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Give 'em a break

Making sure employees take breaks can boost productivity

by Ambika Puniani Reid



ou wake up early. And then you work full tilt for hours. Maybe you skip lunch. But you get everything checked off your to-do list: You answer all your emails, attend all your meetings and return all your phone calls.

What you didn't do was take enough breaks because if you did, you might have been even more productive during the workday.

In the *Harvard Business Review* article "How to Take Better Breaks at Work, According to Research," the authors write: "Counter to the popular narrative of working long work hours, our research suggests that taking breaks within work hours not only does not detract from performance but can help boost it."

They continue: "In extreme cases, nonstop work can lead to a negative spiral: A worker tries to finish tasks despite their depleted state, is unable to do them well and even makes mistakes, resulting in more work and even fewer resources left to tackle those same tasks."

The authors say there are a few things to consider to help you and your employees get the most out of break times.

First, longer breaks are not better than shorter ones. Short breaks (about five to 10 minutes) are better in the morning, and longer breaks (15-20 minutes) are better later in the day when people naturally become more tired.

Office workers would fare better going outside for their breaks. Field workers would benefit from coming inside and sitting down for a bit. Basically, a change in environment helps people recharge mentally and become less likely to make errors.

The authors recommend you offer break periods for a certain length of time, such as one hour per day, and let employees decide when to take them and how to divide the time. (Foremen can take the role of deciding how their crews take the hour breaks.)

As the authors note: "Taking breaks can help employees to recharge and short-circuit the negative spiral of exhaustion and decreasing productivity."

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

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CLOSE-UP

















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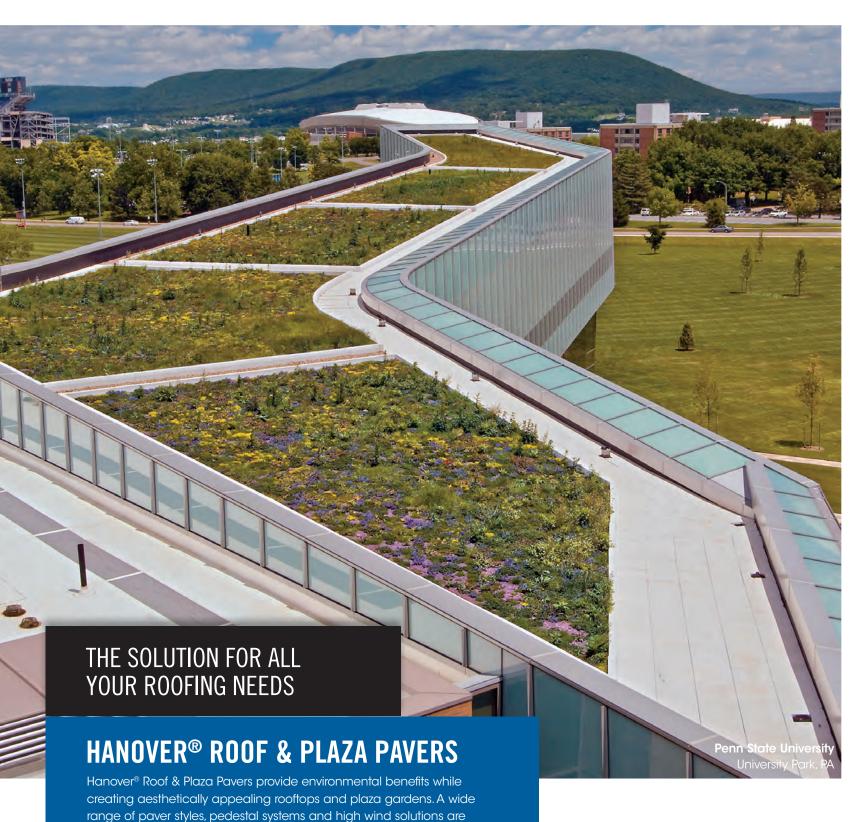
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AUTHORS



Cheryl Ambrose, CHST, OHST NRCA's vice president of enterprise risk management



McKay Daniels NRCA's CEO



Mark S. Graham
NRCA's vice president
of technical services. He
is a member of ASTM
International, ASHRAE
Inc., the International
Code Council® and the
National Fire Protection
Association.



Chrystine Elle Hanus Professional Roofing's associate editor and an NRCA director of communications



Deborah Mazol NRCA's director of federal affairs in Washington, D.C.



Ambika Puniani Reid Editor of *Professional Roofing* and NRCA's vice president of communications



Patrick Sinclair Warranty claims department manager for Holcim Building Envelope, Nashville, Tenn.

Eleanor Bell
Former outreach manager
for Bryant Surety Bonds,
Doylestown, Pa.

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Professional Roofing

Editor

Ambika Puniani Reid areid@nrca.net

Associate Editor

Chrystine Elle Hanus chanus@nrca.net

Editorial Assistant

Avery Timmons atimmons@nrca.net

Creative Directors

Nancy Davis ndavis@nrca.net

Paul Gerwen
pgerwen@nrca.net

Graphic Designers

Jairo Ayala

jayala@nrca.net

Oshla Gray

ogray@nrca.net

Director of Communications

Krista Berns

kberns@nrca.net

Manager of Online Communications

Alyssa DeSantis

adesantis@nrca.net

National Advertising Sales Manager

Michael Stack

mstack@nrca.net | (847) 493-7554

CEO

McKay Daniels

mdaniels@nrca.net

Publisher

Jeff Jarvis

jjarvis@nrca.net





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^{*}To earn the RRC designation, a candidate must also pass a separate General Consultant Knowledge (GCK) exam. All GCK questions pertain to consulting practices in general and are applicable to all consultant disciplines. If an applicant already holds a consultant designation and wishes to apply for another, the applicant is exempt from taking the GCK exam.

#HASHTAG

#HURRICANE

In August, the National Oceanic and Atmospheric Administration predicted 2023 would see an above average hurricane season with six to 11 hurricanes, of which two to five were forecasted to be major, according to CNN. See how the roofing industry prepared for this year's storms on social media.





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We have been closely monitoring Hurricane Idalia and it's trajectory. Our team is experienced, trained and ready to assist with any roofing need. Have a plan in place, evacuate the area, and stay safe!

#hurricaneldalia #hurricane #freeroofestimates #roofinspection #floridaroofing #safeplan



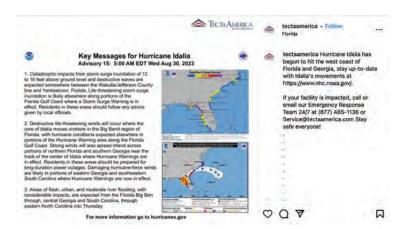


Is your roof ready for hurricane season? Follow this checklist to ensure your home is prepared: Regular maintenance is key to safeguarding your roof and home. Stay safe this season!

#Hurricane #HurricanePrep #Hurricaneseason #roofing #roofingcontractor #roofingcompany #roofingexperts #roofer











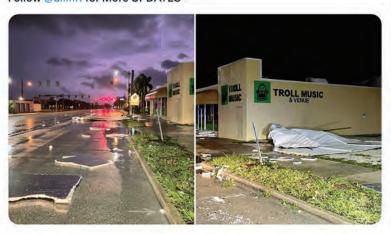


Roof damage at Troll Music from #Idalia this morning.

Stay safe 🙏

#TormentaTropical #Huracan #TropicalStorm #Hurricane #Cyclone #Idalia #Florida #Georgia #Tallahassee

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Hurricane Idalia Tuesday August 29, 2023 02 PM EDT Advisory 12A



Ladders have visual safety cues

Werner has announced a visual safety system across the company's climbing portfolio, including all extension ladders, LEANSAFE® ladders, PODIUM ladders and stepladders. The new design enhancements, which will be rolled out through 2024, provide onproduct safety cues that reportedly make it easier to choose a ladder, use a ladder correctly and communicate the importance of job-site safety. Four key user enhancements include standardized colors for clear duty ratings and larger duty rating labels for stepladders and extension ladders; high-visibility yellow on ladder caps, tops and feet for long-range and roofline visibility; universal iconographic product and safety labeling with QR codes that link to additional materials, including multilanguage video access; and enhanced ladder top designs for the 6200, 6300 and NXT fiberglass stepladder series, including carabiner tether points to reduce dropped objects, lock-in connection receivers for a range of accessories and various tool inserts.

wernerco.com

Fall-protection carts are mobile

Leading Edge Safety has added mobile fall-protection carts, the SaberTM and the X-Caliber,TM to its Mobile Fall Protection product line, designed to improve worker safety and productivity. Both carts comply with the latest Occupational Safety and Health Administration standards.

With a built-in axle for increased maneuverability, the Saber allows for two users on fall arrest, one user on fall restraint and one-user fall arrest on concrete. Other features include locking mechanisms to reduce false deployment and integrated fork pockets and lifting points.

With the ability to have one user on fall arrest, the X-Caliber's compact design allows for transport in the back of a pickup truck and is said to fit through doorways, elevators and roof hatches. The counterweights can be removed to reduce weight while transporting the cart. The X-Caliber also features a locking mechanism to reduce false deployment.

leadingedgesafety.net





Mounting system is versatile

AEROCOMPACT has introduced a rail-based mounting system, the COMPACTFLAT SN 2.

Ideal for large solar panels, the COMPACTFLAT SN 2 caters to all common module sizes, including large-format solar modules. The system also is said to complement AEROCOMPACT's existing bracket-based low-slope roof system, the COMPACTFLAT S, and features long-side clamping for optimal loading capability on all low-slope roofs, using the same components for south- and east/west-facing configurations. Reportedly designed for quick installation and resilience against severe weather, COMPACTFLAT S comes with multiple options for mechanical attachment.

aerocompact.com



Roofing colors are reflective

Westlake Royal Roofing Solutions is offering two new Unified Steel Stone Coated Roofing colors, Harborwood and Stirling Gray, in PINE-CREST Shake and PACIFIC tile profiles.

