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HOW TO HAVE A GREEN THUMB

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OCTOBER 2026/\$10

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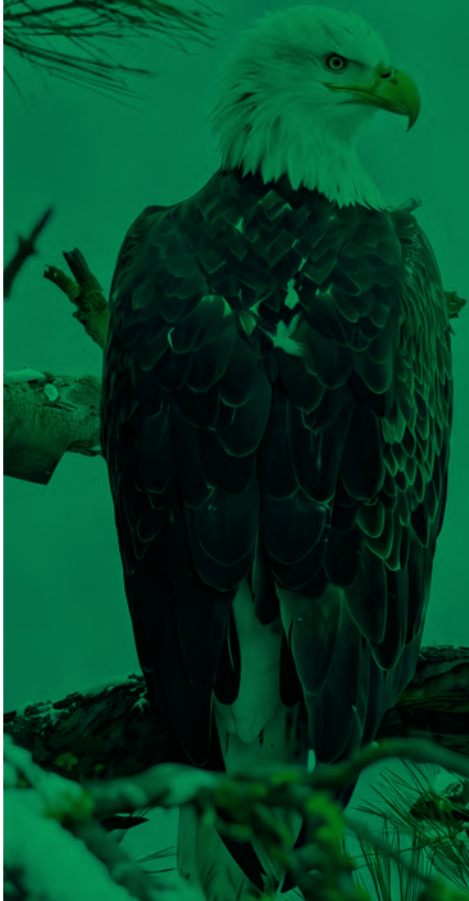


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Keep your friends close

Friends make you happier and healthier

by Ambika Puniani Reid



I have what I consider a quirky coping mechanism that others might call repression. For example, I prefer to pretend the COVID-19 pandemic never happened. I won't read any news or social media posts about it and even refused to read a book for my book club because parts of the novel take place during the pandemic. But one thing I hold on to from *The Time That Never Happened* is the importance of friendship.

Nearly all social scientists and medical professionals agree people with friends live longer, healthier lives. But it is also true maintaining these ties takes a great deal of effort and commitment. In *The New York Times* article "Have you closed your 'social rings' this week?," Jancee Dunn writes: "Research suggests that friendships can improve your heart health, help you handle stress and fortify your immune system." Dunn provides the following tips about how to strengthen your friendship bonds:

- *Find free time that works with both of your schedules.* This can be as simple as walking your dogs together once per week or checking in via voice text or phone calls during a morning commute.
- *Experiment with technology.* Texts and phone calls are great, but having a buddy on FaceTime while you fold laundry can provide great companionship. Or consider sending a chatty old-fashioned email or letter by post that will surprise and delight your friends.
- *Keep track of their lives and check in.* If your friend recently visited a loved one in the hospital, for example, sending a text or calling them to see how they are doing would be much appreciated.

Dunn spoke with Jaimie Arona Krems, director of the UCLA Center for Friendship Research, who said though the standard health advice is to "eat your veggies, drink your water and get your sleep, I'm shocked that friends aren't on there, too."

So go ahead and take a few minutes to check in on a friend you haven't heard from in a while. You will both be glad you did.

Ambika

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





CLOSE-UP

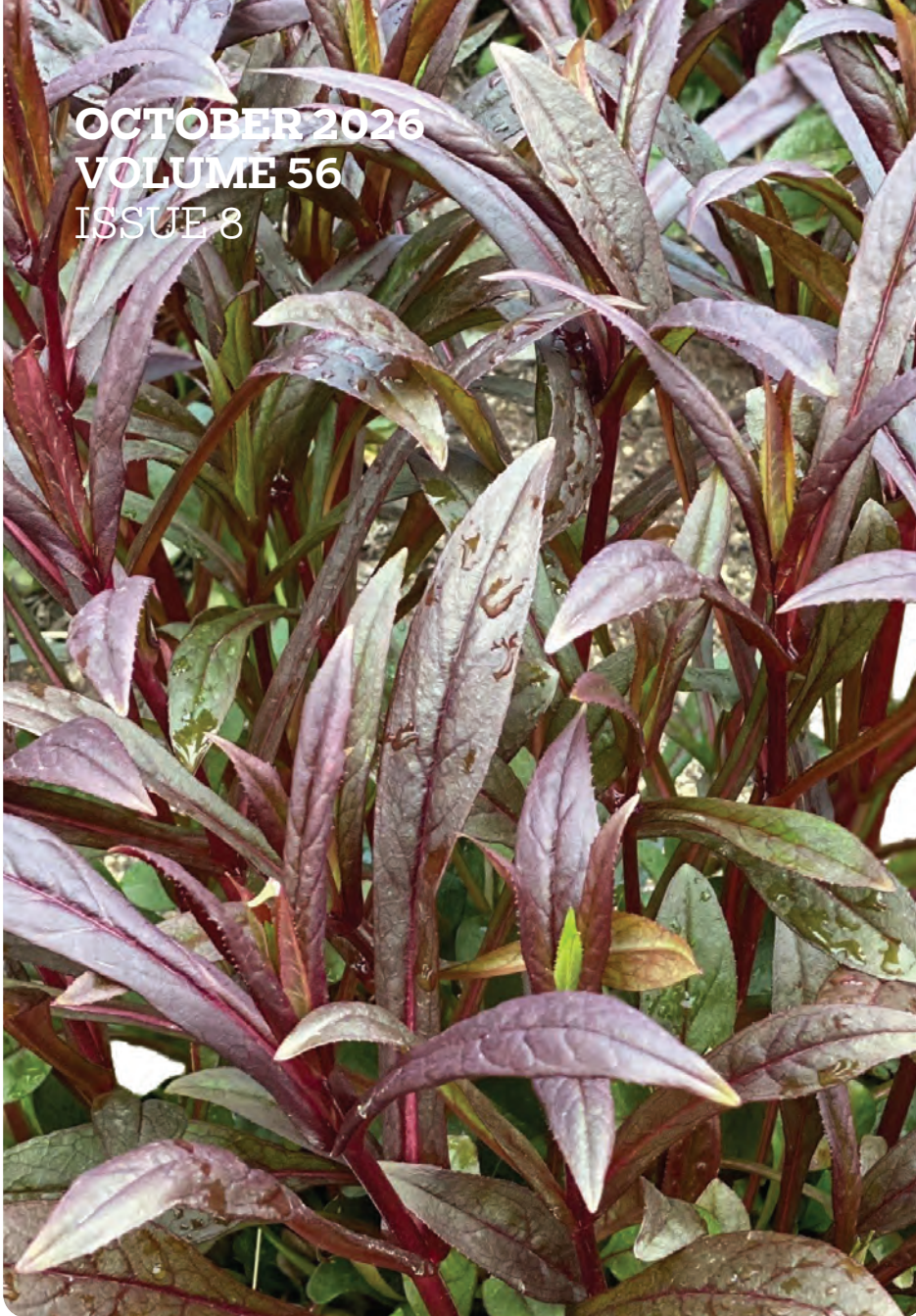
The Music Room at Henry B. Plant Hall at the University of Tampa, Fla., was built in 1891 and features a unique oblong disc shape with a distinct curve before rising into a dome. Designated a National Historic Landmark building in 1972, the hall's roof recently was retrofitted to preserve the structure's original architecture.

