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We will deliver a highly vetted shortlist of pre-qualified candidates who fit your business in terms of product experience, market experience and cultural fit accompanied by in-depth notes on why the candidate is a perfect fit for your firm.

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John Mather
National Sales Manager
The Garland Company

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"I'm really impressed with the number of candidates McCormack Partners has been able to source, it's not the same old candidates everybody else seems to be recycling."

Andrew Rogers
General Manager,
Progressive Roofing

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SCAN TO BOOK A CALL

It's them, not you

New hires coming from high schools and colleges are not well-prepared to work

by Ambika Puniani Reid

A friend's daughter was sending thank-you notes for high school graduation gifts and didn't know where to put the postage stamps. Another friend asked her office assistant (a recent college graduate) to fill out check deposit slips only to be asked: "What do I do when I get to the bank?" And when my teenage son was asked to sign something for school, he looked at me, puzzled, and said: "What do they want me to do? Sign in cursive?"

These stories are equally appalling and amusing but not the kids' fault. No one taught them how to mail letters (texting is how they communicate); go to the bank to make deposits (online banking is all they know); or how to sign their names (keyboarding has taken the place of penmanship). And we parents took it for granted schools would teach basic life skills that extend well beyond stamps and handwriting.

According to a recent article in *The Wall Street Journal*, those who were students during the COVID-19 pandemic and are now joining the workforce weren't taught soft skills such as conflict resolution, work ethic and working well in teams. The article notes these deficiencies affect workers across all sectors from white collar new hires to service industry workers to U.S. Army recruits and, yes, the construction industry.

In "'How Do I Do That?' The New Hires of 2023 Are Unprepared for Work," the authors note: "The knock-on effect of years of remote learning during the pandemic is gumming up workplaces around the country. It is one reason professional service jobs are going unfilled and goods aren't making it to market. It also helps explain why national productivity has fallen for the past five quarters, the longest contraction since at least 1948, according to the U.S. Labor Department."

The authors go on to say: "Employers are spending more time and resources searching for candidates and often lowering expectations when they hire. Then, they are spending millions to fix new employees' lack of basic skills. Young employees haven't been held accountable for things like finishing homework assignments, and ... that has led to a decline in motivation."

The sad truth is this will be the reality for a few years until schools can catch up with all the instructional time lost during the pandemic.

Cindy Neal, owner of Express Employment Professionals in Peoria, Ill., told *The Wall Street Journal*: "I'm really concerned by the product that's coming out of the school system currently."

But on the bright side: The high school graduate now knows where a stamp goes; the recent new hire learned how easy it is to go to a bank; and my high schooler has mastered the perfect illegible signature.

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

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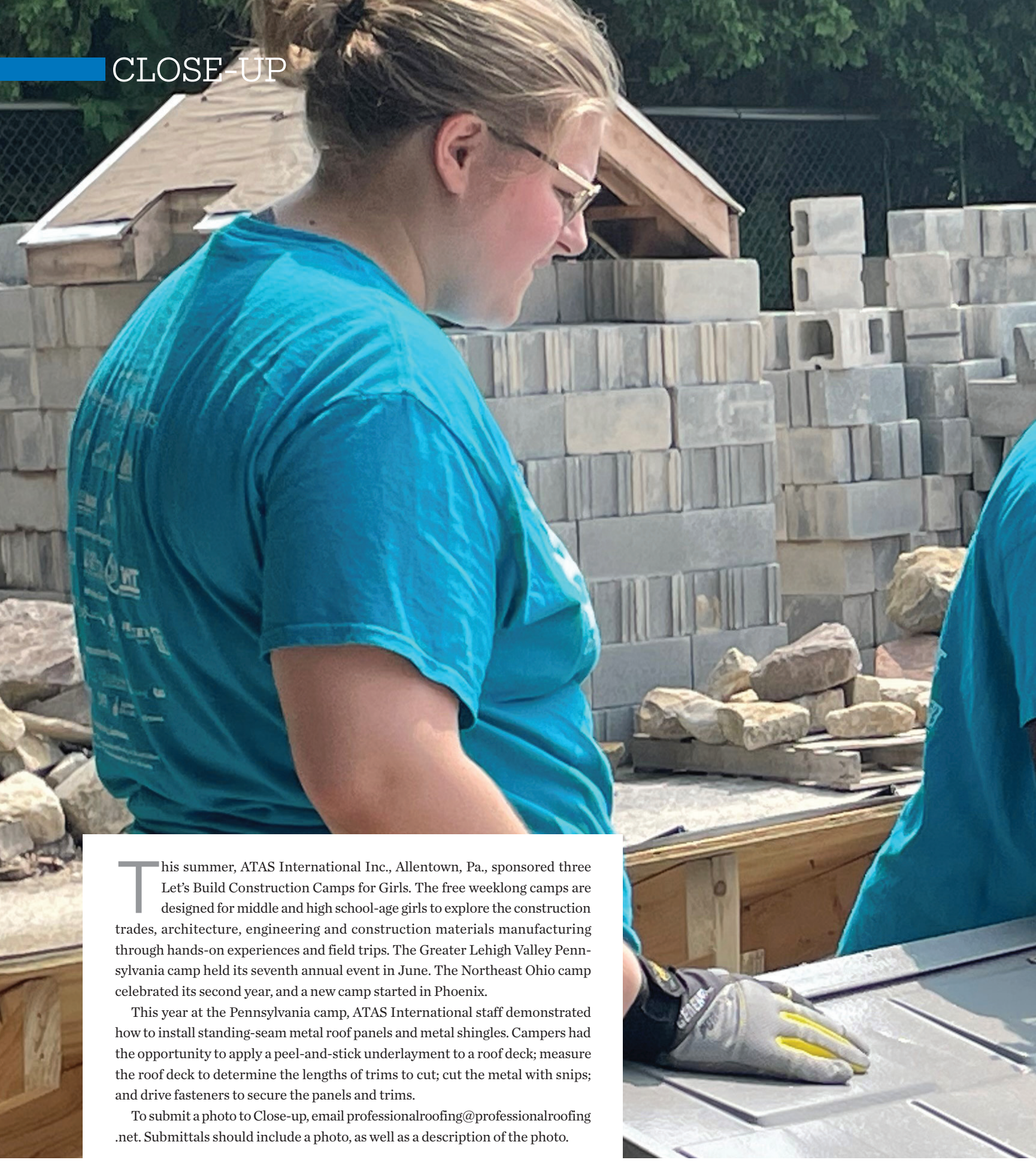

This summer, ATAS International Inc., Allentown, Pa., sponsored three Let's Build Construction Camps for Girls. The free weeklong camps are designed for middle and high school-age girls to explore the construction trades, architecture, engineering and construction materials manufacturing through hands-on experiences and field trips. The Greater Lehigh Valley Pennsylvania camp held its seventh annual event in June. The Northeast Ohio camp celebrated its second year, and a new camp started in Phoenix.

This year at the Pennsylvania camp, ATAS International staff demonstrated how to install standing-seam metal roof panels and metal shingles. Campers had the opportunity to apply a peel-and-stick underlayment to a roof deck; measure the roof deck to determine the lengths of trims to cut; cut the metal with snips; and drive fasteners to secure the panels and trims.

To submit a photo to Close-up, email professionalroofing@professionalroofing.net. Submittals should include a photo, as well as a description of the photo.


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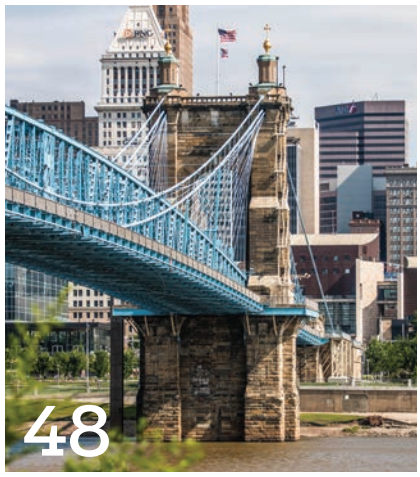

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Mission: *Professional Roofing* provides information, insight and innovation to help every roofing professional thrive.

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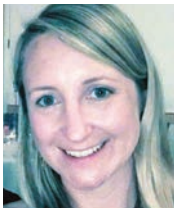

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Resilient Durable Metal

Photo: hortonphotoinc.com

Depend on a Tite-Loc Plus roofing system

"We decided to use a metal roof due to the long-term reliability and look of the product. We wanted a roof system that will remain intact during the worst weather conditions."

-Michael Matula, project manager, Bignell Watkins Hasser Architects

View the case study and video

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PFVFD Station #2, Prince Frederick, MD Installer: Orndorff & Spaid Architect: Bignell Watkins Hasser Architects Profiles: Tite-Loc Plus, Reveal wall and soffit Color: Dark Bronze

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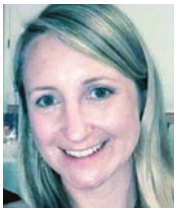

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DensDeck® Roof Board

Visit **DensDeck.com/StopCallbacks** for more information and to talk it out.

AVOID DOUBLING BACK.

One of the most frustrating parts of commercial roof damage is knowing you could have helped prevent it. Doubling back to make repairs on a recently completed job can cost time and money. That's why value engineering gypsum roof board out of commercial jobs is a mistake. DensDeck® Roof Boards have a strong, non-combustible gypsum core. They help mitigate common roof risks like puncture damage from foot traffic and maintenance—while also giving you enhanced protection against wind, fire and hail.

Gypsum roof boards are an investment in your future. This way, your crews stay busy working on new roof jobs instead of dealing with costly callbacks. And more than just your roof is covered—DensDeck Roof Boards can help you stay profitable while protecting your reputation.

DensDeck® StormX™ Prime Roof Board was the first gypsum cover board to be FM classified for Very Severe Hail (VSH) in approved single-ply membrane assemblies.

DensDeck® Roof Boards have a non-combustible gypsum core to help slow smoke and flame spread.

BEAT THE ELEMENTS.

Roof damage comes in all sizes, from the smallest puncture to the largest wind gust. As weather events intensify, your commercial roof assembly must adapt too. Georgia-Pacific sets the new standard for performance with DensDeck® StormX™ Prime Roof Board.

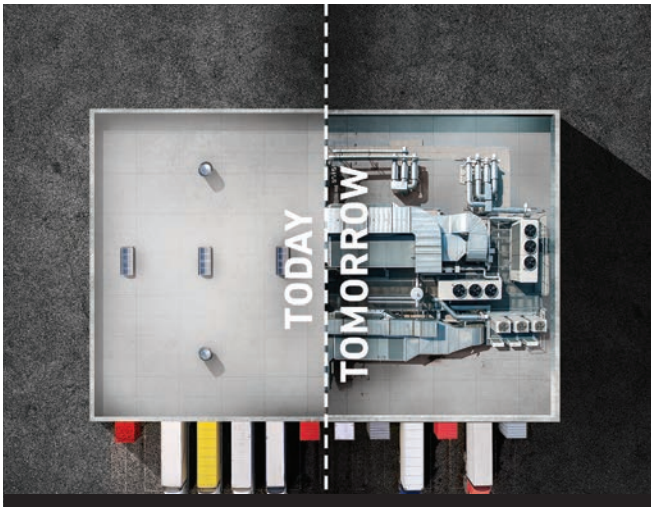
This premium cover board helps commercial rooftops hold strong under severe weather conditions. DensDeck StormX Prime Roof Board has increased density and reinforced glass mat to better protect from wind uplift, severe hail and other kinds of impact, like flying debris. It boasts enhanced moisture resistance and is FM classified for Very Severe Hail (VSH) in approved single-ply assemblies. DensDeck StormX Prime Roof Board can be installed in fully adhered, partially adhered and mechanically fastened assemblies.

EARN THEIR TRUST.

Catastrophic weather events aren't the only threat to commercial roofs. Building owners may not realize the punishment their rooftop may take over its lifetime. HVAC installation and maintenance can be tough on a roof, while solar panels could increase the risk of fire. Green roofs also need versatile roofing systems with a rigid substrate to handle the load.

Let building owners know that rooftop enhancements call for the strength and versatility of DensDeck® Roof Boards. With three performance options based on design intent, you'll find a gypsum-tough solution for every commercial low slope roof.

We understand that sometimes you can know everything about roof board protection and still value engineer it out of a project. That's why we have a team of Building Envelope Specialists who can talk through your questions and help justify the value of keeping a gypsum cover board in your roof assembly.



DensDeck® Roof Boards help mitigate puncture damage from foot traffic and maintenance.

#ROOFINGLIFE

With more than 200,000 workers in 2023, according to IBIS research, the U.S. roofing industry is large and diverse. Daily activities, job sites and roofing materials vary, but roofing professionals consistently demonstrate common values—quality workmanship, community service, employee appreciation and more. Check out what these roofing professionals shared about #roofinglife!

Graham Roofing Incorporated
August 1 at 12:49 PM ·

Friday we celebrated Leroy O'Neal's retirment from Graham Roofing with ham and cheese sliders, chips, fruit and cookies. We are thankful for the years we had with him and wish him all the best in his retirement!

#retirement
#roofinglife #weareGRI #raiseyourroofquality


Joshua Phillip Rushing is in **Fate, TX**.
August 21 at 7:19 PM ·

Lot's of inspections are going on today; New Team Member Demitris is taking extra notes on what he notices on his homeowner's roof.
#rushingtoserve #yourtrustedroofingpro
#roofing #roofinglife #roysecity #fatetx #southernliving #oneteamonedream #certifiedroofer

The Roof Masters
August 15 at 12:26 PM ·

Our first annual Back to School Supply Giveaway was a huge success! We are proud to have provided free school supplies to over 200+ local students

A huge shoutout to all the businesses for their support. Your donations have made a significant impact! @caliclipsdeluxe @gomobiletech @rwcbldgproducts and PDQ Distributors!

A big THANK YOU to our Roof Masters Staff This event was coordinated in less than two weeks! Their hard work and determination made this event possible! We are forever grateful to have such an amazing team!

We look forward to organizing this event again next year! Good luck to all the students this year! Strive for those A's!!!

Stay tuned for a highlight video!

#backtoschool #community #event #supplies #giveaway #theroofmasters #trmbacktoschool #roofing #roofingcompany #communitygiveaway #roofinglife #dreambig #students

Monarch Roofing Myrtle Beach
August 3 at 10:06 AM ·

With one mission and one community, we strive to give you what you deserve... THE BEST!

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NEW IDEAS

Dirt-resistance formula prevents discoloration

Henry® Company has introduced Pro-Grade® 988 Silicone White Roof Coating with patented dirt pick-up resistance formula. The new formula is said to provide increased resistance to discoloration from airborne particulates and tolerance to water exposure. The formula includes polysiloxane, a silicone polymer that reduces dust attraction; a surfactant with a self-cleaning property that is activated when exposed to rain and is said to allow the coating to dry in 15 minutes; and a detergent that is chemically tethered to the silicone to reduce leaching. The formula reportedly extends reflectivity of Pro-Grade 988 Silicone White Roof Coating and reduces frequent maintenance and replacement.

henry.com

Work boots are waterproof

Georgia Boot has introduced the Carbo-Tec FLX Waterproof Lacer Work Boot and AMP LT Wedge Waterproof Work Boot. Made with full-grain leather, the soft-toed Carbo-Tec FLX boot features advanced memory polyurethane insoles and new FLX-FIT technology on the boot shaft, a 3D-molded elastic detail that reportedly allows a user to easily take the boot on and off.

