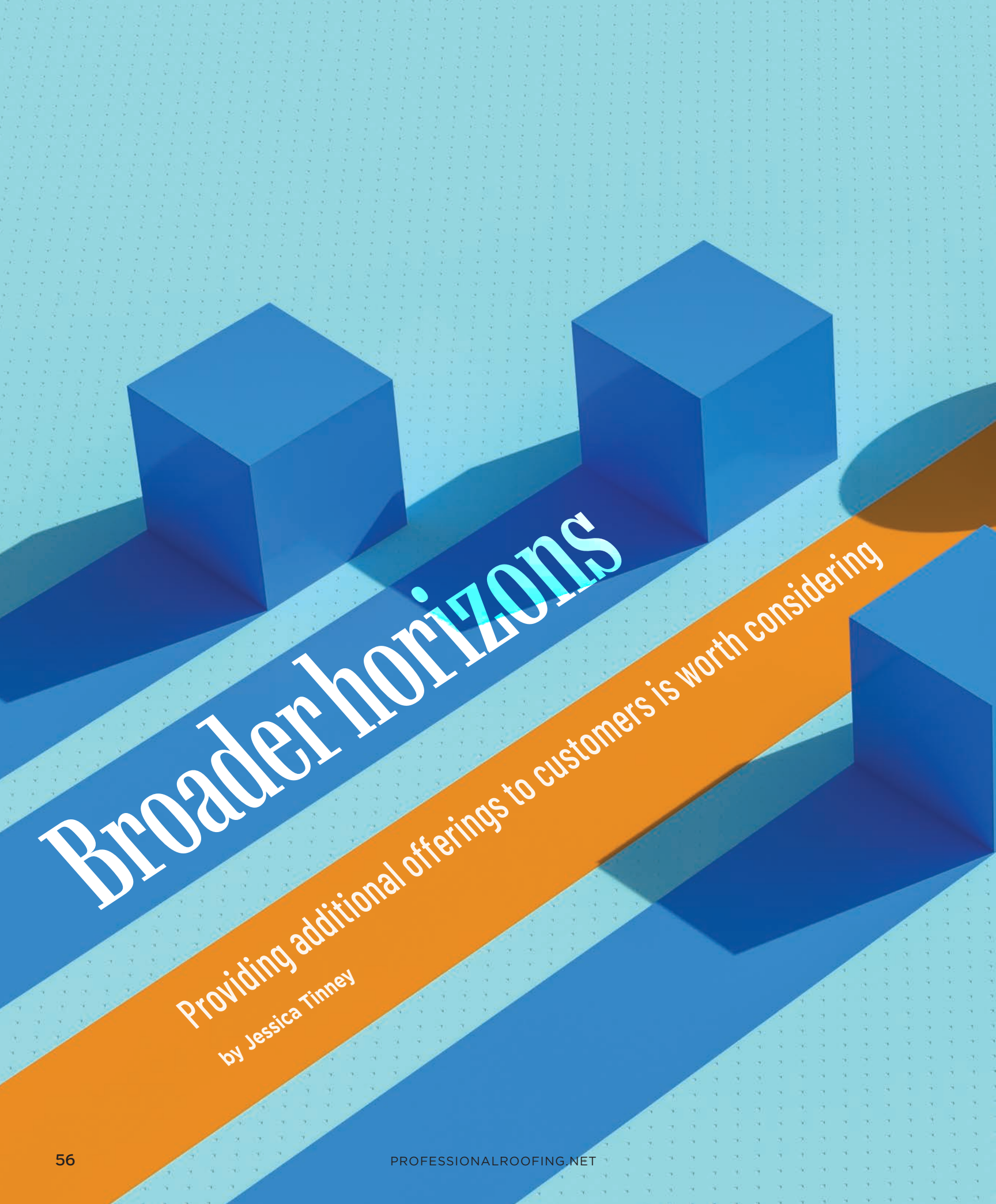
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East Quarter Residences, Dallas, TX  
Photographer: David Lloyd







# Broader horizons

Providing additional offerings to customers is worth considering

by Jessica Tinney





**W**hen it comes to growing their businesses, roofing contractors have many paths to consider. Some businesses pursue organic growth driven by sales and referrals. Others seek to grow through mergers and acquisitions or by entering new markets. And some seek to grow their businesses by expanding the scope of products and services they offer.