ATAS International's Field-Lok™ 24-gauge stainless-steel panels with a 1 1/2-inch seam height were installed and mechanically seamed in the field by Quality Roofing Inc., Tampa. At 4,500 square feet, the Music Room's roof features layers of tapered panels of various sizes and complex circumferences to accommodate the structure's eaves and domes.

The project was awarded first place in ATAS International's 2025 Project of the Year Awards in the Commercial Roof category, and Quality Roofing received a Spotlight Trophy for Advancement in Roofing by the Florida Roofing and Sheet Metal Contractors Association.

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

OCTOBER 2026
VOLUME 56
ISSUE 8



FEATURES

24

How to have a green thumb

Proper seeding on extensive green roofs will result in better plant health

by Michael Bukka Davenport

30

Weathering every storm

Metal roofing delivers long-term performance

by Mike Weis

36

Roofing for heroes

KPost Company, Dallas, helps build the National Medal of Honor Museum in Texas

by Chrystine Elle Hanus

40

Find a champion

How to improve the quality of commercial low-slope roofs in new construction

by Jason Wilen, AIA, NCARB, CRT, RRO, and Nick Casaletto, AIA, BECxp, CEBA, CxA+BE, CDT, LEED AP BD+C, RRO



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COLUMNS

3

Keep your friends close

Friends make you happier
and healthier

by Ambika Puniani Reid

12

In roofing they trust

At a time when trust is being
eroded, roofing contractors have an
opportunity to be leaders

by McKay Daniels

16

Bridging the gap

Research shows how insulation
can save building owners money

by Glen Clapper, AIA, LEEP AP

20

Say what?

The biometric you didn't know
they were collecting

by Adrienne Anglin, CSP

DEPARTMENTS

4

Close-up

10

New Ideas

12

News + Views

16

Research + Tech

20

Rules + Regs

48

Briefings

54

Details

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Mission: *Professional Roofing* provides cutting-edge content, valuable insight and innovative ideas to help roofing professionals succeed.

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André Coppin, RRC, RRO
Seattle, WA



Registered Roof Consultants (RRCs) are independent roofing experts with industry- wide knowledge of materials performance and design requirements. An RRC is knowledgeable of every facet of the roof construction process and serves as the building owner's councilor for matters on both existing and new construction. The demand for the RRC credential continues to grow as the industry recognizes the value of the RRC's quantified skill set.

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Registered Roof Observers (RROs) are roofing quality assurance observers who monitor the construction process and report roofing project compliance with approved construction specifications and best-practice installation procedures. An RRO is an on-site monitor for the design team. The RRO's vigilance helps keep construction on track with milestone tasks, deadlines, and budget. The RRO credential is the preferred standard of practice for quality assurance professionals.

RRO EXAM: ? 75 QUESTIONS ⌚ 3 HOURS



Screwdriver extensions for hard-to-reach locations

GripEdge™ Tools has launched the 9-Piece RPT 1/4" & 3/8" Drive Long Ball Star Bit Socket Set designed for confined, hard-to-reach locations.



Second-generation Ball Star geometry allows up to 15.5 degrees of pivot, allowing for engagement at angled or obstructed fasteners where conventional bits can't reach.

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gripedgetools.com

Eyewear made for adjustability

Brass Knuckle® has created new eyewear that promotes comfort and all-day wear.

Brass Knuckle Licorice Glasses can change shape to increase comfort throughout the workday. The length of the temples, PivotEase™ nosepiece and nonslip nose pad can all be adjusted to fit the wearer.

The glasses reportedly have standard anti-fog performance and resist abrasion, chemicals and ultraviolet rays. The Licorice Safety Glasses reportedly meet industry test requirements. The glasses are also available in a smoke lens that allows only 18% of light to pass through.

brassknuckleprotection.com



DiVinci® Roofscapes expands color profiles

DaVinci Roofscapes, Lenexa, Kan., part of Westlake Royal Building Products, has expanded the color offerings of its Multi-Width Shake profile.

Part of DaVinci's Nature Crafted Collection, Aurora and Rock Ridge have become popular for their elegant color and richness of natural slate combined with the durability and long-term performance of composite.

Aurora combines soft mottled greens and purples, well-suited for historical renovations including Colonial, Mansard, Modern Farmhouse, Old Style and Tudor.

Rock Ridge is a blend of dark grays and blacks that emulates iron sulfide, graphite and carbon found in quarried slate. Ideal for Colonial, Federal, Greek Revival, Neoclassical, Revival and Victorian buildings.

westlakeroyalbuildingproducts.com



Tool belts help fight gravity

Ergodyne has developed a new Tool Belt + Suspender system engineered to reduce the stress of carrying tools while meeting dropped-object safety demands.

The system features padded, breathable construction, improved weight distribution, pivoting suspender attachments that swivel with movement and ANSI/ISEA-compliant tethering points.

ergodyne.com



Tools expand job-site solutions

Bosch has expanded its North American portfolio with the launch of 39 new tools and accessories designed to meet the evolving needs of construction professionals.

The expansion builds on the company's EXPERT, Measuring Tools and Accessories product lines and includes new power tools engineered for a wide range of job-site tasks alongside rugged, easy-to-use measuring solutions that enhance accuracy and efficiency.

New products include an EXPERT 18V 30-Degree Framing Nailer, EXPERT Corded 12 In. 15-Amp Dual-Bevel Glide Miter Saw, 18V Green-Beam Horizontal Rotary Laster and a Threaded Rod Cutter Set.