With a waterproof system, the AMP LT Wedge boot features abrasion-resistant leather, a heel-stabilizing counter-lock system and padded counter pocket for additional heel support, as well as memory foam insoles. The Carbo-Tec rubber outsoles are said to resist chemicals, heat, oil and slips.

georgiaboot.com

Impact driver bits are durable

DEWALT® has made available FLEXTORQ® Impact Driver Bits with redesigned tip geometrics for durability. Each bit features a FLEXTORQ Zone to absorb impact as well as a laser-etched size marking for quick bit identification. The bits are said to drive 100% more screws per bit and can be used with T20 to T40 size fasteners.

dewalt.com

Solar design application adds features

EagleView Technologies has made available TrueDesign™ Version 2.0, a cloud-based solar design solution. The web-based application enables a user to design solar panel layouts, determine shading analysis and quickly estimate energy production. New features include proposal integrations, improved shade analysis, 3D environment and shade scene, tablet support for sales and solar tiles. TrueDesign can be accessed via EagleView's website or embedded within a user's personal applications.

eagleview.com/industry/solar

Fall-protection system enables continuous connection

FlashCo® has introduced Total Grip, a horizontal lifeline system. Designed for continuous connection, the Total Grip horizontal lifeline system eliminates a user's need to disconnect and reconnect throughout the system. The modular design permits multiple setup options for different applications using the same base plates, and the system reportedly can be installed on nearly any roof system.

flashco.com/fall-protection

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NEW IDEAS

Ladder has 360-degree platform

Werner® has introduced its Podium+ Type 1A ladder. Designed for residential construction projects, the ladder has a 300-pound load capacity and features a large 360-degree platform. The lighter weight of the Podium+ Type 1A ladder is said to enhance maneuverability in tight spots, and the ladder's 15- by 18½-inch platform allows a user to work in any direction without repositioning the ladder and limits fatigue from prolonged standing on a step. The ladder also features a contoured guardrail with a waist-high wraparound cradle for additional stability, nonconductive side rails, and redesigned top with 10 design features to hold various tools for safety and productivity.

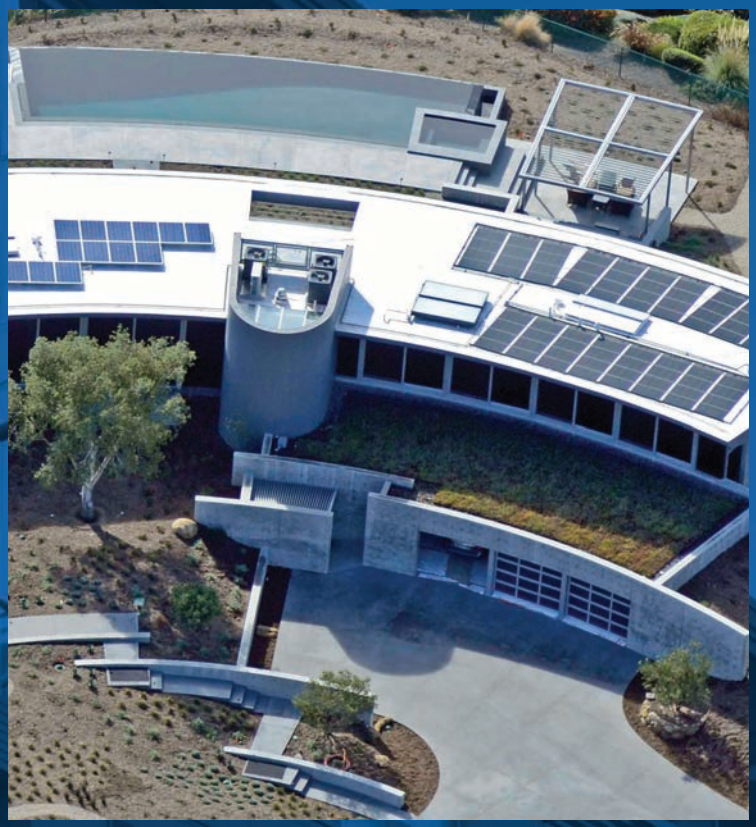
wernerpodium.com

Adhesive has low odor

Bitec® Inc. has made available DuraPlan™ EcoSet Green, a low-solvent, moisture-cured polymer adhesive designed for cold-process APP polymer-modified bitumen roof systems with slopes up to 3:12. The adhesive's formula is said to have low odor and low volatile organic content (less than 25 grams per liter). DuraPlan EcoSet Green can be used to construct single or multiple plies of Bitec-approved base sheets and cap sheets or as a flood coat in cold-process applications. The adhesive reportedly is suited for schools, hospitals and other odor-sensitive projects requiring cold application of an APP polymer-modified bitumen roof system.

bi-tec.com

IB Roof Systems®



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A tale of two mindsets

Are we failing or supporting the next generation of workers?

by McKay Daniels

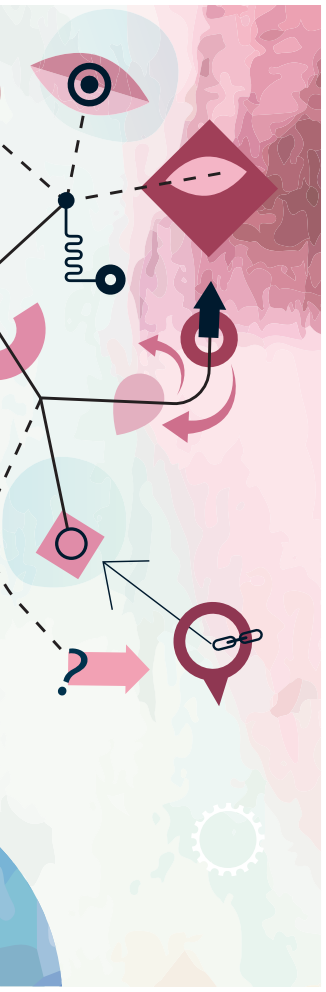
Recently, I read two interesting articles about trades and colleges. Both showed the struggle the U.S. is going through reconciling its posture on four-year college degrees and the many careers that do not require them. The articles offered different approaches to the same macro situation.

The Associated Press kicks off with the headline: "Jaded with education, more Americans are skipping college."

Even 18-year-olds, as carefree as they might be, are increasingly skeptical of taking on $100,000 or more in debt to get jobs that can't repay the loan.

The gist of the AP article was college enrollment has dropped 8% and we now face a national crisis that must be addressed or "the impact could be dire." Nationwide, high school graduates immediately going to college declined from 66% in 2019 to 62% in 2021, according to the Bureau of Labor Statistics.

Higher education stakeholders are sounding the alarm, lobbying and arguing that bold action must be taken to reverse this decline. During my time in government, whenever a policymaker called for bold action, that usually meant throwing more money at the problem; rarely does it



mean boldly (or even minorly) structurally changing or addressing the issue at hand.

Tennessee serves as a case study on this approach.

The AP article says: "In Tennessee, education officials issued a 'call to action' after finding just 53% of public high school graduates were enrolling in college in 2021, far below the national average. It was a shock for a state that in 2014 made community college free, leading to a surge in the college-going rate. Now, it's at its lowest point since at least 2009."

It's free, but enrollment rates are declining! Why? Well, any economist (or 18-year-old) will tell you opportunity cost is still a cost and often a significant one. In other words, the financial cost of something is not the only consideration. Students may be considering time spent and time lost that could have been used doing something else, missed opportunity, etc. My kids playing video games all day is "free," but my wife is quick to point out the opportunity costs of doing so.

This reminded me of another article I saw about Quintin Scott, a Chicago public school student who received a scholarship to go to a four-year college but turned it down to continue training as a welder. The time spent going to school (for free) is still time not spent earning a living and progressing on an alternative career path.

The AP article continues: "Across Tennessee, there's a growing concern the slide will only accelerate with the opening of several new manufacturing plants" that "already are drawing young workers."

So construction got a shoutout, but it was framed as a point of concern rather than excitement. However, the author did acknowledge "if there's a bright spot, experts say, it's that more young people are pursuing educational programs other than a four-year degree. Some states are seeing growing demand for apprenticeships in the trades, which usually provide certificates and other credentials."

But that's an outlier in the story. The author gave doomsday anecdotes from multiple higher education leaders and states and concluded with "Indiana's higher education chief went so far to declare the 'future of our state is at risk.'"

I'm going to go out on a limb and guess Indiana's future will be OK with marginally lower college enrollment levels, but the state won't be OK if its manufacturing and construction flight continues or there are no skilled workers in the state because there is only one publicly acceptable, government-promoted path to a future.

The first mindset appears to be twofold: The education establishment is worried because its customer base is declining, and the nation is at risk because marginally fewer people are going to college.

Mindset No. 2 is succinctly summarized and reported by NPR in the article "Community college enrollment is down, but skilled-trades programs are booming."

The NPR reporter states: "While a shortage of workers pushes wages higher in the skilled trades, the financial return from a bachelor's degree is softening even as the price and the average debt into which it plunges students remain high. But high school graduates have been so effectively encouraged to get a bachelor's that high-paid jobs requiring shorter and less expensive training are going unfilled. This affects those students and also poses a real threat to the economy."

Parents are increasingly shifting toward mindset No. 2. NRCA recently reported on a survey by Multiverse, a professional development company, of more than 1,000 parents of children ranging in age from 12-19. The survey found:

> "Even 18-year-olds are increasingly skeptical of taking on $100,000 or more in debt to get jobs that can't repay the loan"

- 64% of parents said they would be somewhat or very supportive if their child did not want to get a college degree. This number was higher for younger parents; 71% of parents aged 25-34 said they would be supportive compared with 57% of parents aged 55-64.
- 69% of respondents said they would be totally supportive if their child entered the workforce instead of going to college after high school. Only 20% cited cost of college as a factor. (There's the opportunity cost factor poking through again.)
- Of those surveyed, career potential and skill preparation were the crucial factors in making the decision, and 78% said they had heard about apprenticeships as a post-high school option.

It's likely these two mindsets will grow more pronounced in the years ahead as the college-or-bust crowd gets more vocal and the career-without-college cohort has more data and personal stories of success. As with most things lately, the debate will be loud, contentious and probably costly, but I hope we ultimately land in a workable spot for our current and future workers as well as our economy. It's going to be an interesting journey.

MCKAY DANIELS is NRCA's CEO.
MDANIELS@NRCA.NET

Lowe's® Foundation to fund grants for skilled trades training

The Lowe's Foundation has announced nearly $8 million in grants to community and technical colleges throughout the U.S. to support skilled trades workforce development initiatives through its first round of Lowe's Foundation Gable Grants. The grants are part of the foundation's five-year, $50 million commitment to help prepare 50,000 people for skilled trades careers and will fund programs in appliance repair, carpentry, construction, electrical, HVAC and plumbing.

Some of the Lowe's Foundation Gable Grants recipients include:

- Coconino County Community College, Flagstaff, Ariz., which will expand its skilled trades training programs in construction, electrical, HVAC and plumbing. The school also plans to remodel its workshop to create more lab space; upgrade equipment, computers and software; and hire additional instructors.
- Columbus Technical College, Columbus, Ga., which will expand its reach with a new mobile unit to bring skilled trades training to students in rural communities, justice-involved learners and transitioning service members. The college also plans to build a four-week, fast-track construction career bootcamp to prepare participants for entry-level skilled trades positions.
- Mississippi Gulf Coast Community College, Perkinston, which will establish a construction trades training program at a local correctional facility and provide scholarships and internships for students in its skilled trades training programs.

"These deserving schools are transforming the skilled trades workforce through sustainable and inclusive career pathways. We had many outstanding applicants for these grants, which speaks to the urgency needed to increase the capacity for skilled trades labor nationwide," says Janice Dupré, executive vice president of human resources at Lowe's and chair of the Lowe's Foundation. "Our grants are inclusive of all groups to ensure we achieve the goal of preparing 50,000 people for skilled trades careers in five years, including groups that are traditionally underrepresented in the trades, such as women, people of color, people in rural areas and individuals participating in second-chance programs. We are confident these college programs will strengthen the skilled trades infrastructure for years to come."

In addition, the Lowe's Foundation will invest at least $5 million more to assist community-based nonprofit organizations and national nonprofit partners with a strong local presence. Learn more about the Lowe's Foundation at corporate.lowes.com/our-responsibilities/lowes-foundation.

To view a complete list of Lowe's Foundation Gable Grants recipients, go to professionalroofing.net.

GAF Energy recalls Timberline Solar™ shingles

GAF Energy, San Jose, Calif., has recalled its Timberline Solar shingles, according to the Consumer Product Safety Commission. The electrical components in the solar energy shingles reportedly can malfunction, posing a fire hazard.

The recall involves TLS-1 jumper modules and TLS-1 energy shingles installed as part of a residential solar energy system. GAF Energy has received one report of fire and five reports of thermal incidents resulting in property damage, including damage to the roof deck. No injuries have been reported.

GAF Energy will replace all jumper modules, check the electrical components of each solar shingle for defects and perform repairs for free. The company has been remotely shutting off affected systems until the remediation is complete, and consumers will be compensated for monetary losses resulting from the loss of solar energy generation during that time.

GAF Energy also is contacting known owners of affected products to schedule repair and replacement. If consumers have not been contacted by GAF Energy, they should contact their installers to determine whether their shingle components are recalled.

Additional information is available at cpsc.gov/recalls.

Atlas Roofing names Ken Roberts president

Roberts

Atlas Roofing Corp., Atlanta, has named Ken Roberts president following the retirement of Ken Farrish.

Roberts most recently served as president of Delta Faucet Co., Indianapolis. He held numerous positions in purchasing and manufacturing during a 30-year career at Masco Corp., Livonia, Mich., including president of Masco Canada. Roberts is known for his teambuilding and project management abilities.

Farrish served as president of Atlas Roofing for 20 years and brought about sustainable growth in the company's four divisions.

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Students receive Melvin Kruger Endowed Scholarships

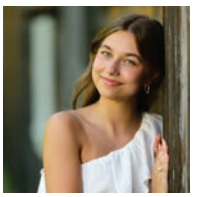
The Roofing Alliance has announced the recipients of its Melvin Kruger Endowed Scholarship for the 2023-24 academic year.

This year's new scholarship recipients are:

- Evan Cady, son of Traci Cady, office manager for J&S Building Exteriors Inc., Attleboro, Mass.
- Aidan Carpenter, construction management student at North Carolina State University, Raleigh
- Cecelia Krumholz, daughter of Erik Krumholz, senior field consultant for Tremco Inc., Beachwood, Ohio
- Piper Lewis, daughter of Charles Lewis, project manager for Commonwealth Building Systems, Rockland, Mass.
- Marena Malone, daughter of Rica Malone, national account service representative for CentiMark Corp., Canonsburg, Pa.
- Brayden Morford, son of Robert Morford, senior chemist for SOPREMA® Inc., Wadsworth, Ohio
- Michael Nwaigbo, construction management student at University of Illinois, Chicago
- Alexis Petty, daughter of Jammie Petty, administrative specialist for Beacon Building Products, Herndon, Va.
- Hannah Redding, daughter of Lorie Redding, business manager for Tecta America East-Glen Rock, Glen Rock, Pa.
- Kennedy Stockton, construction management student at University of Arkansas at Little Rock


Cady


Carpenter

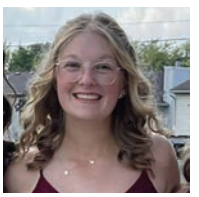

Krumholz


Lewis


Malone

Morford


Nwaigbo


Petty


Redding


Stockton

The Melvin Kruger Endowed Scholarship Program offers three scholarship opportunities. All categories are open to employees of roofing industry companies, their spouses and dependent children, as well as construction management students enrolled in undergraduate level or students enrolled in CTE programs or schools regardless of industry affiliation.

In addition, the Roofing Alliance renewed six Melvin Kruger Endowed Scholarships for the 2023-24 academic year. The recipients are:

- Caylin Angel, who is attending Washington & Jefferson College, Washington, Pa.
- Cole Beyer, who is attending University of Minnesota, Twin Cities, Minneapolis
- Zackary Cekalla, who is attending University of Minnesota, Duluth
- Cade Edwards, who is attending Boyce College, Louisville, Ky.
- Davis Edwards, who is attending Huntingdon College, Montgomery, Ala.
- Julia Shanahan, who is attending Drexel University, Philadelphia

The Roofing Alliance awarded $50,000 for new scholarships and $30,000 for scholarship renewals for the 2023-24 school year. To date, 159 students have received more than $1 million in scholarship awards.

Choose the right hard hat for the job

The Bureau of Labor Statistics reports in 2020, there were more than 68,000 reported cases of head injuries in all industries, including traumatic brain injuries, which account for 20-25% of work-related trauma, according to For Construction Pros.