The surge in home improvement projects during the global pandemic prompted many roofing contractors to consider adding services beyond roofing. The boost a roof system replacement brings to a home's exterior can inspire customers to take additional steps in the home makeover process. Potential add-on home enhancements include solar technology, skylights, siding, gutters, windows, porch overhangs, masonry and more.

During a recent Owens Corning conference, three roofing contractors shared some lessons they learned as they expanded their offerings beyond roofing. Gene Judd, owner and president of NRCA member Bone Dry Roofing Inc., Indianapolis; Dana Logsdon, owner of Logsdon Roofing & Solar, El Cajon, Calif., based in the San Diego County area; and Greg Tittle, owner of Tittle Brothers Construction, Brownstown Township, Mich., participated in an Owens Corning panel discussion titled "More than a Roof." Logsdon Roofing & Solar and Tittle Brothers Construction are not NRCA members.

Following are some key takeaways.

### Lead with your reputation

A roofing business that has established a strong reputation in its market must diligently protect that reputation.

"If you don't do a given trade every day, it's hard to be good. You've got to be good at estimating, build a steady crew trained in the trade and know all the parts of offering that trade. It takes time and it's important not to rush in before you're ready," Judd explains. "If we do a good job with roofing work, generally, owners will trust us to do other services. We strive to build a team and establish an infrastructure before we roll out other trades in a given market."

Judd's company has grown to 19 offices and offers nonroofing exterior services on a location-by-location basis. The company's Indianapolis operation offers solar systems, gutters, insulation, masonry, siding, windows, painting and HVAC including roofing services. However, the essential service remains roofing.

### Consider your market

The southern California market's focus on energy conservation and its sunny climate have primed homeowners for solar solutions. So it makes sense solar roofing products are a popular option there.

But contractors also should consider what products and services are not being offered in their markets. Tittle's business has carved out a niche in patio overhangs that has helped turn roof system replacements into exterior makeovers.

"There is not a lot of competition in our market for overhangs, and these projects tend to lead to new siding, trim and gutters so the whole exterior comes together," he says.

Tittle's team makes the decision to add services easy for the customer by providing financing. Some customers aren't comfortable asking about financing, so Tittle's team makes finance options part of the conversation.

“A lot of people are too proud to tell you they need financing, so we just talk about the options available as a part of the conversation,” he says.

In the Midwest, masonry chimneys are popular and have presented an add-on opportunity for Bone Dry Roofing. Masonry tuckpointing, installing brick and fixing cracked crowns all complement the company’s roofing services.

“Customers expect our roofs to be ‘bone dry,’ so it’s a pretty tough conversation if there is a leak because of a problem with tuckpointing,” Judd says. He says that beyond generating revenue, the masonry tuckpointing results in a better system for customers.

And, sometimes, expanding your market geographically can be an option.

“Winters are winters in the Midwest,” Judd continues. “If customers don’t want you on their roofs, they probably don’t want you popping out windows. That’s one reason we’ve opened some branches in Florida. We’ve got a 12-month season in Florida, and it helps offset the winter in our other locations. The commercial side of our business helps, too. Building owners typically don’t mind you being on their low-slope roof during the winter.”

## Tap into strengths

There are many parts of a home that will need to be maintained or replaced over a home’s life. Logsdon’s company’s estimates and invoices make note of the various home improvement services available, reminding customers of all the services offered.

“If you’re not constantly reminding people of what you do for a living, you’re leaving yourself open to competition,” he says.

But even the most premium home improvement offering can easily fail if the right people are not on board and equipped with the skills and knowledge to support the new offering. Bone Dry Roofing brought in an experienced leader to support the addition of its masonry business.