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In roofing they trust

At a time when trust is being eroded, roofing contractors have an opportunity to be leaders

by McKay Daniels

As this issue reaches your mailbox, we will be weeks away from heading to the polls for the midterm elections. Political consultants, media commentators and campaign strategists will spend the next several weeks debating issues, polling data and turnout models. But beneath all the noise is a larger trend that should matter to everyone in business, including those of us in the roofing industry.

The defining characteristic of today's electorate (or today's broader population at large) may be neither ideology nor party affiliation. It may be trust.

I was at a conference recently where former Assistant U.S. Commerce Secretary Bruce Mehlman spoke (he's also spoken at several Roofing Day in D.C. events). He brought research showing the ongoing degradation of trust. Recent research shows Americans hold substantially less trust in many major institutions than they did several decades ago.

Confidence has eroded across government, media and many of the organizations that shape public life. For decades, Gallup has been surveying people about how much they trust nine national-level institutions, and the trend across most of them is down significantly. However, at the same time, people continue to place greater trust in local institutions and organizations they know personally. Only 9% of Americans trust Congress, yet your local congressman is overwhelmingly likely to be reelected next month. People universally hate “Congress,” but many love their congressman. Similarly, only 17% of people trust “big business,” but 67% feel the same way about “small business.”

As former longtime Speaker of the House Tip O’Neill famously said: “All politics is local.” In short, Americans increasingly trust what they can see, touch and experience for themselves. So, too, is it with business.

This observation should resonate with roofing contractors.

Most roofing companies do not have headquarters in Washington, D.C., or Wall Street. They operate from Main Street. You live in the communities you serve. Your employees coach youth sports, support local charities, attend local schools and belong to local civic organizations. When a homeowner needs a roof system replacement after a storm or a facility manager needs a trusted commercial partner, they are not evaluating a national institution. They are evaluating a local business and the people behind it. For leaders like you, this creates a challenge and an opportunity.

The challenge? General skepticism does not stop at the doors of

“

In an environment
where many people are
predisposed to question
motives, credibility
cannot be assumed

”

government. Public concerns about institutions can spill over into attitudes toward corporations, industries and even individual businesses. In an environment where many people are predisposed to question motives, credibility cannot be assumed. And for an industry such as roofing where periodic bad apples are featured in a local television news story about harming a needy customer, it’s essential you show up every time ready to do the job right. (Local news is far more trusted than national news, by the way.)

The opportunity is trust can still be earned. And because trust is increasingly local, it presents a unique opportunity. Trust is built through personal interactions, consistent performance and visible community engagement. Roofing contractors understand this better than most. Every completed project is a public demonstration of quality. Every customer conversation is an opportunity to strengthen confidence. Every commitment honored contributes to a reputation that cannot be manufactured through advertising

alone. This creates a level of local connection many national institutions cannot replicate. We need to recognize that connection. Take pride in it, lean into it and own it.

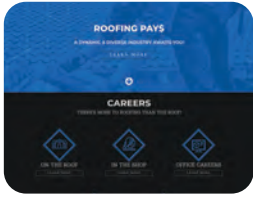
As we approach election season, it is worth remembering frustration with institutions often reflects a broader desire for accountability and responsiveness. People in the U.S., regardless of party, are frustrated and cynical. Many are struggling, and they want leaders who listen and work for them. They want organizations that follow through. They want transparency about decisions and outcomes.

These same expectations apply to business. Whether we are talking about elected officials, national organizations or local companies, people increasingly judge credibility based on experience rather than messaging. They want proof before promises.

The coming election will undoubtedly generate strong opinions and vigorous debate. But regardless of who wins or loses, one truth is likely to remain: Americans place their greatest confidence in the people and organizations that earn it every day through action. The roofing industry is uniquely positioned to meet this moment. 🌟🌟🌟

MCKAY DANIELS is NRCA’s CEO.
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NRCA website offers recruitment tool



NRCA's website, careersinroofing.com, offers resources that highlight career opportunities available in the roofing industry and provides a recruitment tool for roofing companies. The website is available in English and Spanish.

The resources emphasize opportunities for success that can be found on a roof, in the shop, in the office and in manufacturing facilities, highlighting the stability and income a roofing industry career can provide.

A section for parents and educators offers information about the positive aspects of working in the roofing industry, including no school debt, the high demand for roofing workers and the potential to thrive and establish a successful career.

Additional resources offer industry statistics and information regarding the industry, wages and career opportunities, among other topics.

To learn more, visit careersinroofing.com.

NRCA offers Executive Leadership Bilingual Program



NRCA has partnered with The GLO Group LLC, Phoenix, to offer the Executive Leadership Bilingual Program. The six-course virtual program is designed to help executives develop field supervisors into confident bilingual leaders, boost communication to improve workplace culture for multicultural teams and build trust to position their companies as employers of choice among Spanish-speaking communities.

The program offers one session per week for six consecutive weeks. Sessions will address the following topics: elevating Spanish-speaking supervisors; psychological safety and cultural trust in roofing environments; adopting artificial intelligence and technology to align with workforce culture; recruiting and retaining Hispanic talent; showing employees clear paths for growth; and building a legacy roofing business.

Sessions can be purchased as a package or individually, and content will be available in Spanish and English.

To learn more and register, visit theglogroup.ac-page.com/ELpilotprogram.



The power of humble leadership

Confidence can be a powerful attribute for a leader, but if confidence turns to arrogance, team dynamics are significantly impacted in a negative way.

Being able to put ego aside is a vital part of being a great leader.

Humility is a crucial part of leadership, but many leaders have difficulty with this attribute because there is an incorrect assumption that you cannot be simultaneously humble and ambitious. Also, business leaders sometimes view humility as being too soft to handle tough issues.

Inc., a business media brand, shares the following practical approaches to help leaders achieve greatness through humility.

1. *Don't claim the credit.* When leaders prioritize highlighting their team's achievements, it builds respect and loyalty and provides a sense of liberation and pride for employees.
2. *Get others involved.* Open communication and transparency are key. Leaders should share their plans with their team and encourage team members to share their ideas, contribute to decisions and be innovative. Employees feel safe in an environment that encourages feedback and collaboration.
3. *Listen more.* Humble leaders genuinely want to understand what others think by listening carefully. They ask questions and allow team members to participate in the conversation. When both sides recognize learning can be accomplished through truly listening, great strides can be made.