Severe traumatic brain injuries can result in permanent disability and affect an employee's ability to return to work, as well as translate to lost productivity and long-term rehabilitation costs for employers. Hard hats are crucial to preventing such injuries, and it is important to be familiar with the types of hard hats.

Hard hats are rated by the following types and classes:

- **Type 1:** These hard hats help reduce the force of impact to the top of the head, such as tools falling from above, with a full brim encircling the hat.
- **Type 2:** These hard hats have short bills on the front and are designed to help reduce the force of an impact to the front, sides, back and top of the head, such as colliding with the side of a steel beam on a construction site.
- **Class G (General):** These hard hats protect against the impact of falling objects and electric shock from contact with low-voltage currents.
- **Class E (Electrical):** These hard hats protect against the impact of

falling objects and electric shock from contact with high-voltage currents.

- **Class C (Conductive):** These hard hats protect only against the impact of falling objects and not against contact with electrical conductors.
- **Bump caps:** These hard hats are designed only to protect workers from injury if their head strikes an object, such as overhead pipes or beams, rather than protecting against falling objects.

When choosing head protection for workers, employers must consider the types of hazards workers face, as well as Occupational Safety and Health Administration Standard 1910.135, which provides general requirements for head protection in the workplace.

To view OSHA Standard 1910.135 for head protection, go to professionalroofing.net.

Additionally, according to a recent Construction Dive article, some contractors are switching from hard hats to helmets to better protect workers. Helmets have padding to protect from impact to the sides of the head, making them ideal protection against falls, as well as chin straps that help hold the helmet in place.

Tips for boosting recruitment and retention

The Associated Builders and Contractors estimate 546,000 workers are needed on top of the normal hiring pace to meet construction labor demands in 2023.

The industry has had difficulty attracting workers. However, construction leaders who have invested in robust safety and wellness programs have seen significant shifts in worker satisfaction and retention.

Construction Executive shares the following worker well-being components to help companies recruit and retain workers:

- **Safety and prevention.** Workers want to know leaders care about their safety, so continuous improvement of safety and injury prevention is key. New PPE or safety technology shows workers steps are being taken to protect them. Leaders also can bring professionals such as occupational health nurses onto the job site to help workers perform more efficiently and improve morale.
- **Access to quality health and wellness resources.** Wellness programs that offer education and support for health—such as nutrition counseling or ergonomics assessments—keep workers engaged in their personal health and create a culture of well-being care. An on-site wellness cart can help remind workers about the importance of hydration and adequate sleep and allow them to check in with providers regarding mental and physical health.
- **Environmental wellness.** Workers are more motivated to come to work when the environment is welcoming and leaders consider their well-being. Some companies offer clean hygiene amenities, healthy food options, hydration stations and preventive health screenings. Even minor upgrades or perks can show prospective workers company leaders want to meet the demands of a modern workforce.

A turf war

Code compliance and installation responsibility for BIPV systems present some challenges

by Mark S. Graham

Code compliance for rooftop building-integrated photovoltaic systems, including PV shingles, is complex. BIPV systems have dual functionality as a roof covering and electricity-generating product. This dual functionality can lead to confusion and disputes about who should install and maintain such systems. In addition, various code requirements further complicate the issue.

IRC 2021

The International Residential Code,® 2021 Edition defines a solar energy system as a system that converts the sun's solar radiation into usable energy. Solar energy systems include solar thermal and PV systems.

The code further defines a building-integrated product as a building product that incorporates PV modules and functions as a component of the building envelope, such as a roof covering.

The code defines PV shingles as a roof covering resembling shingles that incorporates PV modules.

IRC 2021's Section R324-Solar Energy Systems provides general requirements applicable to solar energy systems. Section

R324.3-Photovoltaic Systems indicates the electrical portion of PV systems needs to be designed and installed in accordance with the 2000 edition of NFPA 70, "National Electrical Code.®" PV panels and modules, including BIPV, are required to be listed and labeled in accordance with UL 1703, "Standard for Flat-Plate Photovoltaic Modules and Panels," or both UL 61730-1, "Photovoltaic (PV) Module Safety Qualification—Part 1: Requirements for Construction," and UL 61730-2, "Photovoltaic (PV) Module Safety Qualification—Part 2: Requirements for Testing."

Rooftop PV systems specifically are addressed in IRC 2021's Section R324.4-Rooftop-mounted Photovoltaic Systems, where dead, live, snow and wind load requirements are provided. Section R324.6-Roof Access and Pathways provides specific requirements for roof access pathways, setback at ridges, and emergency escape and rescue openings.

IRC 2021's Chapter 9-Roof Assemblies provides roofing-specific requirements for BIPV. Section R902.3-Building-integrated Photovoltaic Products requires rooftop BIPV to be tested, listed and labeled for fire classification in accordance with UL 7103, "Outline of Investigation for Building-Integrated Photovoltaic Roof Coverings." Class A, B or C BIPV assemblies are required where fire classification is designated by the authority having jurisdiction or where the roof edge is within 3 feet of a lot line.

IRC 2021's Section 905.16-Photovoltaic Shingles specifically requires PV shingles to be applied to a solid or closely fitted deck except when a product is designed to be applied over spaced sheathing. Roof slopes are required to be 2:12 or greater. Underlayment, ice barrier and wind-resistance classification requirements for PV shingles are similar to those of other shingle-type roof coverings. PV shingle attachment and installation are required to follow PV shingle manufacturers' installation instructions.

> "Properly trained and experienced roofing workers are the most logical choice to perform rooftop installation, including rooftop BIPV installation."

IRC 2021's Section R905.15-Building-integrated Photovoltaic (BIPV) Roof Panels Applied Directly to the Roof Deck addresses rooftop BIPV other than PV shingles. Roof deck, deck slope, underlayment, attachment and installation requirements are similar to those of PV shingles. The code requires BIPV products other than PV shingles to be designed and installed for wind uplift to resist component and cladding loads.

NFPA 70

The electrical code addresses photovoltaic products and installations, including array circuits, inverters and controllers, in Article 690-Solar Photovoltaic (PV) Systems. Article 690 provides specific general requirements, circuit requirements, disconnecting means, wiring methods and materials, grounding and bonding, marking, connections to other sources, and energy storage systems.

For one- and two-family dwellings, the maximum DC voltage in a PV string circuit leading into a DC combiner cannot exceed 600 volts.

Article 690.4(C) indicates: "The installation of equipment, associated wiring and interconnections shall be performed only by qualified persons." According to Article 100-Definitions, a qualified person is "one who has skills and knowledge related to the construction and operation of the electrical equipment and installations and has received safety training to recognize and avoid the hazards involved."

It should be noted Article 690 has undergone several changes among its 2014, 2017, 2020 and 2023 editions. Although IRC 2021 specifically references NFPA 70's 2020 edition, an individual authority having jurisdiction may adopt any edition of the electrical code. Typically, the specific edition of NFPA 70 adopted by the authority having jurisdiction will take precedence over the edition referenced in the IRC. This can affect the electrical code's specific requirements for rooftop BIPV.

Closing thoughts

Because of the dual functionality of rooftop BIPV, code compliance is not as straightforward as in the case of conventional roof systems. For one- and two-family dwellings, code requirements are provided in multiple chapters of the IRC and NFPA 70.

For nonresidential buildings, code requirements are provided in the International Building Code,® NFPA 70 and the applicable fire code.

The issue of whether electrical or roofing contractors should be responsible for rooftop BIPV installation is debatable. Some suggest the electrical code requires the work to be conducted by licensed electricians. NFPA 70's Article 690.4(C) and IRC's requirements clearly do not specify who should install such systems. The code indicates installers should

be skilled, knowledgeable and have safety training to recognize and avoid hazards. This type of instruction should be provided by rooftop BIPV manufacturers in their installation instructions and installer training.

There appears to be a clear, logical line between work best performed by a roofing contractor and work performed by an electrical contractor. Properly trained and experienced roofing workers are the most logical choice to perform rooftop installation, including rooftop BIPV installation. A properly trained, experienced, licensed electrician can be used for work below the roof deck, including wiring and connecting BIPV to any inverter or the power grid. One line of demarcation between the two trades is the DC combiner. Roofing crews should conduct the BIPV installation on the rooftop PV-side of the DC combiner, and an electrician's work should involve the DC combiner and any inverter or the power grid.

Some roofing contractors experienced in rooftop PV installation employ licensed electricians specifically for this purpose. In other situations, roofing contractors can subcontract one or several electrical contractors to perform electrical work. Either approach is appropriate for rooftop BIPV.

Some may disagree with me; however, we all know when homeowners have problems with their roofs, they will call a roofing contractor—not an electrical contractor.

MARK S. GRAHAM is NRCA's vice president of technical services.

ASTM International committee presents award


Dupuis

ASTM International's Committee D08 on Roofing and Waterproofing has presented its William C. Cullen Award to Matthew Dupuis, president of NRCA member SRI Consultants, Waunakee, Wis. The award recognizes members who demonstrate outstanding contributions and personal commitment to the field.

A member of ASTM International since 2015, Dupuis was recognized for his distinguished committee contributions and commitment to the roofing and waterproofing industries. The committee highlighted Dupuis' outstanding leadership, technical research and information exchange through numerous technical publications and presentations. Dupuis also is a member of the American Society of Civil Engineers.

How to keep employees' cell phones secure

Mobile devices are useful to keep employees connected to the workplace, but with increasing cybersecurity risks, cell phone security is important.

The U.S. Chamber of Commerce shares ways employers can keep employees' cell phones secure:

- **Train employees regarding device safety.** Whether employees are using company cell phones or their own devices, you should issue a mobile security policy that provides clear guidelines addressing what is acceptable behavior and train employees regarding device safety and taking security seriously.
- **Use antivirus software.** Although cell phones have safeguards, antivirus software adds a layer of protection from malware and ransomware attacks. In addition, antivirus software sometimes can monitor employee text messages and call logs for suspicious activity.
- **Back up cell phones regularly.** Ask employees to regularly back up their devices as they would a laptop or PC so they can recover any lost data.
- **Safeguard passwords.** Encourage employees to change their passwords every 90 days and enable two-factor authentication. Strong passwords contain at least eight characters that are a mix of numbers, symbols and uppercase and lowercase letters.
- **Use a virtual private network.** A VPN establishes a secure connection between a mobile device and the company network, protecting all communication through an open Wi-Fi network by masking your IP address and encrypting all personal data.
- **Require technical updates.** Software updates on cell phones can improve a device's functionality and protect devices from cyberattacks and viruses. Encourage employees to update their cell phones regularly.
- **Consider issuing company phones.** Employees who use their personal cell phones for work pose the biggest security threats. You cannot enforce security protocols unless you provide company-issued cell phones, so it may be something to consider.

IBHS updates asphalt shingle performance ratings

The Insurance Institute of Business & Home Safety has updated its Impact-Resistant Shingle Performance Ratings. The ratings are updated every two years based on research evaluating the performance of impact-resistant asphalt shingles, using a testing protocol that mimics real-world hail damage.

Since the ratings were first released in 2019, shingle manufacturers have used the findings to improve existing products and remove poor-performing asphalt shingles from the consumer market. Homeowners also can use the ratings to choose more durable products.

IBHS' Impact-Resistant Shingle Performance Ratings are available at ibhs.org/hail/shingle-performance-ratings.

SPRI revises wind design standard for vegetative roof systems

SPRI has announced it will revise and recanvass ANSI/SPRI RP-14, "Wind Design Standard for Vegetative Roofing Systems," for reapproval as an American National Standard.

ANSI/SPRI RP-14 provides a method of designing for wind-uplift resistance of vegetative roof systems. The standard helps identify the ballast type or weight needed for vegetative roof systems to resist uplift forces, as well as drainage options.

The standard was last approved during a 2022 review process during which changes were identified to improve the document and remove extraneous information. The current revision will incorporate those changes.

Why advocacy matters

NRCA members can effect positive change in Washington, D.C.

by Deborah Mazol

Ronald Reagan famously said: "The nine most terrifying words in the English language are 'I'm from the government, and I'm here to help.'" Although government bureaucracy and politics can be chaotic, the government is a necessary, important partner to engage with when planning your business's future.

NRCA's advocacy team constantly works to keep members informed and influence policy decisions affecting the roofing industry. The team's efforts include providing expertise in government affairs and policy-making to give your business a competitive advantage; amplifying the industry's message on Capitol Hill; shaping regulations to minimize potential harm; advocating for fair competition; and navigating the complex process in Washington, D.C.

NRCA's advocacy efforts are built around three pillars: grassroots outreach, political influence, and effective communication and expertise. These pillars present unique opportunities for roofing professionals to get involved.

Grassroots outreach

One of the roofing industry's largest grassroots advocacy events is Roofing Day in D.C. Held each spring, the event brings hundreds of industry professionals to Washington, D.C., to meet with members of Congress and their staff and share invaluable insight regarding how proposed legislation affects roofing businesses. The event also features expert speakers and panelists to foster an educational experience, and participants have opportunities to network with peers. More than 200 industry professionals attended Roofing Day in D.C. 2023 and discussed funding for career and technical education, immigration reform and other key topics with lawmakers. Roofing Day in D.C. 2024 will be held April 16-17, and all are welcome.

Roofing professionals also are encouraged to use NRCA's Action Alert feature online to directly contact lawmakers. Email templates are available for anyone who wants to contact his or her representatives and senators expressing thoughts and concerns regarding important topics such as workforce shortages, pro-growth tax policy, and career and technical education.

> "NRCA sustains communication and relationships with an ever-changing landscape of elected officials, and these relationships are deepened through members' personal engagement."

Get involved with NRCA's advocacy efforts! Learn more about Roofing Day in D.C., access Action Alerts or contribute to ROOFPAC at professionalroofing.net.

Investing in ROOFPAC is another way to support the roofing industry's interests in Washington, D.C. During the 2021-22 election cycle, ROOFPAC raised $424,000, and 94% of ROOFPAC-supported candidates won their elections Nov. 8, 2022.

Political influence

As one of the oldest trade associations in the U.S., NRCA has built a positive reputation. The association is known for having the best and brightest leaders and members. Members of Congress often call on NRCA's collective expertise to create innovative solutions to problems and learn how their legislative ideas could affect their communities.

There also are many times the roofing industry needs the government to hear its collective voice. The relationships NRCA and its members build with legislators help drive desired results. These public-private partnerships are crucial for long-term growth, collaboration and mutual benefit.

Communication

NRCA sustains communication and relationships with an ever-changing landscape of elected officials, and these relationships are deepened through members' personal engagement. Have you considered inviting a member of Congress to tour your company's facility or job site? NRCA can provide everything you need to host a member of Congress at your business.

These collaborations will effect meaningful change through advocacy. NRCA is ready to take action, and with your help, there is no limit to what can be accomplished.

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

ROOFPAC is the federally registered political action committee of NRCA, and contributions will be used for political purposes. Contributions to ROOFPAC are not tax-deductible and the name, address, occupation and employer's name of individuals whose contributions exceed $200 during a calendar year will be reported to the Federal Election Commission. Contributions are voluntary, and you have the right to refuse to contribute without any reprisal.

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DOL proposes rule to clarify PPE standard

The Department of Labor has announced a notice of proposed rulemaking to clarify the personal protective equipment standard for the construction industry.

The Occupational Safety and Health Administration's general industry and maritime standards state PPE must fit each affected employee properly, but the current standard for construction does not. The proposed rule would clarify PPE must fit each employee properly to protect him or her from occupational hazards, aligning the language in OSHA's PPE standard for construction with the agency's general industry and maritime standards.

To view OSHA's general industry and maritime PPE standards, go to professionalroofing.net.

The failure of standard-sized PPE to protect physically smaller construction workers properly and issues with access to properly fitting PPE have long been concerns in the construction industry. The proposed rule clarifies the existing requirement; OSHA does not expect the change to increase employers' costs or compliance burdens.

DOL expands submission requirements for injury, illness data in some industries

The Department of Labor has announced a final rule that will require certain employers in designated high-hazard industries including construction to electronically submit injury and illness information to the Occupational Safety and Health Administration. The rule takes effect Jan. 1, 2024.