“Our clients appreciate it when a salesperson shares they can bring in an expert to address a certain issue,” Judd says.

Logsdon advises: “Make sure you have the right people in place to grow a new part of the company. That’s the key: getting the right people in the right position to do a specialty.”

Although salespeople can be trained to discuss all products with homeowners, Tittle suggests identifying the strong suits of each team member.

“Find what salespeople are good at. Everyone wants to sell roofing because a roof system replacement can be a quick and easy sell,” he says. “But when team members understand they can make additional money because they’re selling more jobs, they’ll focus more on those areas.”

Every member of the team has a role to play when it comes to achieving success. Tittle invested in a large wheel that has become a central part of growth initiatives. All staff members have a chance to spin the wheel and win a prize.

“Everybody is pushing as a team to help us hit our goals,” he says.

## Words of wisdom

Judd, Logsdon and Tittle emphasize the primary part of a business must be operating perfectly before efforts are made to expand to other trades. Deliberation and caution also are advised.

“Think through every part of the new offering; get the right people; and deliver the best experience,” Tittle advises.

Guarding against complacency can help spur growth, and new products can help a roofing contractor keep a competitive edge in his or her market.

“Your primary trade can become automatic, so be alert to what’s changing,” Logsdon says. “Always look at the younger generation, and watch what they’re doing to accelerate growth and stay open to new ideas.”

Judd sums it up: “I used to run fast and roof fast. What I’ve learned is to take my time and make sure good people and processes are in place before we bring in a new trade.” 🌀🌟

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**JESSICA TINNEY** is roofing contractor program leader for Owens Corning, Toledo, Ohio.



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## MANUFACTURER NEWS

### ATAS International president honored

**ATAS International Inc.**, Allentown, Pa., has announced its president, Dick Bus, received the Person of the Year award at the 31st annual Lehigh Valley Commercial and Industrial Real Estate awards breakfast.

Bus has supported the youth of Lehigh Valley and introduced them to potential careers within architecture, construction, engineering and manufacturing.

During his speech at the event, Bus said: "I owe my success to a lot of people throughout my life, starting with my parents—immigrants from Holland—who knew nothing about the construction or manufacturing industries, but had the nerve to start a business to feed eight kids."

Additionally, ATAS International's website was honored with the Award of Distinction by the Communicator Awards, a global awards program honoring creative excellence for marketing and communications professionals.

The award was submitted and received by Kraemer Schurman Advertising & Design, Allentown, Pa.



Dick Bus (far left) and family

### Siplast opens storm testing facility

**Siplast**, Dallas, has opened a storm testing facility in Arkadelphia, Ark. The company's Research, Innovate, Support and Evolve (RISE) Center specializes in testing its premium roofing and waterproofing products under simulated storm conditions.

The 12,500-square-foot facility features a wind pressure testing unit with a 10,000-pound hoist and a high-velocity hail cannon.

"This state-of-the-art facility enables Siplast to accelerate product development; instill confidence among contractors, architects, specifiers and building owners; and reaffirm our commitment to innovation and delivering exceptional products at every stage," says Kirk Goodrum, vice president and general manager of Siplast.

### Westlake Royal Building Products™ enhances facilities

**Westlake Royal Building Products**, Woodbridge, Ontario, has announced a strategic investment initiative to enhance operations and capacity of Newpoint™ Concrete Roof Tile in Florida. The company will enhance two of its Florida manufacturing facilities to address demand, located in Lake Wales and Okeechobee. The Lake Wales facility enhancements aim to streamline operations and improve the quality and efficiencies of product and packaging processes; the Okeechobee facility enhancements focus on growing production capacity and output.

Additionally, Westlake Royal Building Products has improved its e-commerce platform and is enhancing key delivery and roof load services to enable reach to previously inaccessible areas of Florida.