THE BEST DON'T WATCH. THEY COMPETE.

NRCA is seeking the best young roofing talent, and the road to the **World Championship for Young Workers** starts at IRE 2027 in Las Vegas.

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Bridging the gap

Research shows how insulation can save building owners money

by Glen Clapper, AIA, LEED AP

Reducing costs is important for most building owners whether it is initial construction costs for new buildings or operational costs for existing buildings. One obvious way to reduce operational costs is to use thermal insulation in the building envelope, which includes the roof assembly.

The International Code Council®'s model building codes have required the use of insulation since their inception. Requirements for roof insulation are either contained within the International Residential Building Code®, which addresses detached one- and two-family dwellings and townhouses not more than three stories in height; International Energy Conservation Code®; or ASHRAE Standard 90.1, "Energy Standard for Sites and Buildings Except Low-Rise Residential Buildings."

For buildings with steep-slope roofs, insulation typically is located at the attic floor and is either batts or blown-in insulation. Whereas with low-slope, and particularly commercial

buildings, insulation often is located above low-slope roof decks. The most common form of insulation used for above-deck installations is board stock.

IECC and ASHRAE 90.1 consider insulation installed above roof decks to be continuous. However, the reality is there are joints between insulation boards that allow energy to pass through the “continuous” insulation layer or roof assembly thermal layer. Manufacturers’ specifications or installation instructions also vary from installing boards with edges in moderate contact or tightly butted together to never leave more than a 1/4-inch gap between boards.

Lost energy

The National Research Council Canada conducted a multiphase study for the energy resistance of commercial roofs and partnered with roofing industry associations, including NRCA, manufacturers and the Canadian government. One focus of the study was whether joints between board insulation in low-slope roof assemblies reduced R-value or increased U-factor.

Board joints in above-deck roof insulation create a thermal bypass, or bridge, allowing heat to travel through the insulation layer. Heat or energy bypass is exacerbated at joints because gaps may occur.

One cause for gaps at board joints is misalignment during installation that can be compounded by improperly manufactured boards. Another cause for gaps is insulation’s coefficient of thermal expansion. As a roof assembly experiences temperature variations either between night and day or summer and winter, the size of a board



The International Code Council®’s model building codes have required the use of insulation since their inception



changes with respect to its installed size resulting in gaps at insulation board joints. This change may not be permanent, and a board may return to its installed size once it reaches the temperature at which it was installed. Gaps also can occur as a result of a board’s dimensional instability. Some insulation materials undergo dimensional changes when subjected to moisture accumulation. This change is permanent, and gaps that occur because of this will always be present in a roof assembly.

To determine the effect of gaps in insulation boards, the NRCC study used a horizontal guarded hot box apparatus sized to fit a 4- by 4-foot test assembly. The guarded hot box was designed and constructed to comply with ASTM C1363, “Standard Test Method for Thermal Performance of Building Materials and Envelope Assemblies by Means of a Hot Box Apparatus.” Tests were conducted for roof assemblies with insulation entirely above decks in Climate Zones 2-8 in compliance with the prescriptive requirements contained in ASHRAE 90.1-2013, which equates to R-values of 25, 30 and 35.

Polyisocyanurate, expanded polystyrene and stone wool roof insulation materials were installed in the test assemblies. Insulation thicknesses were determined based on materials’ R-values reported by manufacturers.

Tests were conducted on a single layer of each insulation type with no gap, a 1/4-inch gap and 1/2-inch gap between boards. Testing also was conducted on two layers of each insulation type with the joint in the top layer offset horizontally 6 and 24 inches. More than 70 tests were conducted on the various assemblies.

Gap effect

The results of the testing showed for a single layer of 3.3-inch-thick insulation, the effective R-value decreased 9% for a 1/4-inch gap. The effective R-value for a 1/2-inch gap resulted in a decrease of 13.5% in the effective R-value of the insulation.

Assemblies constructed using two layers of insulation with offset joints experienced less thermal resistance loss compared with assemblies where the same gap was present in single-layer insulation of the same thickness.

According to the research, single-layer insulation with gaps at joints experienced nearly three times the thermal losses compared with the same insulation installed in two layers of the same total thickness with same-width gaps at offset joints. Effects of the joint-offset distance were found to be minor. For instance, for R-31 assemblies, the thermal loss penalty for two-layer insulation installed with a 6-inch offset between layers was 3% greater on average compared with the penalty for the same insulation installed with a 24-inch joint offset.

The energy code

IECC's first two editions (2000 and 2003) referred to ASHRAE 90.1 for above-deck insulation installation requirements. But no installation requirements in above-deck insulation were included in IECC's 2006 and 2009 versions.

Beginning in 2012, IECC included language that stated where two or more layers of continuous insulation were used in an assembly they were to be installed in accordance with manufacturer's instructions. The code went on to state if manufacturer's instructions did not address the installation of two or more layers, joints between each layer were to be staggered. This requirement was not modified until the 2018 IECC where the language was changed to require two layers of insulation and the joints between layers to be staggered. This requirement remains in effect for the 2024 IECC and the soon-to-be-published 2027 IECC.

ASHRAE 90.1 contained similar language to IECC 2012 and 2015 before the standard's 2025 version. For the 2025 version, ASHRAE followed NRCA's recommendation for the requirement for above-deck insulation to be installed in at least two layers and joints between adjacent layers to be offset. Above-deck insulation is permitted to taper to a single layer at roof drains, gutter edges or scuppers.

Two layers

This research shows using two or more layers of above-deck continuous board insulation can save a building owner money by reducing energy loss through the roof assembly.

For additional roof assembly code requirements, visit codes.iccsafe.org. 🌱🔗

GLEN CLAPPER, AIA, LEED AP, is an NRCA director of technical services.

LED videoboards improve job-site communication

Construction Dive recently released an article, "4 ways digital displays are shaping the future of construction jobsites," about the effectiveness of using LED videoboards on construction job sites. According to the article, there are four prominent ways in which digital display technology can shape the future of construction.