The rule requires establishments with 100 or more employees in certain high-hazard industries to electronically submit information from their Form 300-Log of Work-Related Injuries and Illnesses and Form 301-Injury and Illness Incident Report to OSHA once per year. The submissions are in addition to submitting Form 300A-Summary of Work-Related Injuries and Illnesses. To improve data quality, establishments also are required to include their legal company name when making electronic submissions to OSHA.

OSHA will publish some of the data collected on its website, osha.gov, to allow employers, employees, potential employees, employee representatives, current and potential customers, researchers and the public to use information about a company's workplace safety and health record to make informed decisions. OSHA says providing public access to the data will reduce occupational injuries and illnesses.

The final rule retains the current requirements for electronic submission of information from Form 300A from establishments with 20-249 employees in certain high-hazard industries and from establishments with 250 or more employees in industries that must routinely keep OSHA injury and illness records.

DOL announces update to Davis-Bacon Act prevailing wage rule

The Department of Labor has published a final rule updating the Davis-Bacon Act, which sets the prevailing wages contractors must pay workers on federal projects.

The rule restores DOL's definition of prevailing wage to make it equivalent to the wage paid to at least 30% of workers—rather than 50% of workers—in a given trade in a locality. The rule also aims to raise the hourly earnings of workers for prime contractors and subcontractors on projects that receive federal funding through legislation such as the Infrastructure Investment and Jobs Act and the CHIPS Act.

The Davis-Bacon Act uses pay surveys administered by DOL to set the prevailing wage in a federally funded project's location. There have been concerns the process can skew wage rates.

DOL said the new rule makes the process of updating prevailing wage rates easier by giving the department the authority to adopt prevailing wages determined by state and local governments; issue wage determinations for labor classifications where insufficient data was received through its wage survey process; and update outdated wage rates. The rule also adds an anti-retaliation provision in contract clauses and strengthens DOL's ability to withhold money from a contractor to pay employees their lost wages.

Critics of the Davis-Bacon law opposed the rule, saying it will increase regulatory burdens on small businesses, new industries and public work projects, as well as increase the cost of construction, discourage competition and diminish the value of taxpayer investment in government infrastructure projects.

The final rule takes effect Oct. 23.

MIA PULIDO, HAMMOND, IND., PLACED FOURTH IN THE NATIONAL COMMERCIAL ROOFING CONTEST.

BRANDON LOPEZ, SIMPSONVILLE, S.C., PLACED THIRD.

KYLE CAMERON, HUTCHINSON, KAN., WAS NAMED NATIONAL CHAMPION OF THE COMMERCIAL ROOFING COMPETITION.

LEIF DAMPF, VIRGINIA BEACH, VA., PLACED SECOND IN THE COMPETITION.

STUDENTS COMPETE IN A NATIONAL COMMERCIAL ROOFING CONTEST THROUGH SKILLSUSA®

Champions of Roofing

by John Esbenshade

Since joining NRCA in 2021, my job has been to address workforce development issues facing the industry. Perhaps the most important initiative our team has undertaken has been establishing a SkillsUSA roofing contest.

SkillsUSA is a collection of students, teachers, advisers and industry professionals throughout the U.S. Founded in the 1960s, SkillsUSA partners with career and technical education schools to prepare students for careers in the trades. According to 2022 data, there are 4,696 schools with 372,817 active members who participate in SkillsUSA.

SkillsUSA's programs are set up similarly to a science fair: Regional contests lead to state contests that lead to a national championship. About 60% of SkillsUSA members participate in construction and architecture programs. However, roofing was not included in SkillsUSA until 2022.

AN NRCA INITIATIVE

More than 6 million people have participated in SkillsUSA since its founding, but most of them were never exposed to roofing and opportunities within the trade.

Hilary McPartlon, chairperson of NRCA's CTE/Workforce Development Committee and president of McPartlon Roofing, Santa Fe, N.M., says: "When a child draws a picture of a house, they start with the roof." But how will the child know he or she could help build that roof and have a rewarding career in the industry if the possibility is never presented?

To help fill the knowledge gap, in 2021, NRCA set a goal of getting roofing added to SkillsUSA. After NRCA and its partners took a dozen trips across the U.S., conducted more than 200 video calls and sent more than 1,000 emails during the past year, a commercial roofing contest was successfully added to SkillsUSA.

THE NEW CONTEST

The newly added SkillsUSA national contest, Commercial Roofing, involves students installing TPO membrane over the same mockup NRCA uses for the PROCertification® exam for thermoplastic installers. NRCA offers its Training for Roof Application Careers Thermoplastic Roof Membrane Installation package to help prepare students who have not received formal roofing training.

To read about a SkillsUSA® competitor who now is a roofing company president, go to professionalroofing.net.

The first SkillsUSA Commercial Roofing state contest took place in Virginia in 2022 with the assistance of Sherri Miles, vice president of J.D. Miles & Sons Inc., Chesapeake, Va. This year, four students competed in the national championship held in Atlanta June 20-22.

NATIONAL COMPETITION

NRCA leaders, members and staff assisted with and participated in the national SkillsUSA Commercial Roofing contest. Following is a series of journal entries I recorded during the competition:

June 19

Setup day: Today from 7 a.m.-5 p.m. we set up the Commercial Roofing contest and the Roofing Pavilion.

The goal of the Roofing Pavilion is to present many aspects of the roofing industry to SkillsUSA attendees—students, teachers, CTE administrators and everyone who can help bridge the gap between the roofing industry and a massive talent pool.

In addition to NRCA, IB Roof Systems, Grapevine, Texas; Johns Manville Roofing Systems, Denver; National Women in Roofing; RoofersCoffeeShop®; Roofing Technology Think Tank (RT3); SRS Distribution Inc., McKinney, Texas; and TAMKO® Building Products Inc., Galena, Kan., also sent representatives to be part of the event.

After we set up the Commercial Roofing contest, we helped set up for a TeamWorks event. During two days from 8 a.m.-5 p.m., four-person teams build a shed that has masonry, plumbing, carpentry, electrical and (now) asphalt shingle roofing components. The roof portion of the TeamWorks contest includes a hip, ridge, valley and edge metal. There are 42 states competing, which means there will be 42 sheds built from the ground up. Thanks to SRS Distribution and TAMKO Building Products for donating all the materials for the TeamWorks contest.

5 p.m.: The Roofing Pavilion is now set up except for the steep-slope mockup for the TeamWorks event; the contest area has four mockups. All the materials have been delivered to the contest and pavilion area. Johns Manville Roofing Systems has a great space set up to teach anyone who wants to learn how to weld TPO membrane.

Here's hoping when we open tomorrow we won't be neck-deep in avoidable mistakes, but "cautious optimism" is the term for the day.

June 20

Wow, roofing is the new kid at school who people seem eager to meet. We did get that steep-slope mockup delivered on time, and all day the Johns Manville Roofing Systems table has been occupied by students, teachers, advisers and administrators learning how to couple seams with a T-joint. The Johns Manville Roofing Systems installers who are here for the week have been on their feet over an air welder nearly nonstop.

Today the SkillsUSA TECHSPO opened and will run for three days. TECHSPO is the trade show portion of SkillsUSA where dozens of industries and hundreds of sponsors exhibit in three conference halls that also house contests. Our space was located between the TeamWorks event and Commercial Roofing contest.

On the Commercial Roofing contest side, today was orientation and the 80-question written test. Our judges explained the mockup and materials. The students did a safety brief, demonstrated how to properly put on a personal fall-arrest system, and explained what they'll be doing on Wednesday and Thursday—the contest days.

There are four states competing in the Commercial Roofing contest: Indiana, Kansas, South Carolina and Virginia. One student will win a $1,000 prize and the title of National Champion.

The four competing students are similar in a lot of ways to any other group of teenagers. After about 20 minutes together, they are constantly joking to hide nerves, and they are excited their gift bags include screen protectors for their phones.

After the students' afternoon break, I found them back at the competition area getting advice from the judges (courtesy of IB Roof Systems) for the next three hours. They reviewed some contest components with the judges, who went step by step and let the students practice with IB Roof Systems 60-mil TPO membrane (burning some pieces along the way), and did final prep for the contest that starts tomorrow.

We've given out hundreds of lapel pins to promote roofing to people, and National Women in Roofing's table has been buzzing all day. RT3 has been piloting its drone and demonstrating virtual reality in roofing. NRCA Chairman of the Board Lisa Sprick, president of Sprick Roofing Co. Inc., Corvallis, Ore.; McKay Daniels, NRCA's CEO; and Lisa Pate, executive director of the Florida Roofing and Sheet Metal Contractors Association Inc., are here, along with Amy Staska, vice president of NRCA University.

There are a lot of booths around us with displays that might have cost 10 times more than what we paid for ours, and they are only getting about 25% of the visitors the Roofing Pavilion is receiving.

At the NRCA table, we aren't giving away anything fancy: lapel pins, cooling towels, leftover pens from National Roofing Week, flyers from NRCA's Recruitment Toolkit and water bottle stickers. Our primary export this week is information, and it seems to be doing better than the hats, desk toys and giveaways that populate the other booths. We are presenting a unified industry as opposed to other exhibitors that are promoting their companies, making us a popular destination.

The students participating in TeamWorks were at our steep-slope mockup until closing at 5 p.m. being coached by individuals from SRS Distribution and TAMKO Building Products about how to install hip, ridge and valley materials. The roofing mockup on this year's TeamWorks project is measurably more difficult than the previous year's little eyebrow.

Tomorrow is the inaugural Commercial Roofing contest, with Indiana and Virginia students set to go first. Call time for the students is 8:30 a.m., so we'll be there at 7 a.m. to make sure everything is ready.

June 21

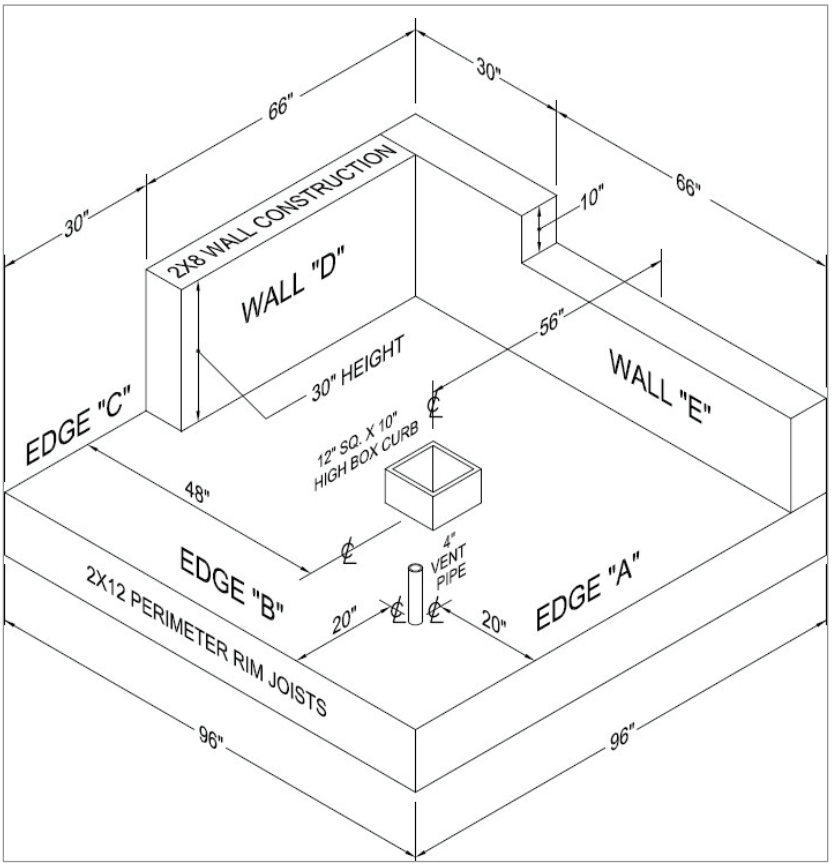
Commercial Roofing Contest Day! Today the first set of competing students will install PVC on an 8- by 8-foot mockup (see figure).

An added challenge to the contest is everything is done in a massive conference hall with passersby peering into the contest area. As we are the "new kids on the block," most of the construction teachers and advisers seem acutely interested in roofing, asking where we've been for 60 years.

TeamWorks kicked off at 8 a.m. with the din of framing and circular saws being much of the acoustic cadence of the day. In just a couple of days, what started as piles of materials set at 42 stations will become complete sheds.

The Commercial Roofing contestants arrived at 8:15 a.m. and did safety briefs with two judges from IB Roof Systems. Both judges are NRCA PROCertification Qualified Assessors for thermoplastic roof systems who oversee the hands-on performance exams that determine whether roof system installers are ready to become certified. During this period, the judges are not allowed to coach the exam takers. Most of the students have had less than six months to practice.

At 8:30 a.m., the Commercial Roofing contest officially opened. The first contestants were Mia Pulido from Hammond, Ind., and Leif Dampf from Virginia Beach, Va.



Mockup used during an NRCA PROCertification® exam

Both have a modest amount of experience installing TPO membrane, but Dampf has a bit more experience.

Pulido seems to have a natural talent for welding, and Dampf has a talent for the parts of the work more similar to other trades. Both students were the champions in their states.

Pulido completed the mockup with about 30 minutes to spare. Although the state contests are a bit shorter (four hours rather than six) with an hour for lunch, she finished early and spent the remaining time checking her seams and cleaning up her mockup.

Dampf became a bit more hurried after seeing Pulido finish and sped up to make sure he matched her accomplishment. Dampf came in with more swagger than the other contestants. Being from Virginia, the only state that had commercial roofing as a state contest in 2022, he's been exposed to the material longer and began to feel the pressure. Dampf finished with two minutes to spare. He wiped down the mockup and let out a sigh of relief. Both had times where smoke could be seen coming from their welds and both had some wrinkles, but they did well. If Thursday is like today, it's going to be tough, as there can only be one champion.

At the Roofing Pavilion, it seems 750 pins and cooling towels are only enough for two days. The contest pins are becoming something of a commodity, with the roofing pin being the one no one has. As the day progresses, we start to see more students from other contest halls seeking the roofing contest.

The only hiccup of the day was some last-minute cancellations at the Roofing Pavilion, resulting in scrapping the solar roofing demonstration. During conversations with other exhibitors in the pavilion, everyone already has great ideas for next year's Roofing Pavilion.

June 22

Today marks the end of TECHSPO and the final day of the SkillsUSA competition. According to the Johns Manville Roofing Systems representatives, they've gone through seven rolls of TPO just for the random passersby who wanted to learn. Word must have gotten out to the advisers and students in other halls. The Roofing Pavilion has seen students from other contests such as computer engineering, cosmetology, culinary, diesel mechanic, robotics and virtual reality gaming.

The two students competing in Commercial Roofing today are Kyle Cameron from Hutchinson, Kan., and Brandon Lopez from Simpsonville, S.C. Both contestants finish their mockups in about five hours—not bad. Results on the details varied. One had his termination on backward, and one burned and wrinkled his pipe boot so badly it looked like the back of a wrinkled shirt.

It's now 3:30 p.m. and time to announce the winner of the first Commercial Roofing contest. Cameron from Kansas wins. Dampf from Virginia takes second. Lopez from South Carolina places third, and Pulido from Indiana takes fourth place. I can tell there's some disappointment from the students after the judging is announced. It was close. On a 1,000-point scale, the margin was about 100 points between first and fourth place. The gap between second and third was particularly tight. Only one of the four contestants will graduate this year, so I hope the other three come back next year.

On the TeamWorks side, the growth from the previous year is breathtaking. There is underlayment and edge metal, and it even looks like most contestants tried to run a course instead of stacking the shingles all on a straight line. About 15 of the 42 mockups have roofing, and each of them would have been best in their class the previous year.

At 4:45 p.m. our neighboring booths start to disassemble, and we begin to do the same. I'll be back in Hall A tomorrow to coordinate pickup of the mockups and pack everything that can be shipped.

ON TO 2024

This year's SkillsUSA Commercial Roofing competition was a great success. We had a contest with good competition and a pavilion with decent representation of the industry and association. Next year, the event will be far more polished. The chair of the construction portion, who organizes everything in Hall A, says we'll be as big as carpentry one day.

JOHN ESBENSHADE is NRCA's director of workforce development.