# Carlisle SynTec Systems' PVC

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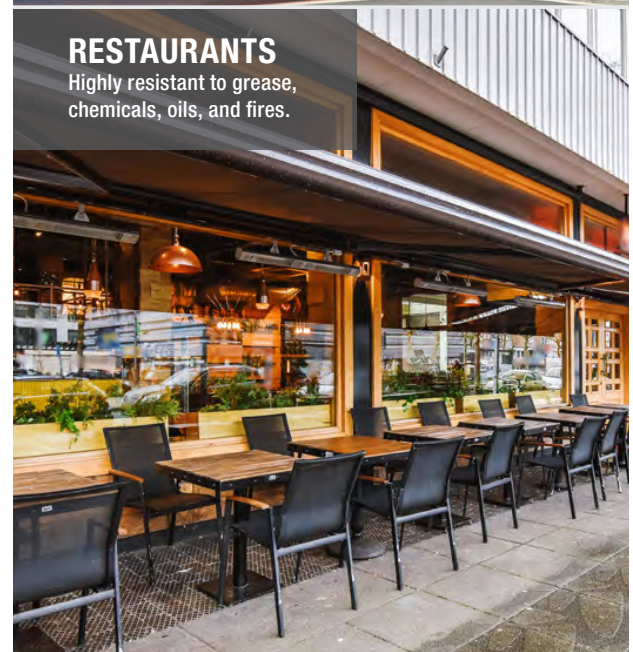
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## GAF awards new roofs

**GAF**, Parsippany, N.J., has partnered with NRCA member 5 Star Roofing & Restoration, Greensboro, N.C., to award a new roof system to David Robinson, a North Carolina veteran. The collaboration and donation were made possible through 5 Star Roofing and Restoration's Roofs of Honor campaign and GAF's social impact initiative GAF Community Matters.

GAF donated the roofing materials, and 5 Star Roofing & Restoration donated the labor.

"Donating this roof to a hero who has faced unimaginable challenges is close to our hearts," says Shannon Leiss, co-owner of 5 Star Roofing & Restoration. "This is all about giving back to those who have sacrificed so much for our country and our community."

Additionally, as part of GAF Community Matters, GAF partnered with G. Fedale Roofing and Siding, Wilmington, Del., and Roofs from the Heart, Wilmington, to provide a new roof for a family in Newark, N.J.

GAF donated roofing materials, G. Fedale Roofing and Siding was the general contractor, and Roofs from the Heart covered labor and installation costs.



The family home in Newark, N.J.

## Sika celebrates recycling milestone

**Sika**, Canton, Mass., announced in November 2024 it surpassed 100 million pounds of processed PVC recycled membrane through its closed-loop Old Roof Take Back Program and pre-consumer recycling operation.

Sika started the program in 2008 to create a cost-neutral arrangement with roofing contractors to ease the burden on landfills while conserving natural resources.

## Brava Roof Tile announces award winners

**Brava Roof Tile**, Washington, Iowa, has announced the winners of its 2024 Brava Excellence Awards, which recognizes the craftsmanship of roofing contractors who have used Brava roof tiles for their projects.

Recognized NRCA members include: American Custom Contractors Inc., Rockville, Md., for the use of cedar shake in Canyon Gray; Cedar Roofing Co. LLC, Lake Forest, Ill., for the uses of slate in Light Arendale, cedar shake in Natural and slate in custom Legacy Gray; Gunner Roofing, Greenwich, Conn., for the use of cedar shake in Aged Cedar; HD Roofing & Solar, Longwood, Fla., for the use of Spanish barrel tile in Antigua; JR & Co. Roofing, Kansas City, Mo., for the use of Spanish barrel tile; Smart Roofing Inc., Chicago, for the uses of cedar shake in Natural and slate in Sheridan 535; and TrueWorks Roofing, Houston, for the use of cedar shake in Natural.

A full list of award winners is available at [bravarooftile.com/2024-brava-excellence-award-winners](https://bravarooftile.com/2024-brava-excellence-award-winners).

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**NRCA**



## IKO joins Canada Green Building Council



**IKO**, Brampton, Ontario, has announced its membership with the Canada Green Building Council. The association aligns with IKO's commitment to advancing sustainability initiatives, including new developments in waste reduction and energy efficiency.