1. *Improve job-site safety.* LED videoboard displays can be updated in real time to show safety and emergency communication. These displays can also work alongside active site-monitoring systems to communicate risks as they're happening.
2. *Enhance team communication.* Construction crews often need to communicate across large areas and shifting work zones. Oral instructions, signs and radio calls can be missed amid heavy machinery noise. Communication needs to be immediate and accurate. LED videoboards can give teams a highly visible way to share information with consistency, ensuring everyone gets the same message and stays aligned.
3. *Enable advanced technology integration.* Features such as audio systems can cut through construction noise, power streaming devices and stream live data feeds that allow project managers to cast real-time monitoring, drone footage or live production metrics. This can transform a job site into a fully connected, modernized command center that maximizes job-site efficiency.
4. *Upgrade communal spaces.* Hardworking crews also need a space to rest and recharge. Digital displays can elevate break areas, meeting spaces and communal zones and turn them into hubs for communication. These displays can be used to share company updates, celebrate milestones, recognize achievements, display training content and more.

ASCE announces new president

Members of the American Society of Civil Engineers have elected Rossana D'Antonio, P.E., GE, F.ASCE, president of the society for the 2027-2028 term after a month-long election that closed June 1. She previously served as a member of ASCE's Public Policy and Practice Committee, which guides the society's public policy and government relations activities affecting the civil engineering profession.

D'Antonio previously served on the ASCE board of directors from 2022-2025 and served as Region 9 (California) governor-at-large for ASCE from 2017-2020. She also held multiple leadership roles with the ASCE Los Angeles section.

D'Antonio currently serves as executive director at NV5, a global consulting firm in Hollywood, Fla. Before joining NV5 in 2024, she spent nearly 35 years with Los Angeles County Public Works where she was promoted several times, completing her tenure as deputy director of municipal services and emergency management.

The society president serves as the chief representative and spokesperson for the society, working with ASCE's executive directors. The president chairs the board of directors and

Executive Committee and assists with educating and motivating members and potential members by promoting the society's principals, policies and goals.



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Say what?

The biometric you didn't know they were collecting

by Adrienne Anglin, CSP

***Editor's note:** The following is a discussion of the capture of data and not jurisprudence evidence governing the admissibility of audio recordings in a court of law.*

What's the difference between a voice recording and a voice print? A *voice recording* is an audio file capturing someone speaking. It's no different from a voicemail, a job-site video or a recorded customer call. A *voice print* is something else entirely. It's a mathematical representation of the unique characteristics of a person's voice: the pitch, tone, cadence, resonance and speech patterns are processed by software to identify or authenticate an individual.

Voice prints are treated as biometric identifiers—methods of recognizing a person using unique traits—under several U.S. laws, such as the Illinois Biometric Information Privacy Act. The distinction between voice recordings and voice prints matters because the capture of biometric identifiers is often

legally protected while ordinary recordings generally are not.

If you use customer service management software and operate nationally or in states with biometric laws, this is a compliance risk hiding in plain sight.

Capability matters

Many roofing contractors use customer service management and call-center software with voice analytics capabilities. The use of artificial intelligence-powered meeting transcription tools that link users together are increasingly becoming standard practice. Safety training platforms with speaker identification, job-site documentation videos that analyze audio, voice-activated software and authentication systems are tools many companies have adopted for operational efficiency—but some may do more than record audio.

When voice data is analyzed to identify or authenticate a speaker, the software may be generating a voice print. As a result, roofing companies that use such systems could be subject to biometric privacy obligations without realizing the voice data is being collected in a legally protected form.

In a 2024 California court hearing *Delgado v. Meta*, the court ruled capability, not actual use, determines whether a company is collecting biometric identifiers. If your system could identify someone from his or her voice, you may be subject to biometric privacy laws.

The legal landscape

The U.S. does not have a unified federal biometric privacy law regarding voice prints. Roofing contractors must navigate a patchwork of state laws, but litigation is expanding rapidly.

This year, multiple class action lawsuits have been filed against major tech

companies including Amazon, Apple, Google, Meta, Microsoft and Nvidia alleging unauthorized voice print extraction from publicly available recordings. As of August, Walmart may be added to the list of class action suits after a group of Illinois customers filed a suit against the company for creating voice prints via Walmart's customer service line.

This may signal growing legal concern that voice data should be treated as biometric data whenever AI systems process it.

Recordings become voice prints

This is where the risk becomes alarming. Modern AI systems can create a usable voice print, or even a full voice clone, from mere seconds of audio. Commodity voice-cloning tools can replicate a voice with only 4 to 5 seconds of sample audio, according to Hiya, a voice security and caller ID platform.

Research done by McAfee in 2024 showed it only took three seconds to produce a voice clone with an 85% voice match to the original. McAfee researchers further showed, using freely available AI voice cloning tools from the internet, they could achieve a 95% voice match using a small number of audio files. And cybercriminals can clone a voice from a brief voicemail, TikTok clip or Zoom meeting snippet.

For roofing professionals, this means a short job-site video posted on social media, a voicemail left for a supplier, a recorded customer call or even a brief conversation captured during training may provide enough audio for someone to generate a voice print or clone of someone's voice.

The cybersecurity threat

Voice prints aren't just a privacy concern; they also can create significant

cybersecurity risks. Advances in AI have made voice cloning increasingly accessible, allowing cybercriminals to generate convincing replicas of a person's voice from only a short audio sample. These cloned voices have been used to impersonate executives, authorize fraudulent financial transactions, manipulate employees into disclosing sensitive information, carry out so-called "grandparent scams" and even circumvent voice-based authentication systems.

In one widely reported case in *Forbes*, a scammer allegedly used a cloned voice in a \$35 million bank fraud scheme in 2020, tricking a branch manager into believing he was receiving a call from the director of his parent company.

For roofing contractors, the implications are significant. A scammer could impersonate a company owner or chief financial officer to approve a large purchase, direct a project manager to share customer data, request an urgent payment to a new vendor or authorize material charges with a supplier. These scenarios are no longer hypothetical. As voice-cloning technology becomes more sophisticated and widely available, businesses are increasingly being targeted with voice-based social engineering attacks.

Risk management steps

Following are six ways roofing contractors can mitigate their risk:

1. *Audit your voice data processing.* Begin by conducting a thorough audit of every system, platform and workflow that captures or processes voice data. This includes customer service recordings, AI-powered transcription tools, job-site videos, safety training modules and any software that uses voice

interaction or voice authentication. If a tool can analyze voice characteristics in a way that could identify an individual, even if you never intended to use it that way, you should treat the resulting data as biometric information.