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A moisture survey of a low-slope roof system is simple in concept—you locate and mark wet areas on a roof. Because current industry guidelines, building codes and common good roofing practice require a moisture-laden roof not be recovered, moisture surveys often are conducted. On some occasions, there is so much moisture no reasonable person would argue a particular area of roof is not wet. But a problem arises when a roof system or areas of a roof system are not fully saturated and liquid water is not clearly present. Then, a debate occurs about the best method to detect the moisture and what amount of moisture is too much.

Currently, there are three commonly used methods for moisture detection in low-slope roof systems: infrared imaging, impedance meters and nuclear roof scans. All the methods have been on the market for decades. But lately, these options are proving less successful with some newer roof system installations and materials.

INFRARED IMAGING

Water has one of the highest abilities to store heat energy in nature. During the day, the parts of a roof that have higher moisture content absorb and hold heat energy imparted by the sun. During the night, the moisture-laden parts of the roof that stored heat energy are warmer and, therefore, emit more infrared energy than "dry" roof areas. An infrared imager "sees" this energy being radiated out and allows you to identify the areas of higher moisture content.

An infrared image of a thermal anomaly marked on a rooftop (a person is in the image for scale)

The ability to locate moisture must not be confused with the ability to determine how much moisture exists. Many roofing professionals have tried to assert they know how much moisture is present in a roof system by its infrared energy emission (temperature). These assertions do not stand up to scrutiny. They could be accurate in a controlled laboratory environment but not on a roof installed outdoors in the real world.

An infrared scan can accurately locate moisture within inches. When the areas that emit more energy are located, they are referred to as thermal anomalies because the infrared imaging doesn't show what caused temperature variance. It could mean there is elevated moisture content in a roof system or a reflection of heat energy off a roof membrane. Even a simple collection of dirt or loose roof granules can hold heat into the night and create a thermal anomaly that looks identical to roof insulation with high moisture content. Therefore, anomalies are marked on the rooftop and then need to be confirmed later as roofing material with elevated moisture content.

Infrared scans for low-slope roof systems began in the 1980s. The apparatus used at the time required two or three people to handle the equipment and the liquid nitrogen needed to cool the infrared sensor inside the imager.

Currently, many infrared scans are done with aerial drones using infrared imagers that can fit into the palm of one's hand. Drones are much faster than humans but can be less accurate because a drone can only record images from a distance and cannot mark thermal anomalies, opposed to a person creating a map by hand and marking a roof membrane where thermal anomalies are found.

Infrared imaging has other disadvantages. One of the largest issues is it needs suitable weather to impart solar energy into moisture-laden roofing materials. Cold air, rain, snow and clouds can prevent sufficient solar energy from reaching a roof for an infrared imager to be able to differentiate dry versus wet roof areas. Infrared scans also are not able to detect moisture in a roof system with thick insulation layers. This is particularly true of moisture deep in a roof assembly with thick insulation when upper parts of the roof system are relatively dry.

IMPEDANCE METERS

Impedance meters create an electric field between two pads on the bottom of the meter. When the meter is

HOW WET IS WET?

Moisture surveys vary widely in accuracy and ability to detect moisture in roof systems

by Matt Dupuis, Ph.D., P.E.

placed on a roof's surface, the resulting impedance creates a reading on the meter. The higher the moisture content, the lower the electrical resistance of the material and, subsequently, the impedance.

The measurement of moisture content as a percentage of saturation can be done accurately with impedance meters if the meter is calibrated to the material. For example, most meters of this type are calibrated to dimensional framing lumber but not to different roofing materials such as single-ply membranes, polymer-modified bitumen, polyisocyanurate, gypsum-based cover boards, etc. Therefore, the readings from an impedance meter used on a low-slope roof system must be used as a relative reading tool. A known dry area of a roof system may read 0 on the 0-100 relative scale, and a known saturated roof area may read 100. Obviously, moisture content falling between these will read between 0-100.

When placed on a roof, impedance meters can accurately pinpoint the location of moisture to fractions of an inch, but they cannot locate the depth of the moisture. Different impedance meters have different power levels; typically, the larger the unit, the stronger the electric field it generates. Therefore, different meters can detect moisture at different depths in a roof system. But they cannot tell you whether moisture is in the cover board or deep down in the roof deck, for example.

Impedance meters give instantaneous readings. They do not damage roofs in any way and can be used at most reasonable air temperatures. However, the roof surface must be free of moisture when taking a reading otherwise the two pads on the meter will be electrically shorted out by the moisture.

Impedance meters cannot be used on conductive roof membranes, such as EPDM; metal; or roofs with aluminized coatings. In addition, metal fasteners, insulation plates and lead flashings near drains can give false positive readings. Even metallic conduit and pipes that have been embedded in a low-slope roof system can cause electrical short circuits and give false readings. A bit of experience and common sense is needed to use these instruments effectively.

Recently, two new culprits have been misleading impedance meter operators. The first is metal mesh embedded in roof systems as part of some electronic leak-detection systems. The second is conductive primers used with other electronic leak-detection systems. Both include conductive components inside roof assemblies that can cause a short circuit with an impedance meter.

A nuclear gauge in use on a rooftop. Photo courtesy of White Glove Building Maintenance, Salem, Ore.

NUCLEAR ROOF SCANS

Nuclear roof scans are one of the oldest techniques available to the roofing industry. The process was invented by the U.S. government many decades ago but diminished in use at the turn of the century because of regulations by the U.S. Nuclear Regulatory Commission and insurance and paperwork requirements. However, nuclear scans have seen a resurgence of late.

As the name implies, the method involves a nuclear source of high-energy neutrons such as Americium-241, Radium-226 or Cesium-137. The neutrons are emitted by the radioactive source and directed into the roof system. Upon impact, the neutrons backscatter because of the high amount of hydrogen contained in water. The more water present, the more backscatter occurs.

The nuclear unit has an emitter and a detector built into one box. The operator places the unit over a spot on a roof and lets the unit sit for 15 seconds to four minutes depending on the accuracy desired. The detector counts the backscatter and reports the number of detections. The unit can scan only one spot at a time. As part of the process, a roof will be overlaid with a square grid, typically 10 feet by 10 feet. The operator places the detector at a grid line intersection, waits for the nuclear gauge to provide a count, records the count and moves to the next grid point.

This method of moisture detection is by far the slowest of the methods. With large roofs, it can take many days for a technician to visit every grid point. The technician eventually has a long list of counts from the meter and then must conduct a statistical analysis of the data and plot the data on a roof map. The count data by itself is of little value. The technician also must take roof samples and perform additional analysis on them to correlate count numbers to moisture content.

Nuclear scans have the lowest resolution of any of the moisture survey methods because the readings are taken at a specific point on a grid and not continuously. Therefore, small moisture-laden areas between grid points can be missed. The grid size can be reduced, and many times it is. However, this dramatically increases the number of stops a technician needs to make, increasing time and labor cost.

Nuclear scans have several advantages. They are somewhat impervious to poor weather. Even a thin film of moisture, such as dew or frost, can be dealt with by an experienced technician. Nuclear scans also can read through conductive materials such as metal, EPDM and conductive coatings. Additionally, the issues with conductive primers and metal leak-detection grids do not impede nuclear scans.

GRAVIMETRIC ANALYSIS

Gravimetric analysis is not explicitly used as a moisture survey technique. However, it can be combined, and many times is, with the previously discussed moisture survey methods. Gravimetric moisture analysis involves taking a roof sample and drying it in a laboratory convection oven. The mass is measured before and after the sample is dried in the oven and is used to calculate the moisture content percentage of the material at the time of extraction.

Different materials can hold different amounts of moisture. Some materials can greatly exceed 100% moisture content by weight. For example, common roof insulation materials can contain more than 100% moisture content by weight and still technically not be considered wet. Furthermore, polyisocyanurate insulation products have attached facers that can and will have a much different tolerance for moisture content than the foam core. Coated fiberglass mat facers will store little moisture and not be degraded by moisture presence. Conversely, fiberglass-reinforced felt (paper) facers readily absorb moisture and experience strength loss as a result.

Of all the methods for moisture survey and measurement, gravimetric analysis is considered the most accurate. However, this method only gives the moisture content from where the sample was taken. Therefore, it is best used in combination with another method. The only major caution is in the selection of the drying temperature. Lower temperatures demand longer oven times for drying but tend to be more conservative in treatment of the sample in the oven. However, too high a temperature can damage some materials.

An example would be drying a gypsum-based cover board at too high a temperature and causing calcination where the water molecules chemically bound to the gypsum are driven off. This chemically bound water is present in addition to the free moisture that is of actual interest. In this scenario, selecting a temperature that is too high can lead to inaccurate gravimetric results. As such, an experienced technician should conduct gravimetric work.

CONCERNS

Lately, there have been issues with improper moisture surveys being conducted on new roofs. Several of the problems were already identified but are worth repeating because of their importance:

1. *Metal leak-detection mesh or conductive primers in roof systems*. When these conductive components are present in a roof, they may trigger false positive readings during a moisture detection survey using an impedance meter. The technician conducting a moisture survey must be more cognizant than ever of what a roof system is composed of before relying on moisture readings and reporting them.
2. *High-density polyisocyanurate cover boards are not absorbing moisture and concealing moisture from moisture surveys*. The high-density and closed-cell nature of polyisocyanurate cover boards is, in some cases, concealing moisture contained below from impedance, infrared and even nuclear meters. Be extra cautious of moisture survey readings conducted over high-density polyisocyanurate cover boards. I recommend taking test cuts and/or roof cores with these systems to confirm readings with direct moisture meter readings of the material layers and/or gravimetric analysis of the roof assembly core sample.
3. *Voluminous depths of insulation.* In many jurisdictions, energy codes are driving roof installations characterized by significant thickness of insulation that can conceal moisture from moisture survey equipment. The moisture is too deep to alter the surface temperature for infrared readings, and the other methods do not penetrate deep enough to read more than perhaps 6-12 inches below the roof surface. Therefore, moisture that has migrated beyond these depths may not be detected.
4. *Fiberglass-reinforced felt (paper) facers on polyisocyanurate insulation*. These facers are susceptible to

strength loss with even slightly elevated moisture content. Care must be taken when doing moisture surveys involving these insulation boards to identify where in the roof assembly cross-section the moisture was detected. If moisture has accumulated at or near the insulation facers in the roof cross-section, further assessment of the roof's condition is warranted.

5. *Irreversible moisture damage to gypsum-based cover boards*. When gypsum-based cover boards encounter too much moisture, they structurally degrade. The exact amount of moisture needed to trigger this damage varies by product and product generation. But when gypsum-based cover boards are exposed to too much moisture, they physically lose their integrity and can no longer resist uplift forces in adhered roof systems. This condition commonly presents as a soft substrate under foot even if the cover board has dried versus the firm, solid substrate gypsum cover boards typically provide. The technician conducting the moisture survey must be cognizant of the change in the substrate quality (even if the moisture meter indicates no moisture) and investigate or, at a minimum, make note of the issue.

GUIDELINES

The following standards can provide more information about moisture surveys:

- ASTM C1153, "Standard Practice for Location of Wet Insulation in Roofing Systems Using Infrared Imaging"
- ASTM D7954, "Standard Practice for Moisture Surveying of Roofing and Waterproofing Systems Using Nondestructive Electrical Impedance Scanners"
- ANSI/SPRI/RCI NT-1, "Detection and Location of Latent Moisture in Building Roofing Systems by Nuclear Radioisotopic Thermalization"

HOW MUCH IS TOO MUCH?

When a moisture survey and any resultant gravimetric measurements are made, how much moisture can a roof contain before it is considered wet? This is the ultimate question asked in many legal cases.

The closest answer the roofing industry has comes from the late Wayne Tobiasson, a noted researcher. He and his team proposed that for an insulating material to be considered wet and in need of replacement, it needed to have lost 20% of its thermal resistance (R-value). Therefore, the insulation would only have 80% of its thermal resistance remaining. This concept is commonly referred to as the R80 rule.

To give a point of reference as to how much moisture is required to reach this level, polyisocyanurate roof insulation would need to reach a moisture content of about 262% by weight to be at its R80 point.

The R80 rule is a reasonable concept. However, materials currently on the market, such as gypsum-based cover boards or fiberglass-reinforced felt (paper) facers on polyisocyanurate insulation, cannot remotely tolerate this level of moisture. Therefore, the R80 rule loses much of its relevance in practice but still gives the roofing industry perspective regarding moisture levels in low-slope roof systems.

Some roof consultants rely on a concept called equilibrium moisture content (EMC), which is the amount of moisture stored in a material after it has come to equilibrium with its surroundings (a particular combination of temperature—typically room temperature—and humidity).

Some individuals will look at a material's moisture content and if it is above EMC at room temperature, consider the material wet. The problem lies in the reality that roofs exist in extreme cold and heat, high and low humidity, and everything in between. So EMC at room temperature may have little practical significance. Combine this with the wildly different effects moisture has on different roofing materials, and the EMC concept begins to lose traction. Use the concept with caution.

WHEN AND WHERE TO GET HELP

Current industry guidelines, building codes and common good roofing practice require a roof re-cover not be placed over a moisture-laden roof. As a result, many roofing contractors are adding moisture surveys to their list of services.

But a simple review of the industry guidelines for the specific moisture survey type (see "Guidelines") can help avoid many of the mistakes that have led to legal disputes based on improper or ill-advised moisture surveys.

If you have questions, consult the technical committees of your local, regional and/or national roofing contractor associations. These committees and association staff tend to be well-versed in moisture surveys and at a minimum will know who to contact for more exacting answers to your questions.

MATT DUPUIS, PH.D., P.E., is president of SRI Consultants, Waunakee, Wis.

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Suspended roofing

Project name: John A. Roebling Suspension Bridge
Project location: Ohio River between Cincinnati and Covington, Ky.
Project duration: Jan. 25, 2021-Feb. 1, 2022
Roofing contractor: Steinrock Roofing & Sheet Metal Inc., Louisville, Ky.
Roof system type: Copper
Roofing manufacturers: Carlisle® WIP® Products, Carlisle, Pa.; Revere Copper Products Inc., Rome, N.Y.

Steinrock Roofing & Sheet Metal helps restore the John A. Roebling Suspension Bridge over the Ohio River

by Chrystine Elle Hanus

Northern Kentucky's John A. Roebling Suspension Bridge was once the longest bridge in the world at 1,057 feet. It was a marvel of civil engineering and a model for the Brooklyn Bridge in New York. Completed in 1867, the bridge spans across the Ohio River, joining Covington, Ky., to Cincinnati.

The bridge was designed by John Augustus Roebling, a German-born engineer. In his work to improve river navigation, Roebling studied suspension bridges and invented the wire rope design still used on bridges today. Construction began in 1856, but more than a decade would pass before the bridge opened because of delays related to financial downturns and the American Civil War.

The bridge initially was used by pedestrians and streetcars, but now pedestrians share the bridge with motorists, both enjoying spectacular views of the Covington and Cincinnati skylines. Originally named the Cincinnati-Covington Bridge, it was later renamed in Roebling's honor. The bridge is distinguished as a National Historic Landmark and an American Society of Civil Engineers® Historic Civil Engineering Landmark.

In 2018, infrastructure consulting firm AECOM, Dallas, spearheaded a project to restore the bridge. Steinrock Roofing & Sheet Metal Inc., Louisville, Ky., was selected by the project's general contractor, LRT Restoration Technologies, Monroe, Ohio, to remove and replace the copper roofing on the bridge's four towers.

TEAR-OFF

In January 2021, the Steinrock Roofing & Sheet Metal team began work on the bridge. Two of the bridge's towers are in Kentucky and two are in Ohio. The towers' roofs were designed as an octagon with eight hips about 10 feet wide at the eaves. The roof areas on the sides, termed the "shoulders," have large cables that hold up the bridge. The cables start on a spool inside the main structure and run to the top of the bridge.

The towers' original roof systems consisted of 1-inch single-lock, standing-seam copper panels. The roof panels measured 17 inches wide with a 1-inch seam turned up at a 90-degree angle. One side terminated at 1 inch (male seam), and the other (female seam) side had an extra inch folded 180 degrees toward the roof deck, facing away from the panel. The male seam was fastened by a cleat that hooked over the seam, came down to the roof deck and was nailed. The fascia boards were wrapped in copper to protect them from rotting.