"Joining the Canada Green Building Council is a natural next step in our sustainability journey," says Darren Rafter, IKO's director of sustainability. "This association will help us engage more deeply with the green building community and explore new opportunities to innovate while contributing to a sustainable future for our industry."

## CONTRACTOR NEWS

### Roofing Corp of America acquires Dynamic National

**Roofing Corp of America**, Atlanta, has acquired Dynamic National, Denver.

Dynamic National will operate as a standalone entity within Roofing Corp of America and will continue to be led by its current team, including Jed Sybrowsky, founder and chief revenue officer; Seth Bedell, president; and Gary Kerley, chief operating officer.

The acquisition is Roofing Corp of America's 13th since its founding in 2020.

### Eskola Roofing & Waterproofing acquires three companies

**Eskola Roofing & Waterproofing**, Morristown, Tenn., has acquired NRCA member BBG Contracting Group Inc., Jacksonville, Fla.; Frontier Roofing, Sunland Park, N.M.; and NRCA member Keating Roofing and Sheet Metal, Charleston, S.C. The acquisitions support Eskola Roofing & Waterproofing's commitment to delivering roofing and waterproofing services across essential sectors such as education, infrastructure and healthcare.

The company now operates 22 locations in 11 states.

## UP THE LADDER

ABC Supply Co. Inc. has promoted **Mike Jost** to president.

OMG Roofing Inc. has named **Noah Forrest** its senior vice president and chief financial officer.

S-5! has promoted **Shawn Haddock** to vice president of operations.

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## OTHER NEWS

### METALCON announces Top Product Award winners

**METALCON** has announced the recipients of the METALCON Top Products Award. Winners were determined via an electronic voting process with more than 1,100 votes from industry professionals. Eligible products must have been introduced to the market after Jan. 1, 2023, and their manufacturers had to have been participants at METALCON 2024.

PPG, Pittsburgh, received first place for its PPG DuraNEXT™ Energy Curable Coil Coatings; Malco Tools, Inc., Annandale, Minn., received second place for its Power-Assisted Seamer/Cutter; and MetalForming LLC, Peachtree City, Ga., received third place for its Stolarczyk Coil Processing Solution.

### RT3 announces 2024 Innovator of the Year

**Roofing Technology Think Tank** has presented the 2024 Innovator of the Year award to Paul Spies, co-founder of IronHead Roofing, Corvallis, Ore. The award was announced during the 2024 Best of Success Conference in Bonita Springs, Fla.

Spies was nominated for developing a unique solution that leverages technology and artificial intelligence to address safety issues he was experiencing in his roofing company. He invented an AI-powered camera system that uses real-time monitoring to detect whether workers' harness ropes are properly secured, notifying site managers when a safety risk is identified. After finding success with the technology within his company, he created Smart Safety Solutions LLC to share the solution with the roofing industry.

"Spies is an innovator who leveraged the power of technology to help his workers stay safer," says Anna Anderson, CEO of Art Unlimited, Angora, Minn., RT3 Award task team leader and past RT3 board president. "This technology represents a proactive approach that prioritizes workplace safety and ultimately reduces fatalities in our industry."

## NRCA NEW MEMBERS

### ARCHITECTS/ENGINEERS/ CONSULTANTS

Atlantic & Caribbean Roof Consulting, Sunrise, Fla.  
Bear Engineers, Virginia Beach, Va.  
EFI Global Inc., Tampa, Fla.  
NOVA Engineering & Environmental, Fort Lauderdale, Fla.  
Rimkus, Birmingham, Ala.  
True North Construction Management Inc., Woodinville, Wash.