Class A Fire- and Cool Roof Rating Council-rated, the colors provide a stone-coated steel roofing option, which is said to have high solar reflectivity and high thermal emittance when solar energy hits the roof surface. The colors also have a Solar Reflective Index greater than 20. Harborwood and Stirling Grey both exceed California Energy Code Title 24 Part 6 Cool Roof Requirements. Unified Steel Stone Coated Roofing also is lightweight at 1.5 pounds per square foot and can resist severe weather.

westlakeroyalbuildingproducts.com

Tape measure has LED light

DEWALT® has made available the TOUGHSERIESTM Lighted Tape Measure and the 20V MAX XR® Brushless Cordless $\frac{3}{16}$ - and $\frac{1}{4}$ -inch Rivet Tools.

The TOUGHSERIES Lighted Tape Measure features an integrated LED light for improved visibility in low-light conditions. The light reportedly has a three-hour run time on a full charge, a 60-second auto-shutoff to conserve battery life and is rechargeable with a USB cable. The tape measure also features durable housing said to withstand drops up to 100 feet, a max reach of 17 feet, double-sided print and a durable blade with 6 inches of rip-shield coating at the hook to extend blade life.

Designed for fastening aluminum, steel and stainless-steel blind rivets, the 20V MAX XR Brushless Cordless Rivet Tools feature tool-free nose piece changes for ease of use in assembly, automotive, HVAC, prefabrication and roofing applications. The 3/16-inch rivet tool reportedly delivers up to 2,100 pound-force of pulling force with a 0.98-inch stroke length and can fasten up to 800 3/16-inch stainless-steel rivets per charge. The 1/4-inch rivet tool is said to deliver up to 4,500 pound-force of pulling force with a 1.18-inch stroke length and can fasten up to 300 1/4-inch stainless-steel rivets per charge.

dewalt.com



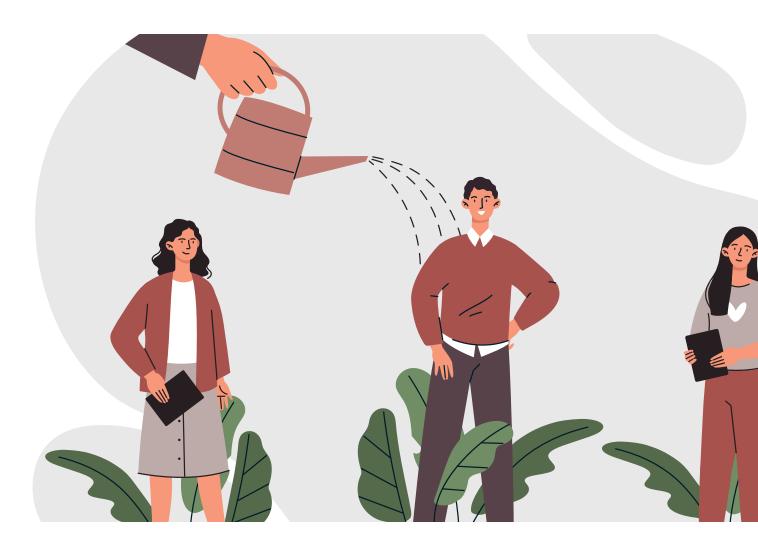




Eye protection is corrective

Brass Knuckle® has introduced Brass Knuckle Read, bifocal eye protection for workers who need corrective lenses, available in five diopter strengths: 1, 1.5, 2, 2.5 and 3. The polycarbonate frame is said to provide side protection and all-day comfort, and the clear lenses are ANSI-rated, hard-coated polycarbonate with BK-Anti-FOG. Permanently bonded to the lens, BK-Anti-FOG reportedly lasts two minutes, will not wear or wash off, and retains its antiscratch, anti-static and ultraviolet protection properties. The eyewear also meets the revised ANSI/SEA Z87.1-2015 standard, which recognizes protective readers that offer magnification for the wearer.

brassknuckleprotection.com



Fundamental freedoms

The roofing industry has much to be grateful for, and employees are first on the list

by McKay Daniels

ovember is when we pause between football games to give thanks for what we have. And grateful we should be. By most indications, our industry has continued another quarter with solid levels of work, backlogs in place and normalized supply chains. Given the regional and multifaceted nature of the industry, there have been some pockets of softening or other issues, but they've largely stood as outliers.

But because there is uncertainty all around us, we naturally become nervous when we can't see what is coming. Jerome Powell, chairman of the Federal Reserve and, in theory, the person who should know the economy's status better than anyone else, recently described the current situation as: "We are navigating by the stars under cloudy skies."

But I don't want to dwell on cloudy skies; there are innumerable things to make us anxious, upset or worried on any number of topics! Instead, let's revisit a time people weren't just facing clouds but full-on metaphorical hurricanes.

On Jan. 6, 1941, President Franklin D. Roosevelt gave his State of the Union address, which became known as The Four Freedoms Speech. In his address, FDR said: "In the future days which we seek to make secure,

we look forward to a world founded upon four essential human freedoms, some traditional and some new ones: freedom of speech, freedom of worship, freedom from want and freedom from fear."

Later, just weeks after the attack on Pearl Harbor, an

Later, just weeks after the attack on Pearl Harbor, an angry, scared nation faced a war it had tried to avoid, and the artist Norman Rockwell painted a series of paintings that came to be known as The Four Freedoms. He created them in response to FDR's speech.

You've likely seen reproductions of the paintings in posters, ads, schoolbooks or pop culture references. One depicts

the archetypical American Thanksgiving scene: a turkey and family gathered around the table. It was titled "Freedom from Want."

Three others ("Freedom of Speech," "Freedom of Worship" and "Freedom from Fear") completed the series. The paintings ran as four consecutive *Saturday Evening Post* magazine covers, which, at the time, was the most popular U.S. magazine. The paintings went on a national tour to help sell war bonds and raised more than \$130 million—impressive numbers in any generation let alone 80 years ago.

The paintings are widely regarded as Rockwell's most famous though the images are sometimes accused of being trite, unrepresentative of reality or lacking depth. Some contemporary artists and groups have updated the images to reflect current issues, culture and demographics, but the core elements that made them so overwhelmingly popular remain: We should expect and provide essential standards for every person.

And everyone coming into the roofing industry

should expect some universal, baseline standard of care. I'd argue they expect it and if they don't get it, they're moving on quickly. I have taken the liberty of adapting FDR's and Rockwell's freedoms to the roofing industry.

Freedom from want: Workers expect to earn a living that meets their financial needs. If workers have their financial needs met, they will give you a shot. Without this need being met, they will move on to someplace else. They also can't want for growth or advancement and development. They want to improve and know their future possibilities, career paths and options.

Freedom of speech: Workers want to know they will be heard. A company is not a democracy; there may only be one shareholder, but there are stakeholders. And those stakeholders have ideas, suggestions, concerns and criticisms. Being open to hearing them and fostering a culture that allows people to speak up is vital to long-term success.

Freedom of worship: Religious liberty is a national concern, but within your company, this concept can be distilled to freedom to be oneself and freedom to be accepted. A worker expects and deserves the freedom to have his or her individual, familial or cultural uniqueness not only be tolerated but also welcomed. Embracing each person's skills, character, personality and history is vital to attracting talent wherever it can be found. If you and your company admire and respect employees for who they are rather than for what they can produce, you won't just have employees, you will have partners.

G By most indications, our industry has continued another quarter with solid levels of work J J Freedom from fear: Fundamentally, your employees need to know they will go home safely each night and your company provides safe business and installation practices.

Employees also want to be well-trained, well-equipped and well-regarded. To me, this is a capstone of the freedoms. Employees need to know they are not working in a toxic culture and can expect a workplace free from harassment and retribution if they point out a safety concern or make a mistake. As Mark Twain wrote: "Good decisions come from experience. Experience comes from making bad decisions."

As you approach Thanksgiving, be grateful for the incredible fortune we all have. Because if you're reading this, no matter your company size or your position in it, you've already won at life.

 $\label{eq:mckay-daniels} \textbf{MCKAY DANIELS} \text{ is NRCA's CEO}.$

MDANIELS@NRCA.NET



How to reduce injury risk for new hires

The Bureau of Labor Statistics reports almost one-third of nonfatal workplace injuries involve employees who have been employed for less than one year, according to *Safety+Health* magazine. Nearly 25% of these injuries result in more than one month of lost work time.

The first 90 days reportedly are the most dangerous for new hires because they may lack some of the knowledge needed to avoid getting injured on job sites. New hires also may be unfamiliar with risk assessments, less comfortable using personal protective equipment and/or unsure of who to approach with questions about safety.

In Safety+Health magazine, Larry Pearlman, senior safety consultant for SafeStart, Belleville, Ontario, offers steps employers can take to keep new hires safe.

- Use a green hat and/or vest to visually identify new hires. This invites co-workers to help coach, mentor and intervene and can help accelerate learning.
- New hires must receive a safety orientation on their first days, allowing safety professionals to take time to discuss the practical realities of the job site with new workers.
- Ask experienced employees to share their insights and meet with new hires to set expectations, share personal stories and emphasize the need to build a strong safety culture.
- Be sure it is clear to new workers how stop-work authority can be exercised, including who they should talk to and how they can raise safety concerns, to avoid fear of reprisal.
- Ensure team leaders connect and engage with new hires.
 Leaders should make sure new hires familiarize themselves with the names of their leaders and know their well-being is valued.

Cold, wet conditions affect self-retracting lifelines

When working properly, self-retracting lifelines can detect a sudden increase in speed—such as a fall—and a locking mechanism activates and stops the fall, according to the Ontario Ministry of Labour, Immigration, Training and Skills Development.

However, cold and wet environmental conditions can cause the locking mechanism to seize, resulting in the cable continuing to spool out and the lifeline not stopping the fall.

Safety+Health magazine offers tips for preventing this hazard:

- Rapidly pull the cable to verify the components of the locking mechanism are working properly. Do this before the self-retracting lifeline is used for any task and also throughout the day.
- Pull out the cable to ensure the locking mechanism inside the housing responds to a sudden tug on the cable. It should lock up as a seat belt does when a car comes to a sudden halt.
- If wet, self-retracting lifelines should be stored vertically to dry.

Workers should notify supervisors immediately and refrain from using a self-retracting lifeline if the locking mechanism is not working.

To learn about NRCA's safety resources, go to nrca.net/safety.