The base of the panels at the eave were tonged ¾ of an inch down and around the drip edge. After the first panel was secured, the next panel's female seam was pushed down and over the top of the previous panel's cleated male seam, tonged tightly together creating a single-lock system with no exposed fasteners. The male seam was cleated, and the subsequent panel's female seam covered the cleats and nails.

The team removed the existing copper, underlayment, 5-inch K-style gutters, 2- by 3-inch downspouts, copper fascia, metal edging, flashing and counterflashing from all towers.

"The tear-off process was extremely tedious as safety was of the utmost importance," says Tyler Fleig, chief of operations for Steinrock Roofing & Sheet Metal. "Only one side of the bridge was closed to pedestrians, so we were under a lot of pressure with people walking below us. We had a crew member using a walkie-talkie to communicate with us when pedestrians were within distance of the tower. We then ceased working to let them pass."

LOGISTICS

All tear-off materials were carefully disassembled and lowered to the ground in a crate using an electric winch that could be pushed or pulled with rope attached to a rail mounted to scaffolding.

"One person would hold and secure each piece of material while another worked at tearing off," explains Mike Hardin, a craftsman with Steinrock Roofing & Sheet Metal. "We created bundles that were placed in a wooden crate we built and lowered it to the ground."

At the beginning of each week, the team transported new material to the job site located 80 miles from the company's

Photos courtesy of Steinrock Roofing & Sheet Metal Inc., Louisville, Ky.

From left to right:

Steinrock Roofing & Sheet Metal craftsmen fabricated all the copper for the project.

Team members wrapped steel cables around the towers at the top of the roofline and installed U-bolts to clamp the cable in place to securely attach safety ropes.

Team members installed new 16-ounce standing-seam, double-lock copper panels 160 feet over the Ohio River.

The on-site Steinrock Roofing & Sheet Metal crew from left to right: Lance Sutherland, logistics director; Tyler Fleig, chief of operations; Slater Steinrock, craftsman; Spencer Steinrock, craftsman; and Mike Hardin, craftsman.

Newly completed copper roof systems were installed on four towers.

warehouse. To load material to the roof areas, one team member operated the winch while two team members on the ground used ropes attached to a crane for stability as the material was hoisted 160 feet to the roof areas where two members pulled the crate onto the roof and unloaded. Raising the material in high winds was challenging.

"The crew had to be extremely diligent to stabilize the crate using the ropes to safely ensure no material was lost," says Slater Steinrock, a craftsman for Steinrock Roofing & Sheet Metal. "Literally every hand tool and piece of material had to be secured at all times."

"Steinrock Roofing & Sheet Metal's primary challenges included working extremely high in the air above the Ohio River in confined spaces," adds Robert Yeager, P.E., executive director of the Kentucky Department of Highways. "Their personnel was able to accomplish this with only a five-person crew.

"One of those crew member's sole job was to remain on the bridge and operate the material hoist for the other crew members who were performing the work on the towers. The work was conducted professionally, making sure the historical structure was handled with the utmost care. The workmanship was exceptional, and we couldn't be happier with the results."

Safety precautions consisted of fall-protection devices such as body harnesses, lanyards, ropes and tool lanyards. Crew members were required to be tied-off at all times, including while working in small spaces with 2-foot-wide access. Team members wrapped steel cables around the towers at the top of the roofline and installed U-bolts to clamp the cable in place to securely attach their safety ropes. The system was inspected by LRT Restoration Technologies safety personnel, and safety meetings were held daily.

"The safety lines took careful maneuvering to prevent the crew from getting entangled in the maze of ropes in the tight spaces," says Lance Sutherland, logistics director for Steinrock Roofing & Sheet Metal. "Our crew employed the creative use of vice grips to steady their feet when soldering for hours on end."

INSTALLATION

After completing tear-off, the crew applied Carlisle® WIP® 300HT underlayment to the wood roof deck and installed new 16-ounce standing-seam, double-lock Revere Copper panels with internal cleats attached with barbed copper nails. All the copper for the project was fabricated in-house by Steinrock Roofing & Sheet Metal craftsmen.

"We fabricated 16¾-inch-wide panels with a seam on both sides," says Spencer Steinrock, a craftsman with Steinrock Roofing & Sheet Metal. "Instead of a single-lock seam design, the system had one extra bend on each seam. The male ⅜-inch seam folded toward the panel at 90 degrees, and the female half-inch seam folded 90 degrees horizontally away from the panel and ⅜ of an inch down vertically toward the roof. The bend folds around the male seam for one lock and the half of an inch horizontal surface is folded down toward the roof, creating a double-lock system sealed tightly."

All hips and ridges also were doubled-locked, and the standing seams at wall intersections were turned and soldered. Craftsmen fabricated and installed 16-ounce copper counterflashing and sealed lead edges with one-part urethane.



Additionally, team members wrapped fascia boards in copper and installed 6-inch K-style gutters with 3- by 4-inch downspouts. All decorative pieces were replicated and reinstalled using 16-ounce copper.

"Our company considers it an honor to work on historical structures like the John A. Roebling Suspension Bridge," says Tim Steinrock, president of Steinrock Roofing & Sheet Metal. "Such projects demand a wealth of skills that are fading in our country today. Our craftsmen enjoyed the challenges of dismantling pieces that have withstood the test of time and honoring their predecessors by participating in restoring this historical monument to its original glory."

The Steinrock Roofing & Sheet Metal team also fabricated and installed 16-ounce copper roof edging. The raggles were cut into the brick and stone to receive the counterflashing.

"No project of this scale is without its challenges," Fleig says. "And this one was a test of skill and patience to work with the gutter angles around each octagon structure. The winds over the Ohio River in December and January posed a significant obstacle to soldering because the wind threatened to reduce the iron temperature. If the soldering iron isn't hot enough, it will produce a cold joint, rather than 'sweating in,' and the joint ultimately will crack. The demands of the project required the joints to last another 100 years.

To watch a video about the history and design of John A. Roebling Suspension Bridge, go to professionalroofing.net.

"And perhaps not commonly known, applying drip edge to stone required an old technique of inserting a wooden wedge into the masonry and then nailing the drip edge into the wood wedges."

THE JEWELS ON THE CROWN

Although high winds, brutally cold temperatures, rain and snow tested the team's endurance and skills, the Steinrock Roofing & Sheet Metal team successfully collaborated to complete the John A. Roebling Suspension Bridge project on time in February 2022.

"Steinrock Roofing & Sheet Metal conquered the significant challenge of executing its work 160 feet over the Ohio River and demonstrated a high standard of excellence in workmanship," says Craig Klusman, structural engineering manager for AECOM.

To conserve fuel and travel time, the team worked four 10-hour days per workweek and stayed in a hotel Monday through Wednesday nights.

"To stand back with my crew after we completed the job, seeing all we accomplished, the long drives each week for material, the weather elements and overall craftsmanship as a true talent is so rewarding," Fleig says. "It was a huge sense of pride to call my family to tell them I am coming home and share finished photos of our project. I am extremely proud to have worked alongside each and every one of our guys and know they take just as much pride in their work as I do."

To be among the few who have touched the top of the bridge's towers and now be part of its history is an honor for the Steinrock Roofing & Sheet Metal crew.

"It truly was an honor and a privilege and something we will hold with us forever," Fleig says. "Passersby and drivers might appreciate the glistening of the copper towers when the sun or flood lights illuminate them, but Steinrock Roofing & Sheet Metal truly knows the workmanship it took to fasten the jewels to this crown."

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

IT'S NOT JUST ABOUT FALLS

Fall prevention is important, but don't forget other safety measures, particularly with metal roofs

by Rich Trewyn

Government statistics show sheet-metal work continues to have safety concerns that have been a focus of the roofing industry for years. One of those risks is the all too familiar fall-related injuries and deaths. But other safety concerns with sheet-metal installation, such as training, weather, sharp edges and material handling, shouldn't be overlooked.

Falls

In 2021, the Bureau of Labor Statistics reported the construction industry experienced 986 fatal worker injuries of which 390 were from falls. During that same time, there were 123 roofing worker fatalities of which 99 were from falls. Falls account for 39% of total fatalities in the construction industry and 81% of roofing industry deaths.

On May 1, the Occupational Safety and Health Administration issued a new National Emphasis Program that focuses greater enforcement efforts on fall prevention.

The NEP coincided with the start of OSHA's annual National Safety Stand-Down to Prevent Falls in Construction campaign. Since the event's inception 10 years ago, NRCA and its members have participated to bring greater awareness to fall prevention.

In the NEP, OSHA states: "The goal of this NEP is to significantly reduce or eliminate unprotected worker exposures to fall-related hazards in all industries that can result in serious injuries and deaths. OSHA's compliance safety and health officers are authorized to initiate inspections under the scope of this NEP whenever they observe someone working at heights. These observations may occur during the Certified Safety and Health Official's normal workday travel or while enroute to, from or during other OSHA inspections. If a potential imminent danger condition exists, an inspection will be initiated."

NAICS Code: 238160 *Roofing Contractors*
Establishment Size: ALL sizes

Listed below are the standards, which were cited by **Federal OSHA** for 238160 NAICS Code for establishments with ALL sizes employees, that were **issued** during the period October 2021 through September 2022. Penalties shown reflect current rather than initial amounts. For more information, see definitions.

Standard	Citations	Inspections	Penalty	Description
Total	8,740	3,451	$38,314,958	*All Standards cited for Roofing Contractors*
19260501	3,133	3,073	$21,334,442	Duty to have fall protection
19261053	1,474	1,262	$5,112,483	Ladders
19260503	1,019	977	$2,244,415	Training requirements
19260102	772	769	$3,715,178	Eye and face protection
19030019	346	265	$113,126	Abatement verification
19260100	307	306	$1,101,191	Head protection
19260020	303	275	$1,325,643	General safety and health provisions
19260502	286	218	$779,300	Fall-protection systems criteria and practices
19260451	215	134	$674,323	General requirements
19261060	168	168	$131,252	Training requirements
19101200	81	33	$89,394	Hazard communication
19260021	68	67	$239,368	Safety training and education
19260453	67	61	$260,582	Aerial lifts
19260452	45	39	$77,156	Additional requirements applicable to specific types of scaffolds
19260416	41	37	$130,847	General requirements
19040039	37	35	$87,887	*—No Description Found—*
19100178	31	26	$78,609	Powered industrial trucks
19260602	27	25	$112,069	Material handling equipment
19260552	25	24	$57,224	Material hoists, personnel hoists and elevators
19260150	24	23	$57,521	Fire protection
19260454	23	21	$32,557	Training requirements

Chart showcasing results of OSHA inspections and citations

Fall safety training equipment

There should be little wonder OSHA is focusing attention on falls. In 2022, the roofing industry was cited for more than $38 million in penalties, and $30 million (79% of those penalties) were related to fall protection.

Training

Training is a critical part of any company's success. All too often, employers forget this, but they are required to train employees to safely perform all assigned tasks. They also must provide training in a language and manner workers can understand.

OSHA requires safety training, specifically fall-protection training, be conducted by a competent person. OSHA defines a competent person as someone who can identify existing, predictable hazards in the surroundings or working conditions that are unsanitary, hazardous or dangerous to employees and who has the authority to take prompt corrective measures to eliminate them.

Safety training should include information about how to recognize hazards and procedures to minimize them. NRCA recently developed a new two-day Fall Protection Trainer Class that takes a deep dive into fall prevention and equips trainers with the tools to successfully train employees.

Pre-job

Employers are required to not only train employees but also provide them with a workplace free from recognizable hazards. The General Duty Clause from The OSH Act of 1970 requires that in addition to compliance with hazard-specific standards, an employer must furnish each employee with a place of employment free from recognized hazards that cause or are likely to cause death or serious physical harm.

This requirement also extends to estimators and salesmen who often visit job sites before crews. By training employees to use and perform pre-job assessments like those in a job hazard analysis or NRCA's Deck Integrity Tool (both available on NRCA's website, nrca.net), employers can identify and eliminate or control hazards before workers arrive at a job site. It's a simple process that can help meet OSHA's requirement of worksites being free of recognizable hazards.

On the job

Workers training on-site

Proper training and pre-job inspection can eliminate or reduce many safety issues, but risks still will be present and should be addressed. As discussed, falls continue to be the top concern while working at heights, but other risks must be addressed when working with metal roof systems.

Weather

Weather can create a number of risks when it comes to working with sheet metal. Rain, snow and ice can create slip and fall hazards on metal roof systems that add to risks of working at heights. Even dew or frost present in the early morning can create the feeling of working on an ice skating rink. Slip-resistant footwear can help but only provides some level of safety when used.

In addition, it's best not to work on metal roof systems anytime lightning and thunderstorms or other potential issues with electrical hazards are present.

Wind also can play a huge role in metal roof system installation. Wind can blow against metal panels and cause workers to lose their balance, creating the potential for slips and falls.

And though a nice blue sky and sunshine may seem to be the perfect conditions for a workday, bright days can wreak havoc on workers' eyes because metal systems add to the amount of light reflected from a roof's surface. Workers will need to wear tinted safety glasses or specialized safety glasses to prevent damage from the sun's harmful rays. The sun also can raise the temperature of a roof's surface. OSHA issued an NEP regarding heat in 2022 stating employers must plan for proper water, rest and shade on job sites to avoid the risks associated with working in excessive heat.

To avoid having workers exposed to such conditions, employers must continually monitor weather and avoid sending workers to jobs at the times of day when these hazards may be more prevalent.

Sharp objects

Protective gloves

From the time metal products are in the shop to final installation, cuts and lacerations are a major concern for workers. Covering sharp edges and corners during transport can be accomplished with the use of rubber edging, cardboard edging or other means. But these coverings will be removed on-site, so an additional means of protection, such as cut-resistant gloves and arm sleeves must be considered. Even better are cut-resistant gloves with rubber-dipped palms, which offer additional gripping power while handling metal.

In addition, fall-protection equipment may require some level of cut resistance. If workers are near an area with an exposed edge, for example, it's important the means of connection won't fail or be damaged by the hazard if a fall occurs. Specialized leading-edge equipment may be required on job sites and must have specific designations such as SRL-LE or LE, which means even if fall-protection equipment contacts a sharp edge, it will not fail.

Fall limiter

To learn more about NRCA's safety offerings, go to nrca.net/safety; to learn more about NRCA safety classes, go to nrca.net/events.

Handling and installation

The main risk when handling metal roofing materials is the potential for cuts, punctures and lacerations, but the repetitive nature of installation and overall sizes of metal products used also are causes for concern. To avoid many of these risks, employers should use multiple workers for installation; mechanical equipment for assistance when moving materials; and work-reduction methods, such as job rotation, to avoid worker stress and strain.

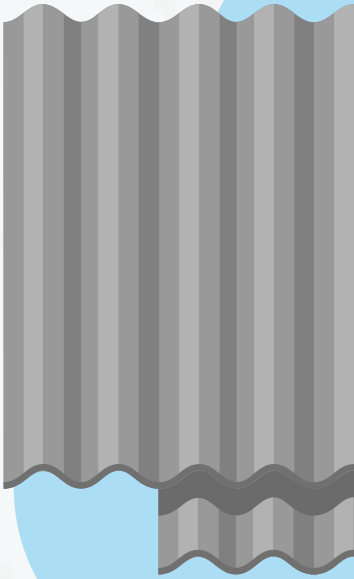
Another risk is lead, which commonly is found in a variety of sheet-metal materials. Whether they are installing a complete lead-coated system or soldering seams and joints with lead, workers need to be aware of the hazards. PPE such as gloves and respirators must be considered, but safety doesn't end there. Proper hygiene cannot be ignored, and it is critical to allow employees breaks from potential lead contamination. Hygienic stations, such as proper handwash stations, should be present on every job where lead is being used.

Cover all the bases

Although it is important the roofing industry continues to focus efforts on reducing falls, we also must be diligent in safety training regarding all potential hazards employees may face on the job before any workers become just another statistic.

RICH TREWYN is NRCA's director of risk education and training.