2. Implement notice and consent. If your company operates in states with biometric privacy laws or if your employees or customers reside in those states, consider implementing clear notice-and-consent procedures. This means informing individuals in writing that their voice data may be collected, analyzed or stored and obtain their consent before doing so. This often includes publishing a retention and destruction policy that explains how long voice data will be kept and when it will be deleted. These requirements apply to employees, customers, subcontractors and anyone whose voice may be captured by your systems. Even if your company is headquartered elsewhere, compliance is often required if you interact with individuals in regulated states.

3. Minimize voice data collection. Adopt a “collect only what you need” approach to voice data. If a recording is not essential for documentation, training or customer service, avoid capturing it. When recordings are necessary, store them only as long as required for operational or legal purposes. Avoid retaining raw audio files when a text transcript will suffice and turn off any optional features in your software that perform voice analytics or speaker identification. Minimizing collection reduces your exposure and simplifies compliance with biometric privacy laws.

4. Strengthen authentication systems. Voice authentication should not be used as the sole or last check and balance for sensitive systems, financial approvals

or access to company data. Modern AI tools can easily clone a voice from audio, making voice-based security unreliable. Replace or add to voice authentication with stronger alternatives such as passkeys, multifactor authentication, device-based verification or out-of-band confirmation through text or email. Treat voice as an interaction method, not an identity verification method. This shift can protect your business from impersonation attacks and reduce the likelihood of fraudulent access.

5. Train employees regarding voice cloning risks. Your cybersecurity training should now include information about voice cloning and voice-based fraud. Employees need to understand scammers can replicate a voice from a short voicemail, a social media video or even a brief job-site clip. Train your teams to verify unexpected requests, especially those involving financial transactions, password resets or sensitive information. Encourage employees to be cautious about posting videos or audio online and to treat any unusual or urgent voice communication with skepticism. Awareness is one of the strongest defenses against social engineering attacks.

6. Evaluate vendor compliance. Finally, evaluate whether your software vendors comply with biometric privacy laws. Ask questions such as: Do you create or store voice prints? Do you use voice data to train AI models? Are you compliant with state biometric laws? Do you have a retention and destruction policy? Vendors should be able to answer these

questions clearly and confidently. If they cannot, or if their policies are vague, consider switching to providers with stronger privacy and compliance practices.

The bottom line

Voice recordings are everywhere in modern roofing operations from customer calls to job-site documentation. When AI systems process those recordings, they can become voice prints, triggering biometric pri-

vacancy laws and creating cybersecurity vulnerabilities.

Roofing contractors must treat voice data as a sensitive asset. The legal landscape is shifting quickly, and attackers are already exploiting voice cloning at a large scale. Understanding the difference between a voice recording and a voice print isn't just a tech issue—it's an operational and legal risk that organizations should manage.

For more information about this topic, visit nrca.net for resources or contact me at aanglin@nrca.net. 📞📧📧

ADRIANNE ANGLIN, CSP, is NRCA's vice president of safety and risk management.

NRCA members receive a 30-minute consultation each month with NRCA's general counsel, Trent Cotney, partner and construction team leader at Adams & Reese, Tampa, Fla. For additional information about this member benefit, visit nrca.net/legal.



NIOSH addresses wildfire smoke exposure

The National Institute for Occupational Safety and Health recently released the Wildland Fire Smoke resource, which warns workers may be “exposed to varying types

and amounts of compounds in wildland fire smoke,” according to *Safety + Health* magazine.

NIOSH encourages employers to be aware of adverse health effects understood or suspected to be caused by exposure to wildfire smoke, such as eye irritation, sore throat, wheezing and coughing; asthma and chronic obstructive pulmonary disease exacerbations; bronchitis and pneumonia; adverse birth outcomes; and heart and blood vessel outcomes.

For outdoor workers, NIOSH offers the following strategies to reduce exposure:

- Frequently monitor local air quality and fire conditions through the Environmental Protection Agency or state health department websites
- Relocate or reschedule work to smoke-free or less smoky areas or times of day
- Reduce levels of physical activity, especially strenuous and heavy work, when possible
- When possible, move tasks indoors or to areas with limited exposure

NIOSH’s resources also offer guidance regarding respirators, encouraging workers to take frequent breaks and stay hydrated when using respirators. NIOSH warns filtering face-piece respirators will not protect against gases such as carbon monoxide, and people with facial hair that interferes with the face seal should not use tight-fitting respirators.



Roofing company faces \$349,754 in penalties

The Department of Labor has cited Orchids Builders LLC, Orlando, Fla., for willfully exposing workers to risks of falls at residential job sites, according to the Occupational Safety and Health Administration. The company is not an NRCA member.

On Jan. 21, OSHA investigators found Orchids Builders exposed workers to a 10-foot fall hazard by failing to provide them with fall protection while they worked on a roof at a job site in Rockledge, Fla. Additionally, on March 10, investigators found the company exposed a worker to a 9-foot fall hazard while installing metal hurricane clips at another Rockledge job site.

OSHA also fined Orchids Builders for two willful and four repeat violations and proposed \$349,754 in penalties. The company has been inspected seven times since 2023, and all the cases included fall-protection violations.

Learn how to reduce roofing-related injuries and deaths with NRCA’s safety classes, webinars and publications at nrca.net/education.

Legislation addresses high industry suicide rate

Sen. Catherine Cortez Masto (D-Nev.) has introduced legislation in the Senate that addresses the construction industry’s high suicide rate and aims to boost suicide prevention efforts, according to *Safety + Health* magazine.

Although construction workers only make up about 7% of the U.S. workforce, 20% of suicide deaths in 2023 with a reported industry code were connected to construction.

The legislation, Constructing the Path to Suicide Prevention (S.5327), would direct the Department of Health and Human Services and the Centers for Disease Control and Prevention to collect data regarding the “unique suicide risk factors facing construction workers that can be used to inform future suicide prevention programming.” Risk factors include lack of employment and financial stability; substance and alcohol use; and limited access to health care coverage and employee assistance programs.

The bill has been referred to the Senate Health, Education, Labor and Pensions committee.

NRCA offers mental health resources to enhance your company’s efforts to raise awareness, provide help and give support to mental health and suicide prevention in the roofing industry. To learn more, visit betoughenough.org.