DOL awards \$12.7 million in grants for workplace safety

The Department of Labor has announced the Occupational Safety and Health Administration has awarded \$12.7 million in grants to 100 non-profit organizations to support education and training to help workers and employers recognize serious workplace hazards, employ injury prevention, and understand workers' rights and employers' responsibilities under federal law.

Funded through the Susan Harwood Training Grant Program, the grants will be awarded in three categories: Capacity Building, Targeted Topic Training, and Training and Educational Materials Development. OSHA awards grants to nonprofit organizations, employer associations, labor unions, joint labor-management associa-

To view training material produced under a Susan Harwood Training and Educational Materials Development Grant, go to professionalroofing.net.

tions, Native American tribes, and local and state-sponsored colleges and universities; target trainees include small-business employers and underserved vulnerable workers in high-hazard industries.

"These grants are one of our most effective resources for providing training and education to hard-to-reach workers in high-hazard injuries," says Doug Parker, assistant security of labor for Occupational Safety and Health. "Training should be a key part of ensuring vulnerable workers are in safe and healthy environments and that they feel safe at work."

A full list of Susan Harwood Training Grant recipients is available at osha.gov/news/newsreleases.



RESEARCH+TECH



Compare and contrast

Evaluating physical property data of roofing materials reveals key differences

By Mark S. Graham

uilding owners and roof system designers who are comparing two or more roof membrane types often ask the NRCA Technical Services team: "Which is better?"

The applicable ASTM International product standard and manufacturers' product literature help make such determinations. To illustrate the point, I will use PVC and KEE as examples.

Product standards

The U.S. product standard for PVC sheet membranes is ASTM D4434, "Standard Specification for Poly(Vinyl Chloride) Sheet Roofing." The standard provides three classifications: Types II, III and IV. Type I, originally reserved for unreinforced sheet, is no longer applicable because the product has since been removed from the market.

Type II products are reinforced with fibers that have been incorporated into the production process. The fibers act as a carrier and do not appreciably affect physical property characteristics of the finished product (such as tensile strength or ultimate elongation) but may provide other desirable characteristics, such as dimensional stability.

Type III products are internally reinforced with fabric; in addition,



they may have fabric backings.

Type IV products are internally reinforced with fabric and may have 36-mil minimum thickness fabric backings.

PVC sheets complying with the standard consist of PVC resin in amounts greater than 50% of the total polymer content compounded with plasticizers, stabilizers, fillers, pigments and other ingredients to satisfy the standard's physical property requirements and accelerated weathering tests.

The U.S. product standard for KEE sheet membranes is ASTM D6754, "Standard Specification for Ketone Ethyl-

ene Ester Based Sheet Roofing." It has no classifications.

KEE products complying with the standard are internally reinforced with fabric and consist of polymers and other compounding ingredients with the KEE polymer being a minimum 50% by weight of the polymer content of the sheet.

Some common physical requirements contained in ASTM D4434 and ASTM D6754 are shown in the figure.

ASTM D4434's Types II and III physical requirements are based on minimum 45-mil sheet thicknesses, and Type IV is based on a 36-mil sheet thickness. ASTM D6754 is based on a minimum 32-mil sheet thickness. Other PVC and KEE membrane sheet thicknesses are available. Additional membrane thickness

Property	PVC			KEE
	ASTM D4434, Type II	ASTM D4434, Type III	ASTM D4434, Type IV	ASTM D6754
Overall minimum thickness	0.045 of an inch	0.045 of an inch	0.036 of an inch	0.032 of an inch
Minimum thickness over scrim	0.016 of an inch	0.016 of an inch	0.016 of an inch	0.007 of an inch
Minimum breaking strength	55 pounds force per inch	200 pounds force per inch	275 pounds force per inch	337 pounds force per inch
Minimum elongation at break	MD: 250% XMD: 220%	15%	25%	18%
Minimum tear resistance	10 pounds force	N/A	N/A	N/A
Minimum tearing strength	N/A	45 pounds force	90 pounds force	76 pounds force
Maximum linear dimensional change	0.1% (6 hours at 176 F)	0.5% (6 hours at 176 F)	0.5% (6 hours at 176 F)	1.3% (1 hour at 212 F)
Minimum low- temperature bend	-40 F	-40 F	-40 F	-30 F
Dynamic puncture resistance	Pass	Pass	Pass	Pass

Some common physical requirements contained in ASTM D4434 and ASTM D6754

can affect some physical properties, including thickness over scrim, tear resistance and tear strength.

Product literature

Manufacturers vary on how they present their products' physical property values in product literature. Some manufacturers reference only the applicable product standard without referencing specific physical property information; other manufacturers provide some physical property data. Depending on the manufacturer, the physical property data provided may simply restate the minimum or maximum allowable values from the applicable product standard. Other manufacturers provide product data showing their products exceed the product standards' minimum requirements.

Manufacturers typically consider PVC-KEE-alloy products that have KEE polymer content less than ASTM D6754's minimum 50% by weight comply with ASTM D4434. These products, depending on their KEE content, typically have some KEE-like physical properties. With these products, reviewing

their physical property values can be particularly helpful when making comparisons.

Closing thoughts

I encourage manufacturers to include ASTM International product standard designations—including any applicable type, class or grade classifications—in product literature. Also, manufacturers should include product-specific physical property data using the test method standards included in the applicable product standard.

Additional information about membrane products, including the applicable ASTM International product standards, is provided in The NRCA Roofing Manual: Membrane Roof Systems. You can purchase or download the manual (free for NRCA members) at shop .nrca.net.

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

ASTM International to hold symposium in Washington, D.C.

ASTM International will hold its 10th Symposium on Roofing Research and Standards Development Dec. 3 in Washington, D.C. Sponsored by ASTM Committee D08 on Roofing and Waterproofing,

the symposium will be held



in conjunction with the committee's December standards development meetings.

The symposium provides a forum for contributing to the fundamental understanding of acceptable roof

system performance with an emphasis on current research and development work. It will center on the influence of laboratory and field investigations in the development of standards for roofing and waterproofing materials and systems.

The symposium will address topics describing research and standards development for low- and steep-slope roof systems, including advances in waterproofing; air and moisture movement in roof systems; metal roof systems; roof system durability and service life prediction; roofing in an era of sustainability and resiliency; and synthetic single-ply roof systems, among other topics.

Additional information about the symposium is available at member.astm.org/meeting.

Study shows how data access helps risk management

A study from Dodge Construction Network, published in partnership with Egnyte, shows data resiliency is key to handling challenges architects, engineers and contractors face,



such as the labor shortage, supply chain issues and a higher risk of cyberattacks.

According to Dodge Construction Network, the report, Data Resilience in Design and Construction: How Digital Discipline Builds Stronger Firms, defines data resilience as the ability to access all project and business documents and data to support work at any time, from any place and on any device. The study shows only 39% of architects, engineers and contractors currently have this level of access at least 90% of the time.

The top challenges include being unable to access all documents on mobile devices; software that limits the ability to work digitally with other project team members; and lack of timely access to documents. Most respondents say lack of document access leads to performance issues, such as unplanned rework and schedule delays.

The data suggests cloud-based functionality can help combat these challenges; 85% of those who report no issues with document access currently use the cloud.

In addition, the report shows the degree to which the design and construction industries underestimate their exposure to cyberattacks. Fifty-nine percent of respondents say they have experienced a cybersecurity threat during the past two years. Seventy percent of general contractors have experienced a threat, and 30% have had a ransomware attack since 2021.

Seventy-two percent of architects, engineers and contractors rate themselves as having a moderate or high degree of preparation for an attack that would result in losing access to documents. However, 77% say they cannot go more than five days without access to documents before it significantly affects their project schedules; the average duration of a successful ransomware attack is considerably longer than five days, potentially leaving many firms more vulnerable than they realize.

The study examines the most common and effective strategies to alleviate and manage risks, including cloud-based collaboration solutions, increasing automation to reduce the time needed for tasks and upskilling workers.

The full study is available at pages.egnyte.com/dodge-data-report.



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Seeking permanent provisions

NRCA continues to fight for pro-growth tax policies

by Deborah Mazol

urrently, owners of sole proprietorships, partnerships, trusts and S corporations may deduct up to 20% of their qualified business income. This deduction—referred to as a Section 199A, or QBI, deduction—was passed with NRCA's support as part of the Tax Cuts and Jobs Act of 2017. Although the deduction is scheduled to expire at the end of 2025, the lower corporate rate remains at 21% indefinitely. Unfortunately, this will result in some businesses having a competitive advantage over others.

NRCA has fought to ensure this deduction continues through the Main Street Tax Certainty Act (S. 1706/H.R. 4721), a priority issue for Roofing Day in D.C. advocacy. The Main Street Tax Certainty Act is simple—it makes this vital tax provision permanent and allows for parity in the tax code for corporations and pass-through businesses.

Businesses benefit

During the 2017 tax reform debate, pass-through business owners were successful in securing tax relief comparable to the reduction in the corporate rate, allowing pass-through business owners to deduct up to 20% of their qualified business income when determining their personal tax



liability. This reduces effective tax rates for pass-through business profits up to 20%.

Section 199A is an essential part of the tax code. Without it, many individual- and family-owned businesses would pay significantly higher taxes, putting them at a competitive disadvantage and accelerating economic consolidation. These businesses are the backbone of the economy; composing 95% of all businesses, those organized as pass-through businesses also employ the most privatesector workers.

To ensure focus on job creation and

investment, Section 199A limits the deduction for larger pass-through businesses in favor of those that have significant employment and investment levels. If a large pass-through business doesn't create jobs and invest in its community, it doesn't get the deduction.

"Certainty in the tax code, particularly the Section 199A QBI deduction, plays a vital

role in my ability to invest back into my employees, business and community," says Scott Shufflebarger, president of NRCA

member Hertless Brothers Roofing Inc., Richmond, Va. "That investment manifests itself in a variety of ways, including higher wages for employees, expanded employee benefits, new business equipment and work vehicles, as well as the ability to donate labor and materials to many great organizations, such as Ronald McDonald House Charities and Habitat for Humanity."