PRESS PLAY



Videos demonstrating skills can fulfill NRCA PROCertification® assessments

I enjoy attending my area's local IIBEC chapter meetings. The continuing-education sessions are valuable to me, and I appreciate finding out how NRCA can serve architects and consultants. Recently, I sat next to a consultant from the Cincinnati area, and we chatted before the meeting started. I asked how NRCA can serve and support him.

"You want to know how NRCA can serve me better?" he responded while pulling out his phone. "Fix this."

The consultant scrolled through picture after picture of unfathomable roof system installation mistakes. He explained his usual process: He specifies a manufacturer's product for a project, and the manufacturer trains the roofing contractor involved. But the dirty little secret is the contractor will subcontract the job and then the subcontractor may subcontract it again. The result is the manufacturer never trained the people who actually complete the work, and consultants are left trying to clean up the mistakes.

by Jared Ribble

I suggested a solution could be requiring a few of the crew members to be NRCA PROCertified.® The certification means individuals' installation skills have been independently tested and verified.

"I have heard about NRCA PROCertification," he responded. "I want to specify it, but I am hearing the contractors in my area really don't like it."

Room for improvement

His comment was not a surprise to me. Take the NRCA PROCertified Clay and Concrete Tile Systems Installer certification, for example. It had been available for about a year with few installers or contractors engaging in the program. Contractor resistance to the certification had quietly festered, and unlike most of the other installer certifications NRCA had already developed, this certification was falling flat.

PROCertification was designed to be a solution to several problems plaguing the roofing industry. For decades, roofing contractors complained they had no way to separate themselves from inexperienced and unscrupulous competitors and lamented the industry's inability to attract and develop talent. Why then were clay and concrete tile contractors resisting PROCertification?

I went on a tour of clay and concrete tile contractors to find answers. At one point, I stood in front of 10 roofing professionals in Florida and listened to their candid responses: "We don't like the assessment." "It is not realistic to what our installers do every day." "They are nervous in that environment."

Historically, the NRCA PROCertification assessment process is completed within the confines of a specific mockup in a controlled environment with an independent assessor directing, watching and scoring the installer's work. This allowed for objective, efficient assessment of multiple skills in a safe environment. In addition to safety, NRCA was striving for fairness and consistency. If assessments were completed on active job sites, installers may complain their assessors visited on days that were too windy, sunny, hot or cold.

But the unintended consequence of taking a worker out of his or her professional environment (the roof) and placing him or her into a sterile testing environment was heightened installer anxiety. The sterile environment on a mockup ended up being unfair because the conditions are not realistic and likely not an accurate test of an installer's skills.

In the meeting I had with the clay and concrete tile contractors, I asked them whether one or two would be willing to beta test a revised assessment process if NRCA made changes so it occurs on the roof.

A contractor agreed to beta test the new assessment but wanted a badge to place on his website showing his customers he has certified workers.

Fair enough.

Getting the contractors something to place on their websites would be easy. But what changes could be made to assess roof system installers safely and fairly on job sites?

A new idea

As I scrolled through my phone waiting for my flight to depart from Florida, it occurred to me: We all have video cameras in our pockets! If we can pull them out at a moment's notice to capture any number of things, surely we can use them to verify an installer's skills.

Of course, installers can't perform the work and record themselves on a phone simultaneously. And foremen are too busy with other responsibilities. But a superintendent, NRCA Qualified Trainer or quality control individual could easily follow an installer around a job site and capture evidence of the installer's skillful execution of roofing details. Consultants, Registered Roof Observers and manufacturer tech representatives who document quality checks also could fulfill this role.

After landing, my first call was to Judy Hale, owner of Hale Associates, Downers Grove, Ill., a certifications expert.

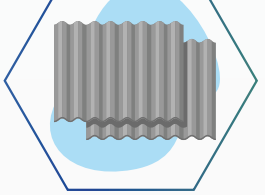
I asked Hale: "Can someone from a roofing company record an installer completing a list of tasks on the job and submit the video to be reviewed?"

"Of course," she replied. "That's how my dentists chose to have their certification completed. But you will need to show what you want them to film and how. Filming workers won't be difficult, but until someone sees it in practice, the mystery may keep them from doing it."

"But what about the nuances of every job and manufacturer's specifications? How will that result in a fair, equal assessment?" I asked.

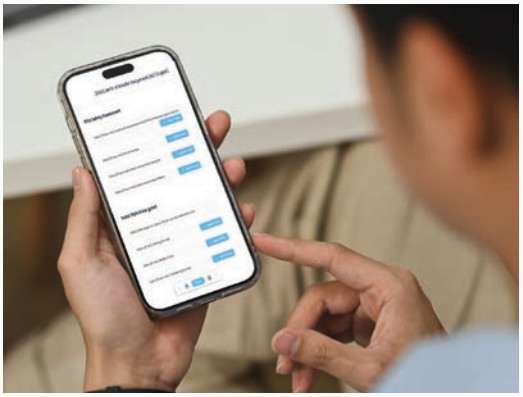
"How is taking an installer off the job and having them perform skills on a mockup that is not realistic to what they do daily fair to them?" she responded. "This is not about fairness. It's about qualifying their skills."

I pressed on by asking: "What if the installer makes a mistake, shuts off the video and starts again to submit the correct video?"



"They proved they could do it right," Hale answered. "That's great. They learned from their mistakes and are better for it. What happens when someone fails the assessment on a mockup? Do you let them take the exam again? Of course, and they pass. This expedites the process."

Hale was raising good points. Of the installers who failed PROCertification exams on the mockup, 100% of those who retested passed.



"Manufacturer tech representatives and roof consultants are observing jobs every day as part of their workflow doing quality checks. Could one of these people assess a worker on the job?" I asked. "I'm concerned manufacturers could pass people because they don't want to upset their customer, the contractor."

"A manufacturer passing someone undeserving is not likely to happen," Hale explained. "The manufacturer and building owner have the greatest stakes in a roof system being installed correctly. So a manufacturer tech representative is not likely to blindly pass installers doing poor work. It costs the manufacturer when their product is installed incorrectly.

"The end goal is not the certification—it's having a qualified workforce that does the job correctly. PROCertification is the evidence of a qualified workforce. How you get there is not as important as establishing a qualified workforce, your industry's biggest problem."

Action!

I now needed to find a company willing to let me up on a roof to get video of their workers, which proved to be easy. I found a company about to install a polymer-modified bitumen torch-applied job. I sent over a list of installation details I wanted to film.

When I arrived at the job site, installers were just starting to torch the base sheet. I pulled out the printed list of details I wanted to film and opened my phone's camera app, but the quality control director stopped me.

He showed me an app where he had loaded the details of the job and said we could shoot the videos within the app. The app can generate a PDF report with all the videos and pictures categorized so an assessor can evaluate.

Back at the NRCA office, the certification team went to work finding the right mobile roof inspection software app and customizing it for PROCertification clay and concrete tile video assessments. Initial trials looked promising. It was time to call up my contractor friend in Florida who had offered to beta test video assessment.

With a reformulated task list now preloaded into the mobile app, two manufacturer tech representatives met me at the job site. The owner of the company also joined us, curious to find out whether NRCA rose to his challenge. One tech representative and the superintendent went on the roof to capture video. The other tech representative stood with me and the company owner on the ground.

I noted it took about two hours to record video on the job site compared with the mockup exam that lasts about four hours.

The superintendent noted the process was easy, telling the company owner he thought he could complete assessments for all 20 of the company's experienced installers. The new process was a success.

Constantly improving

NRCA PROCertification continues to evolve to best meet roofing professionals' needs, and your feedback always is welcome.

Video assessment now is making it easier for asphalt shingle, clay and concrete tile, EPDM, polymer-modified bitumen and thermoplastic roof system installers and their companies to pursue certification. NRCA gives each installer's company a login to a mobile app that has the list of tasks and upload form preloaded. Anyone with a phone can capture the required videos and submit the digital form for evaluation.

Everyone wants to be recognized for their excellent work and skills. The value of PROCertification is raising the quality of entire contracting crews as young installers witness experienced installers achieve certification and are inspired to follow suit. The end goal is not individual certification—it's a qualified workforce.

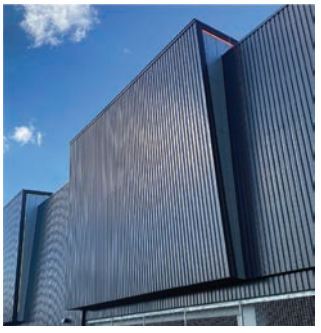
JARED RIBBLE is NRCA's vice president of certifications.

MANUFACTURER NEWS

ATAS International announces award winners

ATAS International, Allentown, Pa., has announced the winners of its 2022 Project of the Year competition, which recognizes incorporation of ATAS International products in building designs. An independent panel of judges reviews submitted projects and selects winners in seven categories: commercial roofs, commercial walls, residential roofs, residential walls, accents, sustainable and interiors.

City Modern–The Hybrid, Detroit



Minneapolis Bus Garage

Pro-Shield LLC, Novi, Mich., and NRCA member ABC Supply Co. Inc., Beloit, Wis., won first place in the commercial roofs category for City Modern–The Hybrid in Detroit; MV Construction Group, Miami, won first place in the commercial walls category for 4400 Syracuse in Denver; D & A Home Improvement, Somers Point, N.J., and ABC Supply won first place in the residential roofs category for a private residence in Longport, N.J.; and Go2Builders, Lexington, Ky., won first place in the residential walls category for a private residence in Williamsburg, N.Y.

Repp + McLain Design and Construction, Tucson, Ariz., and ABC Supply won first place in the accents category for the Holualoa Renovation in Tucson; NRCA member Atomic Architectural Sheet Metal Inc., Vadnais Heights, Minn., won first place in the sustainable category for the Minneapolis Bus Garage; and OP Builders, Monroe, Conn., and ABC Supply won first place in the interiors category for a studio office in Brewster, N.Y.

A booklet of all winners and nominated projects is available at atas.com.

Carlisle Construction Materials opens new location

Carlisle Construction Materials LLC, Carlisle, Pa., has opened a location in Sikeston, Mo. The facility was designed to maximize energy efficiency and reduce carbon as part of Carlisle Construction Materials' commitment to sustainability.

The branch is Carlisle Construction Materials' second location in Missouri; the company has more than 40 locations in the U.S.

Owens Corning offers contract audits

Owens Corning, Toledo, Ohio, has partnered with Adams and Reese LLP, New Orleans, to offer contract audits to Owens Corning Roofing Contractor Network members. The free audits, performed by Trent Cotney, partner and construction team leader at Adams and Reese and NRCA's general counsel, evaluate current contracts to identify areas of improvement to help mitigate unknown risk and comply with local, state and federal laws.

Other legal services available to roofing contractors include contract review and drafting, advisory services for managing employee issues, Occupational Safety and Health Administration defense, collections, licensing and building code analysis.

Additional information is available at cotneycl.com/preferred-legal-vendor.

CONTRACTOR NEWS

Antis Roofing & Waterproofing donates cash award

Antis Roofing & Waterproofing, Irvine, Calif., has donated a $2,500 David Chow Humanitarian Award cash prize to the Back-to-School Backpack Drive hosted by the Boys & Girls Clubs of Central Orange Coast, Irvine.

About 250 children attended the event Aug. 3 to receive backpacks filled with school supply necessities, including new books.

"Our campaign provides about a thousand new backpacks and supplies to kids who need them most, and this contribution helps make it happen," says David Blair, director of philanthropy and corporate partnerships of the Boys & Girls Clubs of Central Orange Coast. "We are grateful for Charles Antis' constant dedication to our cause."

Brothers Services announces new partnership

Brothers Services Co., Baltimore, has partnered with Omnia Exterior Solutions,™ Columbus, Ohio, a portfolio company of CCMP Growth Advisors LP, New York, and a national provider of residential roofing solutions and exterior remodeling services. Through the partnership, Brothers Services will be provided with administrative support, digital tools and resources to help grow its business and keep up with changing technology.

"We are thrilled Brothers Services is partnering with Omnia Exterior Solutions, which will greatly benefit our customers and employees moving into the future," says John Martindale, CEO of Brothers Services. "This partnership positively positions our 37-year-old company for its next phase."

NRCA board member passes away


Embow

NRCA board member John Embow, president of Grove Roofing Services, Buffalo, N.Y., passed away Aug. 20. He was 51.

After graduating from Villanova University, Villanova, Pa., in 1994, Embow initially worked in the technology industry in the Bay Area. He then returned to Buffalo to join his family's business, Grove Roofing Services, and ultimately succeeded his father as president of the company.

Embow served multiple terms on NRCA's Executive Committee and NRCA's board of directors, as well as many NRCA committees, including the Global Advisory Committee, Health and Safety Committee, Insurance Board of Governors, NRCA University Operations Committee, and PROCertification® Oversight Committee. He also served as the chair of NRCA's International Relations Committee for more than a decade.

Additionally, Embow was involved with the Roofing Alliance, serving on committees such as the Roofing Alliance Finance Committee, Roofing Alliance Heat Stress Conditions and Awareness for Roofing Workers Task Force, and Mississippi State Virtual Reality Task Force. He also was involved with the National Roofing Legal Resource Center and served as president from 2018-19.

Embow had an enormous heart and was focused on giving back to his community as a supporter of the Erie County Society for the Prevention of Cruelty to Animals in West Seneca, N.Y.

Embow is survived by his wife, Margaret "Peggy" McCarthy; daughter, Evelyn "Evie," and son, Elliot; sister, Alison (Chris Liang) Embow; brother, Jeff (Abby) Embow; father, Robert Embow; mother, Andrea Embow; and many nieces and nephews.

In remembrance of Embow, his family requests tax-deductible charitable donations be made to the Himalayan Children's Fund at himalayanchildrensfund.org, Erie County SPCA at yourspca.org or the National Alliance on Mental Illness at nami.org. Condolences may be shared online at amigone.com.

DISTRIBUTOR NEWS

ABC Supply expands presence in Canada

ABC Supply Co. Inc., Beloit, Wis., has expanded its presence in Canada with the acquisition of Cedar Grove Roofing Supply, Vancouver, British Columbia.

Cedar Grove Roofing Supply is a supplier of residential and commercial roofing, metal roofing and related accessories. The acquisition adds seven ABC Supply-affiliated locations in Vancouver's Lower Mainland and Vancouver Island.

In addition, ABC Supply has opened new branches in Kokomo, Ind., and Reno, Nev. The branches are ABC Supply's 16th location in Indiana and fifth location in Nevada; the company operates more than 900 locations in the U.S. and Canada.

ROOFING ALLIANCE
THE FOUNDATION OF NRCA

GET INVOLVED. GIVE BACK.

COMMITTED TO SECURING THE ROOFING INDUSTRY'S FUTURE EXCELLENCE

The Roofing Alliance advances the roofing industry through education and training; technology and research; sustainability; and philanthropic outreach.

Your investment supports these initiatives.

Please join us.

roofingalliance.net

Triangle Fastener acquires segment of Connective Systems & Supply

Triangle Fastener Corp., Pittsburgh, has acquired the segment of Connective Systems & Supply Inc., Denver, focused on fasteners for mechanical contractors, metal building and roofing. Connective Systems & Supply has supplied fasteners and other products to construction industry professionals in the Denver area since 1985.

The addition of Connective Systems & Supply assets aligns with Triangle Fastener's goal to grow business in the western U.S. The company now has 27 locations in the U.S.

OTHER NEWS

ARMA accepting award submissions

The **Asphalt Roofing Manufacturers Association** is accepting submissions for its 2024 Excellence in Asphalt Roofing Award. Roofing contractors are encouraged to submit outstanding low- and steep-slope asphalt roofing projects from the past three years for consideration by Dec. 1.

Projects will be judged in four categories: asphalt, beauty, challenges and distinction. Submissions require detailed project write-ups and high-quality images. Contractors may submit multiple entries as long as each project meets the program criteria.

Winners will be recognized during the 2024 International Roofing Expo® Feb. 6-8 in Las Vegas. Winners will receive a monetary prize, as well as recognition in national trade media, local media, and on ARMA's website and social media.

Submission forms and program guidelines are available at asphaltroofing.org/excellence.