HOW TO HAVE A GREEN THUMB

Intentional seeding on extensive green roofs
will result in better plant health

by Michael Bukka Davenport

If your company installs vegetative green roof systems, offering to maintain them and understanding which vegetation can allow a green roof system to thrive could open up new business opportunities. If a building owner is struggling with maintaining vegetation on a green roof system, providing this service can help distinguish you from other roofing companies and prevent clients from turning to general landscapers.

Over time, many *Sedum*-based extensive green roofs (defined by NRCA as shallow with growth media less than 6 inches of depth) experience a decline in vegetative coverage, especially ones without automated irrigation. This can happen for a variety of reasons including poor soil health; drought; wind scour; compaction from foot traffic; wildlife; excessive shade; and even intense, reflected light from nearby building windows.

Often, a problem is noticed well after damage is done, and remediation can be daunting. The typical response is to buy more *Sedum* plants to add to the assembly, which may not address underlying issues. A less expensive approach to bringing life back to a green roof is intentionally seeding plant species that can handle drought and poor soil health.



Foxglove Beardtongue with emerging flowering stems



What follows are a dozen options, all of which play nicely with *Sedum* plants and can help build fertility in growing media. These plants all grow well in the Midwest and Northeast regions of the U.S. and some in the South and West. As with any green roof system, site conditions will dictate success. If existing plants are declining because the roof is too dry, watering the roof a bit can help get some of these species established from seed. A temporary hose-to-sprinkler connection with an inexpensive timer can be a valuable investment.

The nitrogen fixers

Purple Prairie Clover (*Dalea purpurea*) is a short-statured perennial legume that fixes atmospheric nitrogen by forming associations with soil microbes. Roots of the plant are colonized by *Rhizobium* bacteria, which produce enzymes that transform nitrogen gas into plant food. In exchange, the plant offers sugar and carbohydrates to feed the bacteria. When the Purple Prairie Clover drops its nitrogen-filled leaves in autumn, they will decompose into the growth medium and become available to neighboring plants. Many legume species, such as beans and peanuts, can fix nitrogen, but Purple Prairie Clover is perfect for green roof systems: It survives drought in shallow growth media depths, doesn't get too tall, germinates without any pre-treatment and is attractive to pollinators, especially bees. Springtime seeding is best, and many seed companies will include a packet of *Rhizobium* inoculum to help get plants quickly established.

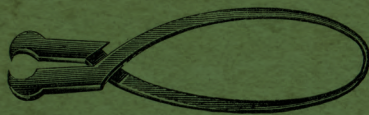
Alfalfa (*Medicago sativa*) also fixes nitrogen and grows relatively compactly. Although not quite as

drought-tolerant as Purple Prairie Clover, it can thrive in extensive vegetative green roof assemblies. Alfalfa doesn't seem to mind disturbed soils and can be a good choice for compacted areas. It is best to scatter seeds in spring. In late summer, Alfalfa can look a bit tattered; if it looks ugly, feel free to cut it down but leave the cut material on the roof to decompose. The plant will likely survive the cutback and may even push new foliage in response.

Partridge Pea (*Chamaecrista fasciculata*) is an annual legume that completes its life cycle in one growing season. It fixes nitrogen in association with *Bradyrhizobia* bacteria and various fungi. A host plant for several sulfur butterflies, it grows best in bare areas without much competition from other plants. An early-spring or autumn seeding will deliver best results though seedlings may not emerge until summer. Tolerant of dry soil and high heat, this species is recommended for vegetative assembly edges that are typically the hottest zones on a green roof.

Leadplant (*Amorpha canescens*) is more like a shrub than an herbaceous plant and would be a focal point in a *Sedum* planting. It has a robust root system that would probably be limited in many tray-based assemblies, so it is best used in a built-in-place system that allows the nitrogen-fixing roots to travel. This plant is slow to develop, often taking several years to reach flowering size. It is highly drought- and sun-tolerant once established, and the purple flowers show nicely against its silver foliage. Grasshoppers love to eat the leaves, so if there is a large grasshopper





population on a green roof, establishment can be difficult.

Crimson Clover (*Trifolium incarnatum*) is often used as a cover crop in agriculture and can add a lot of nitrogen to green roof soils, too. Seed should be applied in spring or early autumn for best germination. Foliar growth is rapid and topped by handsome crimson flowers attractive to bees. Plants can be left in place to produce more seeds or cut down

to prevent seeding. Redistribute any cut foliage in bare spots on the green roof to add nutrients where they may be most needed.

Quick cover

Indian Blanket (*Gaillardia pulchella*) is a quick-germinating annual that can handle drought and heat. It produces big two-toned flowers in the first season after seeding and reseeds readily with new plants often appearing in bare spots on a green roof. Most plants die after a season of growth—leave them in place so the roots and foliage can decompose and enrich the soil. This is another good choice for assembly edges.

Lance-leaved Coreopsis (*Coreopsis lanceolata*) is similar to Indian Blanket with its ability to bloom and produce seeds in year one. Unlike Indian Blanket, it is a

perennial and can form colonies by spreading via underground rhizomes. It doesn't compete well with larger prairie species, but on a *Sedum*-based green roof it can persist indefinitely, so if you are simply trying to improve the growth media and don't want the look of tall plants hovering above *Sedum* plants, Indian Blanket may be a better choice. Both plants are highly attractive to pollinators and are commonly used as colonizing plants in prairie restorations.

Chia (*Salvia hispanica*) seeds, when hydrated, produce a gel that makes them useful as a short-term tackifier for wind-scoured areas on a green roof. Chia grows a bit tall, so a good strategy when planting it near *Sedum* plants is to scatter Chia seeds with those of another shorter species that can coexist with low-growing *Sedum* plants. Chia's gels can hold the growth media together long enough for the partner plant to establish. Cut back the Chia as needed after it has done its job stabilizing the growth media.