Making a change

NRCA is diligently working to make the 199A deduction permanent before its expiration

in 2025. Through coalition efforts, the Main Street Tax Certainty Act is making headway. Introduced by Rep. Lloyd Smucker (R-Penn.), Rep. Henry Cuellar (D-Texas) and Sen. Steve Daines (R-Mont.), the goal of the bipartisan, bicameral legislation is to offer support to small businesses and strengthen the economy.

As the roofing industry continues to

navigate an uncertain economy, the 199A deduction provides resources for employers to invest in new equipment and retain employees by offering increased wages and

benefits. Beyond the roofing industry, the deduction has a much broader effect on the economy. Pass-through businesses employ a majority of private-sector workers (58%), so any increase in their taxes, and yours, will be detrimental.

DEBORAH MAZOL is NRCA's director of federal affairs

DOL proposes clarification regarding workplace inspection representation

The Department of Labor has issued a notice of proposed rule-making to revise regulations regarding who can be authorized by employees to act as their representative to accompany DOL's Occupational Safety and Health Administration compliance officers during physical workplace inspections.

The proposed rule clarifies employees may authorize an employee or a nonemployee third party if the compliance officer determines the third party is reasonably necessary to conduct an effective inspection.

The proposed changes also clarify third-party representatives are not limited to industrial hygienists or safety engineers, which are two examples included in the existing regulation. Third-party representatives may be reasonably necessary because they have

skills, knowledge or experience that may assist the compliance officer, including experience with particular hazards, workplace conditions or language skills that can improve communication between OSHA representatives and workers.

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letter to your member of Con-

gress to co-sponsor the Main

Street Tax Certainty Act at

professionalroofing.net.

The proposed revisions do not change existing regulations that give OSHA compliance officers the authority to determine whether an individual is authorized by employees and prevent someone from participating in the inspection if his or her conduct interferes with an orderly inspection. OSHA took into account public comment about the criteria and degree of deference the agency should give to employees' choice of representative when determining whether a third party can participate in an inspection.

The proposed rule is published in the Federal Register at federalregister.gov.

DOL sues roofing contractor with \$360,531 in penalties

The Department of Labor has filed suit in federal court to force ECS Roofing Professionals Inc., Waukegan, Ill., to pay \$360,531 in penalties for repeatedly exposing employees to elevated falls, according to a DOL press release. The company is not an NRCA member.

The suit follows an Occupational Safety and Health Review Commission decision made in March that affirmed the Occupational Safety and Health Administration citations after its investigation found Joshua Herion, operator of ECS Roofing Professionals, exposed employees to fall hazards at two job sites in Illinois and Wisconsin in October 2022.

OSHA determined the contractor did not provide employees with required fall-arrest systems, guard rails or safety nets as they installed siding and roofing materials in Hoffman Estates, Ill., and Waukesha, Wis.

OSHA issued citations and fined ECS Roofing Professionals \$226,530 for the Illinois violations and \$134,001 for the Wisconsin violations, but the company contested the citations and penalties with the commission. Although the commission's decision affirmed the penalties in full, Herion has failed to pay the penalties, which led to the lawsuit. Since 2014, Herion and his company have been cited by OSHA nine times for violations related to fall protection.

OSHA addresses on-the-job violent act record keeping

The Occupational Safety and Health Administration has released a standard interpretation letter addressing when employers are required to list on-the-job injuries and deaths caused by violent acts in their OSHA logs.

The letter responds to a request from Travis Vance, attorney with Fisher & Phillips LLC, Charlotte, N.C., who questioned whether a company must log an incident during which a worker was fatally shot while traveling between worksites.

OSHA responded the work relation of an incident is generally established by an assault occurring because the employee was in the location where he or she was attacked as a condition of his or her job. However, the letter also notes listing a work-related injury or fatality does not mean the employer was at fault.

"OSHA recognizes that injury and illness rates do not necessarily indicate an employer's lack of interest in occupational safety and health," the agency states in the letter.

To view OSHA's letter regarding violent crime on the job, visit osha .gov/laws-regs/standardinterpretations/2023-05-17.

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hen you think about safety in the roofing industry, you most likely think about injury and fall prevention. However, fleet safety and safe driving should come to mind just as quickly.

Although falls are the leading cause of death in the roofing and construction industries, did you know the leading cause of workplace fatalities across all industries is motor vehicle accidents?

According to the most recent data from the Bureau of Labor Statistics, motor vehicle crashes are the first or second leading cause of death in every major industry group. In 2020 alone, BLS data shows 1,038 workers driving or riding in a motor vehicle on a public road were killed in a work-related crash, making up 22% of all work-related deaths. Of those deaths, the transportation and warehousing sector had the most deaths followed by construction, and 56% of the deaths were workers who were not employed as truck, bus or taxi drivers.

The Network of Employers for Traffic Safety reported in its Cost of Motor Vehicle Crashes to Employers that in 2019, motor vehicle crashes cost U.S. employers more than \$72 billion in direct expenses, including medical care, liability, lost productivity and property damage. On average, a crash resulting in a nonfatal injury can cost an employer \$75,000, and a fatal crash can cost more than \$750,000. Consider also that employers pay directly and indirectly for crashes that happen on and off the job. For example, consider the costs involved if a company-owned vehicle is involved in an accident during nonbusiness hours or an employee is injured and cannot work even if he or she was driving a personal vehicle.

The cost of commercial auto insurance also

continues to rise. Roofing industry insurance data shows there has been some decrease in the number of auto claims during the past several years; however, the severity of the claims is increasing because claims are drawn out over several years, driving premiums up. The increased cost of vehicle repairs, rising medical costs and a surge in costly lawsuits are driving the increased severity of claims.

In fact, a recent CBiz article about commercial auto trends for 2023 suggests insureds with larger fleets or poor loss histories could be more susceptible to continuing rate hikes, decreased capacity and potential coverage limitations even if they have enhanced driver safety programs and training and use motor vehicle records to vet drivers' past experience and moving violations.

What is a fleet, really?

Fleet safety is a broad term, and some distinctions need to be made. Is a fleet composed of commercial motor or "light-duty" vehicles?

First, the Federal Motor Carrier Safety Administration defines a commercial motor vehicle as "any self-propelled or towed motor vehicle used on a highway in interstate commerce to transport passengers or property" that meets certain criteria, such as a weight rating of 10,001 pounds or more; transports eight or more passengers for compensation or more than 15 people without compensation; or transports hazardous materials.

Whether your company vehicles are classified as commercial has significant implications for federal and state requirements, including commercial driver's licenses, driver drug and alcohol testing, driver-vehicle inspection reports, and possibly hours of service compliance and electronic logging devices for reporting hours of service. If your company owns and operates vehicles that fall under federal regulations, you must follow the FMCSA or Department of Transportation

guidelines or risk incurring hefty fines, suspension of vehicles and even lawsuits.

A light-duty fleet, on the other hand, includes work trucks, pickup trucks, sedans, vans and other non-CDL vehicles that weigh less than 10,001 pounds and do not meet any other FMCSA definition for a commercial motor vehicle. A vehicle used commercially by or for the purpose of a business is not necessarily governed by federal requirements. That said, all vehicles operated by a business have risk associated with them. Many roofing contractors rely on these types of vehicles daily to transport personnel, perform services, or haul tools and materials to job sites.

Your responsibilities

As part of a sound safety management program, you should be using risk improvement strategies in all areas of your company, including fleet safety. Management commitment is an integral part of a successful fleet safety policy just as it is with a company's overall safety management program.

Automobile accidents are an expensive liability for companies, and risks have increased recently mainly because of distracted driving and a legal concept called negligent entrustment. Negligent entrustment occurs when an employer is held liable for negligence in choosing an employee to operate a dangerous instrument, usually a vehicle. An employer can be found negligent if the employee is injured while driving for company business, causes injury to a third party or damages physical property.

Although business auto insurance policies generally do not exclude negligent entrustment, coverage may be insufficient if an employee is involved in a harmful accident. Juries often award plaintiffs punitive damages in addition to any compensatory damages resulting from negligent entrustment.

Driving records

CNA Insurance Cos., Chicago, recommends employers use good hiring practices, such as building an effective motor vehicle record program, by reviewing a new hire's driving history and any moving violations. Such a program also will provide actionable performance data for evaluating employees' driving records after employment.

Ensuring safe driver performance starts with hiring criteria and clearly communicating your company's performance expectations and consequences. By successfully implementing or updating your program, you can

help ensure your company has reliable, skilled employees who are familiar with their vehicles and qualified to operate company equipment.

You should obtain driver reports for all drivers of company-owned vehicles, as well as employees who rent or use their own vehicles for company business. CNA Insurance data shows companies that employ drivers with serious moving violations perform more than 20 points worse in loss ratio results than those whose employees have clean driving records.

Train drivers

Another pitfall related to fleet safety is insufficient employee training in the types of vehicles they will operate. A driver safety scorecard can help reveal your highest- and lowest-performing drivers to pinpoint who might need extra training or for future training sessions. The National Institute for Occupational Safety and Health recommends training include distracted driving, fatigue risk management and substance use awareness. CNA Insurance recommends contractors also focus on organization-specific incident causes and conduct ongoing training for all drivers.

Limit driver distractions

Distracted driving poses significant risk to every business that has employees who drive company-owned and personal vehicles for company business. Common activities that divert driver attention include texting, mobile phone use, eating or drinking, reaching for an object, talking with a passenger and reading navigation systems.

The Traffic Injury Research Foundation shows nearly 3,000 fatal and 205,000 nonfatal distraction-related motor vehicle accidents occurred in the U.S. and parts of Canada in 2020. This surpassed the number of accidents caused by impaired driving.

According to recently published data from Virginia Tech Transportation Institute, certain distracting tasks increase the likelihood of at-fault accidents occurring. Commercial motor vehicle drivers are six times more likely to be involved in a safety-critical event when using a handheld device, nearly six times more likely to be involved in a safety-critical event when reaching for an object and more than four times more likely to be involved in a safety-critical event when taking eyes off the road for more than two seconds.

Driver distractions come in many forms. Visual



For links to CNA Insurance's fleet safety series, go to professionalroofing.net.

distractions inside and outside the vehicle, such as billboards and signs, other vehicles, pedestrians, passengers, mobile phones and infotainment systems, can divert a driver's attention.