Roofing Alliance establishes matching scholarship program

The **Roofing Alliance** has established a Matching Scholarship Donation Program to benefit its Melvin Kruger Endowed Scholarship Program, which provides scholarships to deserving students. The campaign goal is to raise $400,000 toward an overall goal of a $2 million endowment that will benefit the next generation of roofing industry professionals.

The Melvin Kruger Endowed Scholarship Program offers three scholarship opportunities: an accredited post-secondary institution scholarship, career technical education scholarship and diversity scholarship. All categories are open to employees of roofing industry companies, their spouses and their dependent children, as well as construction management students enrolled in undergraduate level or students enrolled in CTE programs or schools (regardless of industry affiliation). To donate, visit roofingalliance.net/education-research/scholarship/donate.

In addition, the Roofing Alliance has announced Informa Exhibitions, Dallas, has enhanced its partnership to include annual contributions and now is a Governor Level member. Division 7 Roofing, Galena, Ohio, also joined the Roofing Alliance at the Governor Level. The Roofing Alliance now has 193 members.

SPRI adds EPDs to website

SPRI has added an Environmental Product Declaration section to its website, spri.org, and published updated EPDs for TPO and EPDM membranes from SPRI members Carlisle Construction Materials, Carlisle, Pa.; Holcim Building Envelope, Nashville, Tenn.; IKO Industries, Brampton, Ontario; and Johns Manville Roofing Systems, Denver.

For the new EPDs, production data for 45-, 60- and 80-mil TPO was provided by seven manufacturing sites in the U.S. Production data for reinforced 45-, 60- and 75-mil EPDM was provided by three manufacturing locations, and data for nonreinforced 45-, 60- and 90-mil EPDM was provided by four manufacturing locations.

MRA announces new leadership

The **Metal Roofing Alliance** has announced its leadership.

Todd Miller, president of Isaiah Industries Inc., Piqua, Ohio, will serve as president; Ken Gieseke, senior vice president of McElroy Metal, Bossier City, La., will serve as vice president; Phillippe LaPlante, vice president of sales at Ideal Roofing, Ottawa, Ontario, will serve as secretary; Brian Partyka, president of Drexel Metals, Louisville, Ky., will serve as treasurer; and Mark MacDonald, sales and marketing manager at Sherwin-Williams, Cleveland, will serve as at-large member.

ASTM International president retires


Morgan

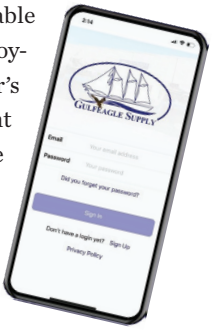
ASTM International has announced Katharine Morgan's intention to retire after almost 40 years with the organization. Morgan has served as president since 2017.

Morgan joined ASTM International in 1984 as a staff manager and assumed roles of increasing responsibility in standards development during her nearly 40-year career.

"It has been my privilege to serve as president of this impactful organization for the last six and a half years," Morgan says. "I can say with confidence that for ASTM International, the future is full of promise and opportunity. I look forward to working through this time of transition and welcoming a new president to lead us forward."

The executive committee of ASTM International's board of directors has initiated the process to identify the company's next president.

THE INDUSTRY ONLINE



Georgia-Pacific Building Products has made available **virtual job-site visit technology** that enables employees to view job sites in real time from a customer's mobile device. Using a connection made via a link sent to the customer's device, an employee can annotate and take screenshots to expedite the Georgia-Pacific Building Products team's ability to answer installation questions or resolve job-site issues. The technology now is in use across all Georgia-Pacific Building Products technical services.

Gulfeagle Supply has made available a new **mobile app** designed to help contractors place orders faster and more efficiently. Available in the Apple App Store, the Gulfeagle app allows users to stay organized, create orders, locate company branches and manage invoices.

UP THE LADDER

ABC Supply Co. Inc. has promoted 83 branch managers to managing partners. A list of the new managing partners is available at abcsupply.com/media-center/press-release.

Gulfeagle Supply has named **Brad Powers** vice president of sales and operations for the Southeast, **Kurt Schwahn** executive vice president of sales and operations, **Bill Wilson** vice president of sales and operations for the West and **Ben Zwolski** regional manager for north and central Florida.

Mule-Hide Products Co. Inc. has named **Mark Okland** strategic account manager.

NRCA NEW MEMBERS

ARCHITECTS/ENGINEERS/ CONSULTANTS

Alison C. Dawson Architect LLC, Charleston, S.C.

Jason Todd, Belfast, Maine

J.E. Rosenkrantz Structural Engineers, Margate City, N.J.

MTech Roofing Solutions LLC, Wheaton, Ill.

RDH Building Science Inc., Burnaby, British Columbia

Tricera, Tulsa, Okla.

Ziegler Cooper Architects, Houston

CONTRACTORS

1 B.F.I. Roofing & Exteriors LLC, Hermitage, Tenn.

5 Star Exterior, Malvern, Pa.

Action Roofing & Sheet Metal Inc., Grand Haven, Mich.

Affordable Roofing by John Cadwell Inc., Kissimmee, Fla.

Alta Vista Roofing, Park City, Utah

Americanstruction Inc., Mokena, Ill.

AP Contracting LLC, Mascotte, Fla.

Bridgewood Roofing & General Contractors, Dallas

Connected Energy, Houston

Cypress Roofing, Gonzales, La.

Danner Construction and Roofing, Lee's Summit, Mo.

DrySeal, Houston

Eads Roofing, Indianapolis

Egis Roofing & Construction LLC, St. Charles, Mo.

Guycan Ltd., Uxbridge, Ontario

Hammer Roofing & Restoration Inc., Port St. Lucie, Fla.

Harford Roofing Services, Havre de Grace, Md.

HRI Roofing & Postframe, Ponca City, Okla.

Lone-Star Roof Systems, College Station, Texas

New South Roofing, Bainbridge, Ga.

Occidental Roofing LLC, Tempe, Ariz.

Pro Roofing KC, Liberty, Mo.

Quality Roofing, Paris, Texas

Retro Roofers LLC, Kennesaw, Ga.

State 48 Roofing LLC, Gilbert, Ariz.

Status Roofing LLC, Frisco, Texas

Titan Roofing, Las Vegas

Transcend Roofing Systems LLC, Cumming, Ga.

Trax Management Services Inc., Powell, Ohio

W&B Restoration LLC, Colorado Springs, Colo.

Wilsey Roofing & Home Improvements Inc., Fredericksburg, Va.

INDUSTRIAL/INSTITUTIONAL

Florida Roofing Installer Institute Inc., Port St. Lucie, Fla.

SERVICE PROVIDERS

DTL Global LLC, Saint Paul, Minn.

PT Manunggal Multidaya, Jakarta, Indonesia

ROOFING ALLIANCE
THE FOUNDATION OF NRCA

EMPOWERING THE NEXT GENERATION OF LEADERS

Invest in your success. Apply for one of three 2024-25 Melvin Kruger Endowed Scholarship Program opportunities:

- $5,000 Accredited Post-secondary Institution Scholarship
- $5,000 Diversity Scholarship
- $1,000 Accredited Career Technical Education Scholarship

Employees of roofing industry companies, including their spouses and dependent children, as well as construction management students enrolled at the undergraduate level or students enrolled in CTE programs or schools (regardless of industry affiliation), are eligible to apply.

MELVIN KRUGER ENDOWED SCHOLARSHIP PROGRAM
24-25

The deadline for all scholarships is Jan. 31, 2024.

For more information, visit roofingalliance.net/scholarship.

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It takes more than 6,000 nails to properly secure a roof. Even one out of place can lead to leaks or void a wind warranty. **Malarkey Roofing** patented the industry's first larger nailing area, The Zone. A larger nailing area helps ensure every nail penetrates both shingle layers, where the two shingle layers overlap, to properly secure the shingle to the roof and protect against uplift. Learn more at malarkeyroofing.com/features/the-zone-nailing-area.

You need to know Dave Peterson

Forty-three years of experience.

A lifetime of providing services in commercial roofing.

A lifetime of partners and ethical business practices.

Dave has built a network of knowledge, individuals and companies, including those hiring, those moving up in the industry, and those who are now thinking of buying or selling.

Whatever your needs, contact Dave for a frank conversation of the pulse of the industry and your individual situation.

If you've even thought of selling, buying or moving up the ladder in your career, you need to contact Dave at (772) 778-4343, ext. 2, or dave@onlinepcg.com, or visit **onlinepcg.com**. All information is kept in the strictest of confidentiality.

Polystick XFR: fire-resistant, self-adhering roof underlayment

Polystick XFR is a self-adhering waterproofing underlayment with superior fire resistance designed for metal roof coverings. Using ADESO® dual-compound self-adhering technology, Polystick XFR features a polymer-modified bitumen upper compound and a proprietary self-adhering SBS (elastomeric) compound on the bottom. A split-release film protects the self-adhering compound and allows for easy application. Visit **info.polyglass.us/lp-polystick-xfr** for more information.

Quicksilver Engineering's SpeedStand for metal roofs makes protecting workers from falls quick and easy

Quicksilver Engineering's one-piece stands set up instantly and feature rubber pads that bridge standing seams and ribs and protect the metal finish. The welded steel stands are spaced 40 feet apart, meet OSHA requirements and can be used on flat roofs, too! They are engineered to save labor job after job.

To see why SpeedStand has been the industry standard for 18 years, call (800) 460-7579 or visit qe-1.com.

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Do you want to keep used polyisocyanurate insulation and other roofing materials out of landfills? We can help! As the U.S.' largest industrial thrift store, we have helped major commercial roofing contractors become more sustainable and increase their landfill diversion. With warehouses in Arizona, Colorado, Iowa, Ohio, South Carolina and Texas, we are interested in obsolete materials anywhere in the U.S.!

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I asked what kind of family Amina wanted. She said, 'A family like yours.' That's when I knew I had to adopt her.

Denise, adopted 17-year-old Amina

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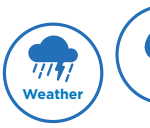
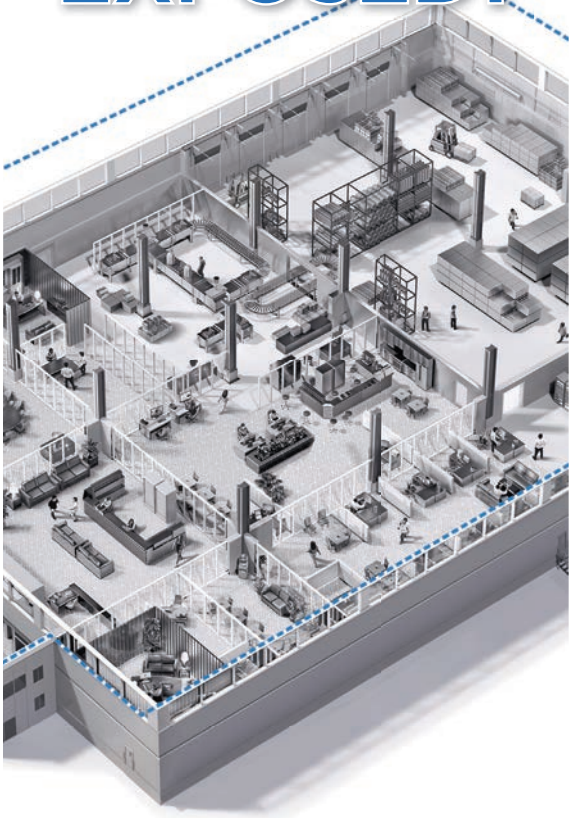


IS YOUR ROOF SYSTEM
LEAVING YOUR OPERATIONAL SECURITY

EXPOSED?



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Check out our interactive building to learn how your roof could be leaving your business exposed at FiberTite.com/Risks.

FiberTite
Seaman Corporation

BRIAN BAKER

WHAT IS YOUR POSITION WITHIN YOUR COMPANY? I am vice president of marketing for Brava Roof Tile, Washington, Iowa.

WHAT IS THE MOST UNUSUAL ROOFING PROJECT YOU HAVE WORKED ON? I currently am working on a fun project: a large church complex with domes, multiple buildings, and a mix of Spanish tile and slate in Oklahoma City. I love culturally significant roofing projects and creative uses of roofing materials.

WHY DID YOU BECOME INVOLVED IN THE ROOFING INDUSTRY? I was working with a women's business networking group when a friend mentioned he would be leaving his role at ElkCorp, a shingle manufacturer based in Dallas that later was acquired by GAF, Parsippany, N.J. After about 15 years at GAF and 18 years in the roofing business, here I am.

WHAT WAS YOUR FIRST ROOFING EXPERIENCE? When I was 13, I helped a neighbor reroof his home. I helped with the tear off and loaded the roof with new shingles for the installer.

WHAT IS YOUR ROOFING INDUSTRY INVOLVEMENT? Brava Roof Tile is a member of NRCA, and I serve on two NRCA committees. The Membership Steering Committee helps drive membership for NRCA, and the Industry Image and Outreach Committee creates an industry image that helps draw young people into the roofing business. I also work to educate contractor businesses in sales and marketing.

WHAT SONGS ARE YOU LISTENING TO OVER AND OVER? While I am working, I listen to techno, trance and dance music—it helps me focus.

WHAT WAS YOUR FIRST JOB? I bagged groceries and helped customers load their cars at a grocery store in Texas.

WHAT QUALITIES DO YOU MOST ADMIRE IN A PERSON? Intrinsic motivation and lifelong learning. No matter where you are in life, keep moving, making things and learning.

WHAT ARE YOUR FAVORITE FOODS? A raw bar and a Hendrick's martini

MY FAVORITE PART ABOUT WORKING IN THE ROOFING INDUSTRY IS ... In my previous role at GAF, we built one of the industry's first social media networks for roofing contractors. I had the privilege of seeing the details of some roofing professionals' lives, including business struggles and achievements. I felt a responsibility to protect and care for these people and businesses.

IF YOU COULD TRAVEL ANYWHERE IN THE WORLD, WHERE WOULD YOU GO? WHY? A cruise to Antarctica, the last land unchanged by people. During the summer, it's a surreal landscape of icebergs where the sun never sets and the animals are not afraid of people.

WHAT'S THE MOST EXCITING/ADVENTUROUS THING YOU'VE DONE? In elementary school, I would go fossil hunting with friends at a creek in our neighborhood. We would bring things to the Dallas Museum of Natural History, and the workers would identify them. When I grew up, I built the first website for the museum and saw some of its real treasures, one of which was a rare book of butterflies.

WHAT IS YOUR FAVORITE STRESS RELIEVER? Alone time spent in nature

WHEN YOU WERE A CHILD, WHAT DID YOU WANT TO BE WHEN YOU GREW UP? Art and engineering were my main interests though if I'm totally honest I wanted to be an engineer who drove a train.

WHAT'S YOUR FAVORITE ROOFING MATERIAL TO WORK WITH? WHY? Brava roof tiles—they make homes and even buildings at Disney World look like a fairytale and inspire creativity and fun.

WHAT IS THE MOST HIGH-TECH ITEM IN YOUR HOUSE? My home is a little bit of a technological wonderland. We always want to try out the latest Apple device.

BIG CITY OR SMALL TOWN? Big city amenities with a small-town vibe—Austin, Texas, and Boulder, Colo., are places I love.

WHAT DO YOU CONSIDER YOUR MOST REWARDING EXPERIENCE? In the mid 1990s I worked on a project called CompuServe Wow, the first online service for Windows 95. Although it didn't succeed, I met many people who created modern internet technologies, and I turned their work into webpages. It was a magical time.

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IT'S JUST A ROOFING SHINGLE...

BUT IT DOESN'T HAVE TO BE.
Unlike standard roofing shingles, Malarkey shingles are made of **Rubberized Asphalt** for superior all-weather resilience, **Upcycled Rubber & Plastics** to reduce landfill waste, and **Smog-Reducing Granules** that help clean the air.

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* 30-year StainGuard Plus PRO™ Algae Protection Limited Warranty against blue-green algae discoloration is available only on products sold in packages bearing the StainGuard Plus PRO™ logo. See *GAF Shingle & Accessory Limited Warranty* for complete coverage and restrictions, and qualifying products.