### CONTRACTORS

Accredited Roofing presents Kangaroo, Caseyville, Ill.  
Advanced Roofing Systems Inc., Signal Hill, Calif.  
All Around Roofing & Waterproofing, Kailua, Hawaii  
All House Group LLC, Louisville, Ky.  
Celt Roofing General Contractors, Royse City, Texas  
Conrad Roofing, Chicago  
Craftline Construction Inc., Medinah, Ill.  
Dakota Storm Roofing, Pierre, S.D.  
Evans Roofing and Gutters, Pittsburgh  
Fleming Construction Group LLC, Tulsa, Okla.  
Green Pine Roofing & Construction, Houston  
Gulf Coast Construction & Restoration LLC, Mandeville, La.  
Gulf States Industries Inc., New Port Richey, Fla.  
Homestar Solutions, Hot Springs Village, Ark.  
L.E. Roofing LLC, Pueblo, Colo.  
Liberty Roofworks, Tega Cay, S.C.  
MAC Street Industrial, Shawnee, Kan.



P.D. Sheeley Contracting LLC, High Falls, N.Y.  
Perfect Roofing Inc., Newark, Del.  
Pitch Roofing LLC, Durango, Colo.  
PMI Construction Group LLC (d.b.a. PMI Roofing & Renovations), Sumter, S.C.  
R3 Commercial Roofing LLC, Davenport, Iowa  
Ramsey Roofing Co. LLC, Burleson, Texas  
Remove and Replace Roofing LLC, Atlanta  
Responsive Roofing LLC, Dekalb, Ill.  
Roof Solutions LLC, Cane Ridge, Tenn.  
Roofing U.S.A., Mount Pleasant, S.C.  
Warvet Industries, McLoud, Okla.  
Westar Roofing LLC, Plano, Texas

### MANUFACTURERS

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Online

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19-21

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13-14

**NRCA's Virtual Qualified Trainer Conference**

NRCA

Online

Contact: Crystal Wukovits, manager of NRCA University  
cwukovits@nrca.net  
nrca.net

18-20

**NERCA's 96th Annual Convention & Trade Show**

North/East Roofing Contractors Association

Atlantic City, N.J.

Contact: NERCA  
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nerca.org

26-27

**Fall-protection Trainer Course for Roofing**

NRCA

Elgin, Ill.

Contact: Rich Trewyn, NRCA's director of enterprise risk management  
(847) 493-7575 or rtrewyn@nrca.net  
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## APRIL

8-9

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17

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NRCA

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23-25

**The Roofing Alliance Member Meeting**

The Roofing Alliance

San Diego

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roofingalliance@nrca.net  
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## MAY

14

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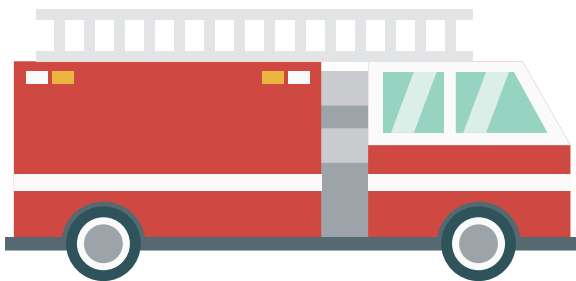


## TOP RISK MANAGEMENT CONCERNS FOR CONSTRUCTION

- Subcontractor viability
- Severe weather events
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- Auto liability
- “Mega projects”



The National Women in Roofing Northern California Council and the Girl Scouts Heart of Central California recently held “Empowering the Next Generation,” a STEM activity for Girl Scouts to design and build playhouse roofs resistant to impact, wind and water.



In 1930, a fire destroyed the Ishpeming High School complex and auditorium/assembly hall. During rebuilding, the seats were purchased for \$6.57 each (about \$124 each adjusted for inflation). They are currently valued at more than \$250 each.

To read about the new roof on Ishpeming's school complex, go to page 46.

From 1988–93, only gold medals were awarded at the World Championship of Young Roofers. All other participants were considered runners-up.

More details about the 2024 competition can be found on page 36.







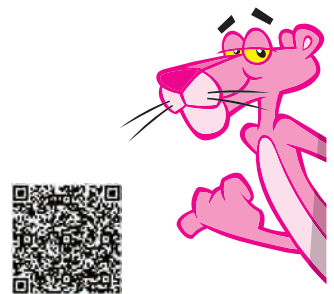
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