Auditory distractions, which include music, passengers, sirens and honking, may cause drivers to search for or look at the source of noise instead of the road. Manual distractions could include something a driver may reach for, such as a phone, food, papers, or manipulating a GPS system or computer.

Cognitive distractions, such as music and talking, daydreaming, work-related or personal stress, may cause a person to lose focus on the task of driving.

Vehicle maintenance

Most companies will benefit from adopting a vehicle maintenance policy as part of its overall fleet safety policy. Although this type of policy is not a regulatory requirement, it greatly increases compliance and sets standards for annual vehicle inspections, preventive maintenance and daily vehicle inspection reports.

When creating a vehicle maintenance schedule or checklist, it's important to remember commercial vehicle parts may have distinct differences and need to be checked on different frequencies. Tire pressure, for instance, may need more frequent checks than brake fluid levels, so it's important to schedule these checks accordingly. In general, a checklist should include the following:

- Checking fluid levels
- Inspecting the drivetrain, including engine, transmission and exhaust
- Examining wheels, tires and brakes for wear, damage and proper function
- Checking the chassis and body for damage
- · Checking belts and hoses for wear or leaks
- Examining the electrical system, including battery, alternator and lights
- Checking systems for drivability and safety checks, including driver aids such as cruise control, warning systems, and parking brake and sensors

Telematics

Adopting telematics to get a more comprehensive view of your company's fleet safety is another proactive measure viewed favorably by insurance companies.

Telematics is wireless technology, sometimes called a "black box" device, placed on vehicles to transmit data regarding vehicle use, GPS tracking, maintenance and servicing requirements.

For example, telematics can provide insight into drivers demonstrating risky behavior such as harsh braking or accelerating, hard cornering or lack of seat belt use. These risky behaviors have been shown to be predictive indicators of an accident unlike the limited insights provided by driving record checks and safety training. Although checking driver records and conducting driver safety training are integral parts of an overall fleet safety program, these measures provide limited insight into vehicle operation much of the time.

In addition to more effectively dispatching a fleet to a location with the use of telematics, adopting telematics can lead to safer behaviors by company drivers. Because these systems can be viewed negatively by employees, rather than focusing on identifying and punishing negative behaviors, you should highlight positive behaviors such as recognizing a driver of the month, highlighting a specific safe action by a driver, and incorporating examples of positive behaviors and the benefits into driver training.

Written policy

As part of your company's overall safety management program, a fleet safety policy should set clear, consistent expectations and be communicated to all employees upon hiring and when updates are made. The policy should include management commitment; driver safety regulations; vehicle use; driver selection; training requirements and frequency; accident reporting procedures; and requirements for vehicle inspection, repairs and maintenance.

Continued focus

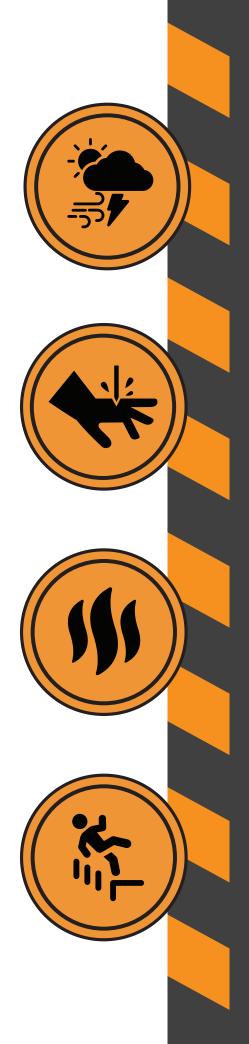
The best way to improve risk exposure related to fleet safety begins with a robust fleet safety program. An effective fleet safety program is a viable investment for any roofing contractor that will protect employees, minimize vehicle breakdowns, avoid potential lawsuits, ensure smooth operations and save fleet dollars while paying dividends in the long term.

Reach out to your insurance broker or carrier or NRCA's enterprise risk management department for assistance.

Don't leave your company's fleet safety to chance.

CHERYL AMBROSE, CHST, OHST, is NRCA's vice president of enterprise risk management.

CIFAR OF SAFFIY



Conducting risk assessments helps build a safe work environment

by Eleanor Bell

ike other types of construction projects, roofing jobs come with a significant degree of risk. Roofing workers suffer more nonfatal falls than those working in other professions, according to the Bureau of Labor Statistics, and they are 13 times more likely to suffer a fatal fall than workers in other professions.

When planning any roofing project, you should take time to assess potential risks and determine how to mitigate them. Completing a risk assessment is a smart way to anticipate possible problems so you can prevent them from happening. A risk assessment helps you have a plan in place for how to address those risks.

WHAT IS A RISK ASSESSMENT?

A risk assessment involves identifying potential threats or risks on a job site that are specific to a project. This includes roof slope, weak spots, electrical lines and other potential hazards. Once they are identified, each risk must be analyzed and evaluated to determine the potential likelihood of the risk occurring and its effect.



Goals of a risk assessment should include the following:

- Determining the parties that will be at risk and the risks they face
- Making people aware of the identified risks
- Assessing your current risk-prevention measures to determine whether they are adequate or whether you need to take further action
- Ensuring all contractual and legal requirements concerning risks are met
- Determining whether you need to implement additional controls or make changes to your risk strategy
- · Ensuring workers are qualified and knowledgeable
- Determining which aspects, if any, of the roofing project can be done on the ground versus on the roof
- Assessing dangerous or problematic areas of the worksite
- · Obtaining the necessary safety equipment

The following are some of the most common risk factors on roofing projects:

- Injury accidents caused by falls, strains and sprains, equipment malfunctions, dangerous chemicals or heat-related illness
- Equipment breakdowns leading to business interruptions
- Unexpected weather or environmental factors
- · Labor shortages resulting in contract delays
- Damage to tools and supplies in transit
- Environmental liability caused by improper disposal
- Late-arriving supply shipments
- · Late payments

POTENTIAL COSTS OF NOT ASSESSING RISKS

If you fail to assess and address risks on a roofing project, you could suffer the tragic loss of personnel. According to BLS, in 2021, there were 986 fatalities in the construction industry; 390 were from falls. Of the 986 fatalities, 123 occurred in the roofing industry; 99 of them from falls.

The Occupational Safety and Health Act contains a General Duty Clause that protects workers from "recognized hazards." If employers don't take reasonable measures to eliminate these recognized hazards, they can be cited. Failing to address and mitigate other risks—including supply chain problems and payment issues—could result in contract violations and business disruptions or closure.

Without a proper risk assessment, you also might overlook required equipment. For example, if roofing workers will be more than 6 feet off the ground, the Occupational Safety and Health Administration requires you to protect workers from falling. This may include installing guardrail systems or using personal fall-arrest systems. Any safety procedures you need to implement could require additional training, time and money. With a risk assessment, you'll realize this at the start of a project, preventing you from going over budget and missing deadlines while properly protecting your workers.

BASELINE ASSESSMENT

To conduct a risk assessment, begin with a baseline assessment. A baseline assessment is used to establish an overall risk profile for a roofing project. It is used to obtain benchmarks of the types and sizes of potential risks. In a baseline assessment, you will need to identify the significant, major risks, prioritize them and evaluate the effectiveness of the current risk-control measures you have in place. You'll systematically evaluate each part of a roofing job.

Workers should be top priority, and you should factor in other contractors and suppliers who may be on-site. The job site itself also needs a thorough review followed by equipment. What tools do you need for the job, and what risks could those pose? What tools do you need to mitigate risks? Other baseline areas to review include laws and permits, the environment and financial requirements.

The baseline assessment only provides a broad overview of a project's risk profile. You will use it to perform subsequent risk assessments. A baseline assessment focuses on identifying risks that apply to the entire project or your company.

ISSUFS-BASED ASSESSMENT

After you complete a baseline assessment, complete an issues-based assessment. This is a detailed analysis of issue-specific risks that can be used to develop action plans. An issues-based assessment focuses on the operational activities and processes involved with a specific project. It should focus on identifying risks involved with specific tasks, activities or processes and provide clear recommendations to management about how to address them.



CONTINUOUS ASSESSMENT

Continuous assessments are conducted on an ongoing basis to identify hazards so they can be addressed immediately. They also help identify significant risks and gather feedback for the baseline and issues-based assessments. Continuous assessments should be performed by supervisors daily using checklists, inspections and other tools.

TOP SAFFTY PRECAUTIONS

Following are safety precautions you should use to mitigate risks.

Know your duties and train your employees

You need to know and understand OSHA's safety guidelines for roofing contractors. You also must know and understand state-specific regulations that may affect the operations on a job site and ensure your workers are fully trained in all safety regulations and requirements.

Provide your workers with safety equipment, and make sure they are trained to always use it whenever they work. Knowledgeable supervisors should be on the premises at all times to ensure worker compliance with safety procedures.

Identify all risks

Conducting the previously discussed assessments will help you identify the risks of a roofing project, including safety, environmental, financial, productivity and contractual risks. It can be helpful to refer to data from past projects, including incident reports, to help you anticipate risks a project may involve and plan accordingly.

Once you identify a risk, describe it, provide a risk response strategy and notify the team members who are responsible for managing the risk. Then, prioritize the anticipated risks in terms of the chance each risk will occur and the potential effect on your business.

Implement controls

There are several techniques you can use to implement controls, including the following:

 Knowing the risk: A full job-site assessment gives you the information you need to respond to the environment as much as possible. This includes knowing the tools needed, roof slope, potential

- rooftop danger areas, necessary chemicals and typical weather conditions.
- Transferring the risk: You might be able to transfer the risk to another party by requiring a bond for contractors and purchasing liability insurance.
- Avoiding the risk: You might avoid some risks by changing the scope of your work or being selective in the projects you bid. You also can assess which aspects of the project, if any, can be completed on the ground.
- Mitigating the risk: You can create processes or
 plans to mitigate risks. For example, if you want to
 prevent workers from falling, you could provide
 safety harnesses, guardrail systems, scaffolding
 or use a combination of fall-protection systems.
 Similarly, if you want to prevent people from
 being struck by debris falling from a roof, you
 could install debris nets on the roof or secure the
 perimeter around the worksite to eliminate foot
 traffic. Educating workers also must be a priority.
 Each worker should be able to recognize unsafe
 conditions and be empowered to maintain safe
 conditions.
- Accepting the risk: Some risks can't be avoided in roofing projects and must be accepted so you can remain on schedule and prevent other risks to your employees. For example, if severe weather happens, you may have to halt work on the project for a couple days to prevent added risks to worker safety. Although this could result in a project delay, it may be an acceptable risk in exchange for the reduction in risk to employees' safety. It's impossible to completely eliminate the risk of falling, even with the best possible safety procedures in place.

A SAFE PLAN

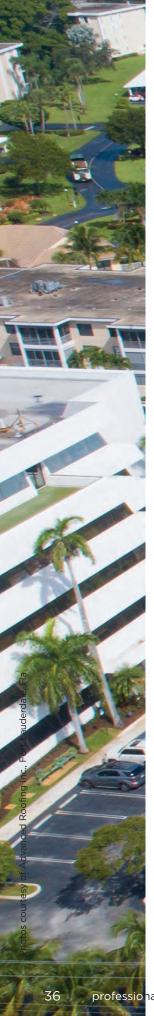
Assessing the risks of a roofing project is critical for keeping your workers safe and protecting your business. Although some risks can be mitigated or avoided, others must be accepted. Transferring risks to third parties can help reduce your company's exposure. Make sure to complete risk assessments before accepting a roofing project and always follow safety regulations and laws.

ELEANOR BELL is a former outreach manager for Bryant Surety Bonds, Doylestown, Pa.











ROOFING A PLAYHOUSE

by Chrystine Elle Hanus

Advanced Roofing helps expand Florida's largest regional performing arts theater

altz Jupiter Theatre in Jupiter, Fla., is one of Florida's preeminent professional theaters. Committed to performance, production and education through collaborations with local and national artists, the state's largest regional theater has drawn rave reviews from media outlets across the world.

A cultural hub and landmark in Palm Beach County since opening in October 2001, the three-story Maltz Jupiter Theatre has received 18 Carbonell Awards, South Florida's theater and arts honors.

Looking to elevate its entertainment and cultural offerings, theater administration took advantage of the COVID-19 pandemic shutdown to accelerate a \$36 million renovation project while closed to the public. The project was fast-tracked to compress two stages of construction into 13 months to include a new Broadway-scale stage, 199-seat second theater space, expanded conservatory, and redesigned entrance and lobby.

Advanced Roofing Inc., Fort Lauderdale, Fla., was selected by the project's general contractor, Kaufman Lynn Construction Inc., Delray Beach, Fla., to tie the theater's existing roof areas into the roof system on a new addition.

"Advanced Roofing has done a variety of projects for Kaufman Lynn Construction in the past," says Jessica Kornahrens, project manager for Advanced Roofing. "They contacted our company once more to help complete work on Maltz Jupiter Theatre."

Tear-off and installation

The Advanced Roofing team began work on Maltz Jupiter Theatre in July 2021. Four existing roof areas were tied into the theater's new 33,300-square-foot roof system.

For roof area one, crew members removed the existing polymer-modified bitumen membrane and adhered Johns Manville TPO Fleece Backed Roofing Membrane as temporary roofing until the new structure was built to join the existing structure.

For roof area two, the team performed a moisture survey and repaired the existing polymer-modified bitumen membrane; pressure-washed the membrane; and applied Tropical Roofing Products #996 Eterna-Sil Premium Bleed Blocker primer at $1\,1/2$







Part of the theater's new structure was built over the existing structure.



Lightweight insulating concrete was used in some areas.



Workers adhere TPO membrane as a temporary roof.



Aerial view of the theater's new roof system

gallons per square, followed by Tropical Roofing Products #924 Eterna-Sil Premium Silicone Roof Coating at $2 \frac{1}{2}$ gallons per square.

On area three, crew members performed a moisture survey and pull test; removed the existing polymer-modified bitumen membrane down to the lightweight insulating concrete; repaired the lightweight insulating concrete as needed; and adhered Holcim Elevate UltraPly TPO XR membrane in ISO Spray R low-rise polyurethane foam adhesive.

On roof area four, the team removed the existing polymer-modified bitumen, poured new lightweight insulating concrete and adhered Holcim Elevate UltraPly TPO XR membrane in ISO Spray R.

"We used lightweight insulating concrete in some areas instead of polyisocyanurate insulation because of lead time," Kornahrens says.

The newly constructed areas incorporated two additional roof assemblies.

"In one area, we adhered 1/4-inch tapered polyisocyanurate insulation with 1/4-inch crickets in Elevate XR Stick foam adhesive and fully adhered Elevate 60-mil UltraPly TPO XR membrane in Elevate UltraPly TPO XR Bonding Adhesive," Kornahrens explains. "Another area required the crew to pour 1/4-inch tapered lightweight concrete followed by fully adhering a 60-mil TPO membrane."

Challenges and safety

Work was coordinated in phases with other trades.

"Coordination proved to be the most common challenge with this project," Kornahrens says. "We overcame the challenges by using several mobilization and set-up areas."

Working on more than 300 rooftop penetrations—including mechanical curbs and flashings—for the new main roof on several levels while tradespeople worked on curbs, ductwork, structural wall supports, etc., added to the congestion.

"Numerous on-site trades workers resulted in a tight, challenging staging area, especially when we were pouring the lightweight concrete," Kornahrens says. "There were four mobilizations for the project, including scaffolding setups for access and flashings."

Material lead time caused some issues, requiring

changes to materials used. The project also required an existing permit and a new construction permit, creating administration obstacles.

In addition to Advanced Roofing's safety program, established by its full-time safety division, the team followed Kaufman Lynn Construction's training requirements, ensuring a safe and secure worksite for team members.

"The general contractor required all on-site personnel to take its training class," Kornahrens says.

"Advanced Roofing's safety department provided a site-safety plan, job hazard analysis and fall-protection certification for every on-site employee plus the lightweight concrete subcontracted employees."

A tight project timeline posed challenges for the team. Although other trades personnel were delayed because of material shortages, the theater's official reopening date remained unchanged.

"Because of tight schedules, we had to work on small portions of the project at a time as they became available and lay down temporary roofs," Kornahrens says. "Through consistent and constant communication with Kaufman Lynn Construction, the Advanced Roofing team was able to meet the project schedule and proactively anticipate potential challenges to prevent any issues and ensure the theater would be able to kick off its reopening and highly anticipated new season of programming to the public."

Curtain call

In January 2022, Maltz Jupiter Theatre reopened to the public with excitement about opportunities for staging pre-Broadway productions in South Florida. Although the Advanced Roofing team had an amplified project schedule with several mobilizations, the team completed the project safely, on time and within budget.

"Meeting the challenging schedule presented to us and being able to successfully coordinate the logistical issues we faced, such as limited staging during new construction and many trades on-site, was rewarding," Kornahrens says.

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



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THE FOUR R'S

How to avoid common mistakes when installing self-adhering EPDM membranes

by Patrick Sinclair

hen it comes to selecting a commercial roof membrane, self-adhering EPDM stands out for its ease of installation, reduced environmental impact and durability. However, installing a self-adhering EPDM roof system requires careful planning and execution to ensure a successful and cost-efficient application.

As a roofing contractor, you can achieve a high-quality selfadhering EPDM roof system installation that meets or exceeds your client's expectations by following a few tips and best practices.

Surface preparation

Although I will focus on self-adhering membrane application, any roof system installation should include ensuring the structural deck is sound with positive slope to promote proper water drainage. The immediate substrate for an EPDM membrane—usually at least one layer of roof insulation attached with mechanical fasteners and insulation plates—also should be installed before membrane application. Contact the membrane manufacturer for information about flashing accessories and roof termination options.

Proper surface preparation is crucial before installing a self-adhering EPDM membrane. It is vital a roof substrate be clean; dry; and free of dust, dirt or other contaminants. This will set the foundation for a high-performing, long-lasting roof. Do not install a self-adhering roof system if there is dew, frost or any precipitation on the roof deck surface or when rain is expected because moisture will compromise the effectiveness of the installation and create hazardous working conditions.

Tools

In terms of tools and equipment, installing a self-adhering EPDM membrane requires a push broom and weighted roller.
Unlike other roof systems, installing an EPDM roof system does not require hot-air welders or generators.

Utility knives and roofing scissors also are necessary for sizing and trimming the membrane around vents, pipes and other rooftop projections. A caulking gun, handheld seam roller, and scrub pads or paint brushes are needed for seams, flashings and detail work.

Temperature considerations

Weather is a major factor when successfully installing any roof system. Generally, self-adhering EPDM roof membranes can be installed when ambient and surface temperatures are between 40-120 F though some manufacturers' self-adhering membranes can be installed at temperatures as cold as 20 F. Temperatures below 40 F are considered "cold weather" and require additional precautions. Be sure to follow the instructions on the product label and other literature provided by the manufacturer.

Remember, single-ply membranes become more rigid in cool temperatures and more pliable in warm temperatures, which affects their workability. Additionally, primers and sealants may not bond well in cold temperatures.

Installation

I have grouped the main aspects of successful EPDM membrane installation into what I call the four R's.

Relax: The first step is to unroll the EPDM membrane and let it relax topside up before installation. This process enables the membrane to absorb heat and release tension from the manufacturing, packaging and shipping processes. Let the membrane "normalize" for at least 30 minutes (or up to an hour in cold weather or overcast conditions).

Reposition: Next, reposition the EPDM membrane in place. This involves aligning the membrane and using chalk lines to ensure everything is straight before removing the release liner. Be sure to position the membrane so water flows over the seams toward drains or gutter edges. Fold back the leading edge of the membrane 5 to 6 feet at one end to expose the release liner without disturbing the membrane position. Never fold the membrane in half lengthwise to remove the release liner. Doing so could potentially cause a permanent crease in the membrane that would result in a large wrinkle.

Release: The third step is to remove the split-release liner. Two workers, one on each side of the sheet, should simultaneously remove the split-release liner toward the edges of the membrane at a 45-degree angle. Once the removed portions of the liner extend past the edges of the membrane, the workers should roll back the folded back portion of the membrane on to the substrate. They should continue to remove the liner along the entire length of the sheet, move at a continuous pace, pull at a 45-degree angle and keep the release liner low against the membrane surface. Once they remove the liner,

they should broom the membrane to initiate adhesion. Brooming should start in the middle of the membrane and move toward one edge, back to the center and then toward the other edge. At roof edges, three crew members may be needed to remove the split-release liner and selvedge edge liner simultaneously. This process reduces the risk of trapping air bubbles or causing wrinkles. If there are wrinkles during the application, workers should relax the sheet and carefully remove the release to mitigate further wrinkles. Small wrinkles usually can be rolled out with a silicone roller; larger wrinkles that may create a tripping hazard or prevent water flow should be cut out and repaired with a cover strip.

Roll: Finally, roll the membrane using a weighted roller. Rolling the membrane helps release any air pockets and ensures the adhesive fully bonds with the substrate. However, depending on the substrate, a weighted roller may damage the factory-applied adhesive. Consult the manufacturer's installation instructions for specific requirements.

Crew size

Self-adhering EPDM membranes offer a solution for projects with labor constraints. Compared with other roof systems, self-adhering EPDM membranes may require less labor because there is no need for membrane adhesive or welding seams. This streamlined installation process can allow for faster completion and less disruption to building operations and occupants.

Depending on the project, three to four crew members may be enough to install a self-adhering EPDM roof system. If you have a small project or a roof that is difficult to access, talk to the membrane manufacturer or an authorized representative about the availability of self-adhering EPDM membrane in lengths less than 100 feet .

Slope

Self-adhering EPDM membranes are an ideal choice for slopes less than 2:12. For steeper slopes, it may be more appropriate to use conventionally adhered systems that require the separate step of applying the membrane adhesive in the field.

Material usage

Careful material layout and planning are essential for reducing waste and maximizing coverage area per roll. Consider flashing rooftop penetrations such as mechanical equipment, skylights or vents with pre-molded flashing materials that offer faster installation and superior performance compared with field-fabricated flashings. Taking accurate measurements, making precise cuts and employing efficient material handling practices all contribute to cost savings without compromising quality.

Regarding seams, workers should approach side laps differently than end laps. For side laps, they should use seam tape for added security, apply the tape to the overlap area and roll thoroughly to ensure proper adhesion.

For end laps, workers should install a batten cover over the end laps to secure them and provide additional protection against water infiltration, wind uplift and other environmental conditions. Because there is no selvage edge for seam tape in end laps, cover tape is needed to properly seal the seams. Cover tapes have different adhesive properties to effectively bond surfaces that do not have a specialized edge for seaming.

Finally, a patch or cover is best for T-joints. T-joints are particularly vulnerable points where side and end laps intersect, creating a T shape. These intersections can be challenging to seal properly and are prone to leaks if not adequately addressed. Workers should clean and prime the intersection where the side and end laps meet, then carefully align and adhere the T-joint cover over the area using a seam roller to ensure a firm, air-free bond. I recommend performing a final inspection to verify a watertight, durable seal.

Safety

No matter how experienced your workers are, keep safety at the forefront on every project. Be sure to follow Occupational Safety and Health Administration guidelines and industry best practices and implement a training program to ensure secure, incident-free job sites. Proper safety protocol includes using personal protective equipment, installing perimeter warning flags, providing reflective gear to enhance worker visibility, providing water for hydration and planning work hours to maximize productivity with the least risk to crews.

Note some of the steps in a self-adhering EPDM roof system installation can generate static electricity, particularly in dry working conditions. To avoid igniting flammable vapors, keep adhesives, primers and cleaners out of direct sunlight and away from the immediate work area when not in use and tell workers to discharge built-up static charge from their bodies before handling open

containers. Make sure a fire extinguisher is always on hand, regularly contain and remove job-site debris and rubbish, and establish a means of egress from the roof in the event of a fire.

Potential drawbacks

Although self-adhering EPDM membranes are a versatile, smart choice for many commercial projects, there can be limitations. Self-adhering EPDM may not be suitable for all roof types, and EPDM typically is a higher priced option because it is a premium material with a longer expected lifespan.

For buildings with shorter life expectancies, the cost of a self-adhering EPDM membrane may not offer sufficient return on investment. Self-adhering EPDM membranes typically are available in 10-inch widths, which could present challenges depending on roof layout and geometry where either wider or narrower panels may be more appropriate to eliminate waste.

Other options

If cost in the short term is a priority over longevity and durability, a mechanically attached system may be more cost-effective and appropriate. Both EPDM and TPO can be mechanically attached, and mechanical attachment may be a more budget-friendly option. There is a self-adhering option for TPO, as well, which is especially valuable in areas where wind uplift is a concern.

For restaurants and industrial facilities, PVC is worth considering because of its resistance to chemicals, oils and greases. PVC roof systems also are considered more durable in areas with high foot traffic. They can be equipped with additional reinforcement for enhanced puncture resistance, making them suitable for roofs that require regular access or have heavy equipment. Additionally, PVC has strong fire-resistance properties, making it preferable in applications where fire rating is of high concern.

A good option

Following these tips for installing a self-adhering EPDM roof membrane will enable you to finish jobs in less time while ensuring a high-quality, long-term solution and more satisfied customers.

PATRICK SINCLAIR is warranty claims department manager for Holcim Building Envelope, Nashville, Tenn.

MANUFACTURER NEWS

TAMKO Building Products contractors can access drone technology

TAMKO Building Products, Galena, Kan., has partnered with EagleView, Bellevue, Wash., to announce TAMKO Certified Contractors now have access to EagleView Assess, $^{\text{TM}}$ a drone service to help contractors visualize roof damage.

"At TAMKO Building Products, we're focused on innovation and technology, and EagleView's new drone program is a great fit with our efforts to push the roofing industry forward with the products and tools of the future," says Alex Hines, vice president of sales and marketing at TAMKO Building Products.

EagleView Assess drones capture highresolution images of structures and generate automated damage reports and measurements for repair estimates. The drones include automated obstacle detection that maps out flight paths so they can avoid



trees, chimneys and other potential dangers. EagleView handles insurance requirements and drone repairs and replacements throughout the program, as well as assists with operator training. Learn more at construction .eagleview.com/tamko.

CertainTeed® recognized for environmental efforts

CertainTeed, Malvern, Pa., has achieved GreenCircle Certification for Recycled Content for several of its residential roofing products for the second year in a row.

Recognized by the U.S. Green Building Council, GreenCircle Certification is an esteemed environmental verification that ensures certified organizations are implementing comprehensive and effective sustainability practices.

After a third-party audit, GreenCircle Certified LLC, Royersford, Pa., verified CertainTeed's manufacturing facilities in Fremont, Calif.; Shakopee, Minn.; Jonesburg, Mo.; and Portland, Ore., are using pre- and post-consumer material as raw material in the manufacturing of new roofing products, limiting substantial amounts of waste during the product development process.

"CertainTeed continues to evolve and invest in environmental initiatives that support its overall mission of producing products designed to work together to reduce waste and provide long-lasting solutions," says Amanda Boyer, product manager for CertainTeed Residential Roofing Products Group. "Utilizing recycled content to create and expand our industry-leading roofing portfolio allows us to create a more circular economy and commit to minimize our environmental footprint, all while building forever homes."

Georgia-Pacific releases hail damage material

Georgia-Pacific Building Products, Atlanta, has announced the final installment in its "Four Dimensions of Durability in Roofing" video series will focus on hail and the importance of choosing a durable cover board; it is accompanied by a free downloadable eBook about the same topic.



The video completes the four-part series of cover board educational videos, with previous videos focusing on punctures, fire and wind, available on Georgia-Pacific's YouTube channel.

The eBook, titled "Design for Extreme Weather: Why You Should Specify a Resilient Roof System," focuses on the financial impact of storm damage by sharing information regarding tracked severe weather trends and the prices of recovery. The eBook is available at buildgp.com/densdeck/stormx_ebook.



Elevate™ celebrates continued growth

Nashville, Tenn.-based **Holcim Building Envelope**'s Elevate brand has established new locations since its acquisition in 2022.

Expanded production of metal roofing products is underway at the Jacksonville, Fla., and Corsicana, Texas, plants; asphalt production is expanding to the West Coast to meet growing market demand; and a new facility will be opening in Salt Lake City late this year to provide expanded ISOGARD™ and metal production. Additionally, in response to customer feedback, the brand has reactivated EcoWhite EPDM and RubberGard™ EPDM SA.

CONTRACTOR NEWS

Guardian Roofing honored as top middle-market company

Guardian Roofing, Seattle, has been placed on the Middle Market Fast 50 List by the Puget Sound Business Journal.

Washington State middle-market companies are ranked by Midmarket Fast 50. The middle-market-weighted score considers the percent change in revenue between 2020 and 2022 and the actual value difference in revenue during the same time period. The score is meant to mitigate the difference between revenue growth at smaller companies and larger companies within the middle market.

"To be recognized by the Puget Sound Business Journal, the trusted leader in covering business news and updates for the region, is quite the honor and not to be taken lightly," says Collin Hathaway, Guardian Roofing's ownership investor.

Bone Dry Roofing donates roof system to first responder



The Nashville, Tenn., branch of **Bone Dry Roofing,** Indianapolis, has partnered with Owens Corning, Toledo, Ohio, and Nashville Sounds, a

Minor League Baseball team, to donate a roof system and all associated labor and materials to Laura Sanderson, a Davidson County Sheriff's Office booking supervisor. The announcement was made at the Sept. 9 Nashville Sounds game; Sanderson received the most nominations through Bone Dry Roofing's online nomination form. The roof system will be donated to thank Sanderson for her service to Davidson County.

"We are thrilled to give back to our community by providing our roofing services to a first responder who gives so much of her own selfless time and skills to the Nashville area," says Wes Hayes, Bone Dry Roofing's Nashville branch manager. "For more than 30 years, giving back to our local communities has been at the cornerstone of what we do at Bone Dry Roofing, and we're proud to be able to provide safety, security and peace of mind to someone so deserving."

Eskola Roofing & Waterproofing opens new locations



Eskola Roofing & Waterproofing, Morristown, Tenn., has opened four new branches in Charleston, S.C.; Charlotte, N.C.; Greenville-Spartanburg, S.C.; and North Georgia.

In addition, the company has acquired Best Environmental Systems Technology Inc., Raleigh, N.C., and Roof Control Services, Clermont, Fla. The acquisitions aim to enhance Eskola Roofing & Waterproofing's service capabilities by delivering expertise to a broader clientele.

"We are excited about these partnerships," says Jon Eskola, CEO of Eskola Roofing & Waterproofing. "By joining forces with Best Environmental Systems Technology and Roof Control Services, we are combining our strengths to deliver even higher service excellence to our clients."

DISTRIBUTOR NEWS

ABC Supply opens new locations



ABC Supply Co. Inc., Beloit, Wis., has opened new branches in Bloomington, Ill., and Bonita Springs, Fla.

The branches are ABC Supply's 28th location in Illinois and 58th location in Florida; the company operates more than 600 locations in the U.S.

OTHER NEWS

Interactive Resources celebrates 50th anniversary

Interactive Resources Inc., Richmond, Calif., celebrated its 50th anniversary in September. Founded in 1973, the company is one of the oldest architectural firms in the Bay Area, providing architectural services to a wide range of private and public sector clients.

"As we look toward the future, we remain committed to pushing the boundaries of sustainable design and fostering vibrant, resilient communities," says Andrew Butt, AIA, managing principal and design director for Interactive Resources. "We're incredibly grateful for our clients and colleagues, many of whom we've worked with for decades, and have been instrumental in our longevity and continued success."

SMRCA announces scholarship winners

The **Southeastern Michigan Roofing Contractors Association Inc.** has awarded four scholarships to college-bound students. Commercial roofing contractors in Southeastern Michigan, through SMRCA and Roofers Union Local #149, annually award college scholarships to dependents of employees of member roofing contractors.

This year's winners are Madison Hipshire, Riverview, Mich.; Haley Owens, Melvin, Mich.; Neve Owens, Melvin; and Itzel Galvan Ramirez, Detroit. The winners received \$1,000 scholarships contributed by SMRCA, Roofers Union Local #149 and contract employers.

UP THE LADDER

ABC Supply Co. Inc. has named eight new vice presidents. A list of the vice presidents is available at abcsupply.com/media-center/press-release.

Anchor Products LLC has named **Scott Carpenter** director of sales.

EVENTS

NOVEMBER

7-10

NRCA's Fall Committee Meetings

NRCA

Nashville, Tenn.

Contact: NRCA's Customer Service

Department

(866) ASK-NRCA (275-6722) or

info@nrca.net

nrca.net

15

CERTA Train-the-trainer

NRCA

Elgin, III.

Contact: NRCA's Customer Service

Department

(866) ASK-NRCA (275-6722) or

info@nrca.net

nrca.net

DECEMBER

3

ASTM International's 10th Symposium on Roofing Research and Standards Development

ASTM International

Washington, D.C.

Contact: Symposia Operations (610) 832-9522 or symposia@astm

.org

astm.org

6-7

NRCA's Virtual Qualified Trainer Conference

Online

Contact: Jared Ribble, NRCA's vice president of certifications

(847) 493-7526 or jribble@nrca.net nrca.net

8

Foreman Leadership Training, Level

NRCA

Rosemont, III.

Contact: Jeff Jarvis, NRCA's vice president of membership, sales and business development (800) 323-9545, ext. 7512, or

iiarvis@nrca.net

nrca.net

JANUARY

12-14

SPRI Annual Conference

SPRI

Clearwater Beach, Fla.

Contact: SPRI Customer Service (781) 647-7026 or info@spri.org

spri.org

17-18

Fall-protection Trainer Course for Roofing

NRCA

Elgin, III.

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

17-19

CRCA's 2024 Trade Show & Seminars

Chicago Roofing Contractors
Association

Oakbrook Terrace, III.

Contact: CRCA (708) 449-3340

crca.org

NRCA NEW MEMBERS

ARCHITECTS/ENGINEERS/CONSULTANTS

Absolute Build Inc., Lincolnwood, Ill.

Astral Construction LLC, Pembroke Pines, Fla.

Atwell Exterior Services LLC, Greenville, N.C.

Concierge Business Solutions Inc., Marietta, Ga.

HOK Architects, St. Louis

Phil Vanciel, Orlando, Fla.

CONTRACTORS

1859 Roofing, Chicago

Accel Commercial Roofing, Canton, Ga.

All Over Roofing LLC, Aberdeen, S.D.

Brown's Roofing Inc., Indianapolis

Buildaligned, Houston

Carl A. Nelson & Company, Burlington, Iowa

Dardon Construction Inc., Prospect Heights, Ill.

DMS Contractors LLC, Hollywood, Fla.

EcoShield Roofing, Winston-Salem, N.C.

Elevation Roofing & Solar, Waxahachie, Texas

Freedom Roofing Division, Clearwater, Fla.

Galian Roofing LLC, Loganville, Ga.

General Roofing Co., Anchorage, Alaska

GG Roofing & Waterproofing LLC, Coral Gables, Fla.

Gulf-Tex Roofing & Services LLC, Pearland, Texas

IntegriBuilt Roofing, Irving, Texas

Jones Roofing and Construction, Oklahoma City

Katco Associates Inc., Washington, D.C.

KITA Construction Group LLC, Santa Clara, Calif.

L.T. Home Improvement, Danbury, Conn.

Mighty Dog Roofing of Greater Chattanooga, Ooltewah, Tenn.

Milroy Construction Inc., Mountain View, Calif.

Parmer Roofing Company, Terrell, Texas

Patriots Roofing LLC, Raleigh, N.C.

PB Roofing LLC, Odessa, Texas

Pinnacle Roofing Operations, Scottsdale, Ariz.

Prime Texas Construction LLC d.b.a. Prime Texas

Metal Roofs, Houston

Roofcraft LLC, Colorado Springs, Colo.

Roofing Utah Inc., Ogden, Utah

Shea Roofing LLC, Punta Borda, Fla.

Shevco Construction Limited, Nassau, Bahamas

Spectrum Resource Roofing, Euless, Texas

Third Gen Services LLC, Stoneville, N.C.

INDUSTRIAL/INSTITUTIONAL

Florida Contractors Network, Deerfield Beach, Fla.



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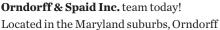


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protection against water and ice damming while withstanding extreme weather conditions. The self-adhering qualities of PAC-CLAD HT reduce labor costs and installation times while providing increased protection compared with typical felt roof underlayments. This strong, skid-resistant, high-tensile-strength rubberized asphalt membrane is available in either black or white.

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UNIDRIVE 500: Manual and automatic welding combined

The UNIDRIVE 500 semiautomatic welding machine bridges the gap between traditional



hand-welding methods and automatic welding in a handy 9.9 device. An innovative design concept, ergonomic handles and a reversible drive for dual-direction operation help improve quality assurance and boost productivity. The machine is ideal for use on most roof applications, including field seams, vertical walls, curb flashing and outside edge details. Visit leister.com/en/product/Unidrive-500 to learn more about the UNIDRIVE 500 and our complete roofing tool portfolio, or contact Dave Nordentoft, product specialist, at dave.nordentoft@leister.com.



RUDY **GUTIERREZ**

WHAT IS YOUR POSITION WITHIN YOUR COMPANY? I am president and CEO of Shell Roofing Solutions Group, Chino, Calif.

WHAT IS THE MOST UNUSUAL ROOFING PROJECT OF WHICH YOU HAVE BEEN A PART? I worked on a family-owned chocolate manufacturing facility in Azusa, Calif. The manufacturing area was inside a metal building with a standing-seam roof system. The owner spent thousands of dollars to lower the building's internal temperature, but it didn't work, so he reached out to Shell Roofing Solutions Group. We installed insulation and white reflective single-ply TPO membrane over the existing roof. The building's internal temperature dropped 25 degrees and saved a lot of chocolate product.

WHY DID YOU BECOME INVOLVED IN THE ROOFING INDUSTRY? I worked with a world-class roofing manufacturer and found roofing is my passion.

WHAT WAS YOUR FIRST ROOFING EXPERIENCE? When I was 15 years old, I worked part-time on a construction company's demolition crew.

WHAT IS YOUR ROOFING INDUSTRY INVOLVEMENT? Shell Roofing Solutions Group is involved with NRCA and the Roofing Alliance; I serve on NRCA's Executive Committee, Global Advisory Committee, Health and Safety Committee, Hispanic Outreach Task Force, Industry Image and Outreach Committee, and Insurance Board of Governors.

WHAT DO YOU CONSIDER A WASTE OF TIME? Not learning something every day and complaining

WHAT'S THE MOST EXCITING/ ADVENTUROUS THING YOU'VE DONE? Racing an IndyCar at 189 mph

WHEN YOU WERE A CHILD, WHAT DID YOU WANT TO BE WHEN YOU GREW UP? I wanted to be a businessman like my dad and fly to faraway places—dream achieved.

PEOPLE WOULD BE SURPRISED TO KNOW ... I am a former amateur boxer, certified IndyCar race car driver and currently an executive producer of films. WHAT IS YOUR FAVORITE STRESS

grandson.

WHAT QUALITIES DO YOU MOST ADMIRE IN A PERSON? Courage and honor. I admire people who want to achieve what others think is not possible.

IF YOU COULD TRAVEL ANYWHERE IN THE WORLD, WHERE WOULD YOU GO? WHY? I would return to Italy because of the rich history and food.

MY FAVORITE PART ABOUT WORK-ING IN THE ROOFING INDUSTRY IS

... The friendships. I hope I have used my influence to elevate the industry and bring respect to the craft.

WHAT IS YOUR FAVORITE FOOD? Italian food, specifically my family's recipe for homemade spaghetti.

IF YOU COULD MEET ANY HISTORICAL FIGURE, WHOM WOULD YOU MEET? WHY? Cesar Chavez, a civil rights

activist. He stood for the rights of those who didn't have a voice.



We often use single-ply TPO membrane. My team likes using TPO products because of the hot environment in Southern California.

WHAT DO YOU CONSIDER YOUR MOST REWARDING EXPERIENCES? The ones I've had with my four amazing children.



RELIEVER? Hanging out with my



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