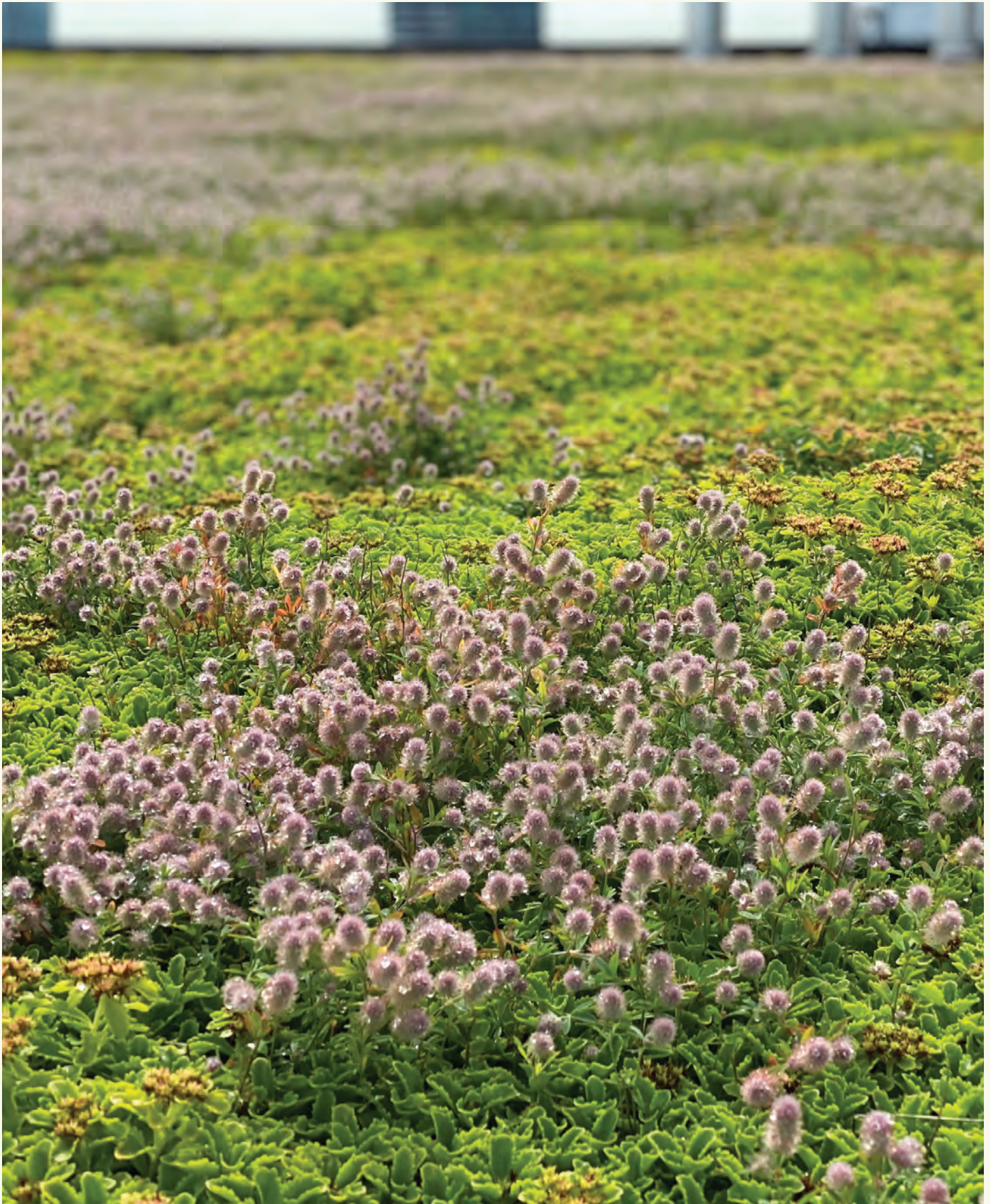
Buckwheat (*Fagopyrum esculentum*) is a non-native annual that grows best in moister soil, perfect for remediating a green roof with irrigation. It can survive in drier soils but will be stunted. Often used as a cover crop for scavenging nutrients and supporting pollinators, it blooms and produces seed just weeks after a late-spring seeding. Wait until the seed is developed and then redistribute on the green roof (or grind for pancakes). After harvesting, plants can be chopped down and dropped into the assembly for use as green manure.



Harvested Crimson Clover seeds



Coreopsis and Indian Blanket blooming



Rabbit-foot Clover blooming with *Sedum*



Adaptable species

Black-eyed Susan (*Rudbeckia hirta*) grows in every state east of the Rockies (and most in the West). It is not finicky about soil type and thrives in full sun. Individual plants only live a year or two but bloom quickly after germination and produce seed the first season. Seeding is best done in autumn or winter as the seeds need about a month of chilling. This is a species that is probably growing in your neighborhood, and friendly neighbors might allow you to harvest some of their seeds for green roof biodiversity improvement efforts. Everybody likes Black-eyed Susans when they are flowering, so this is a good choice for a publicly visible green roof. Wildlife value is high for this species, feeding bees, butterflies and birds. Harvest seed and redistribute on the green roof—if they are left on the plant, Goldfinches might eat them before they drop.

Foxglove Beardtongue (*Penstemon digitalis*) is not quite as drought-tolerant as Black-eyed Susan, but it can thrive in shade or sun. This is a good choice for a shady *Sedum*-based green roof that has a slow decline in vigor. Plants form low-growing rosettes in the spring then send up spikes of nectar-filled white flowers that are favorites of bees. Flowering stalks can be ornamental, especially on red-foliaged cultivars like ‘Dark Towers’ or ‘Husker Red.’ Small seed capsules hold tightly on to tiny seeds until they open in autumn. If reseeding isn’t desired, stalks can be cut back after flowering, and the plant will use its energy to push more foliar growth at the base. A related species, Hairy Beardtongue (*Penstemon hirsutus*) has even more shade tolerance and is lower growing.

Chives growing happily with *Sedum*



Chives (*Allium schoenoprasum*) are now commonly included in *Sedum* plant mats for green roofs. Unlike larger bulbs like tulips, Chives can survive winters in shallow depths of extensive green roofs. They also are easy to grow from seed if a green roof isn’t too dry and their low-growing stature pairs wonderfully with *Sedum* plants. The flowers are attractive to some bees, but if you really want to support pollinators, Nodding Onion (*Allium cernuum*) is a similarly sized native option. On a moist roof, both species can fill in *Sedum* plant gaps over time. Live bulbs can also be planted instead of seeds.

Bonus plants — weeds!

If a green roof has declining *Sedum* plants and lots of weeds, consider that some of the weed species may be beneficial for the soil’s health and for wildlife. A few species listed here have some aesthetic value and can thrive in extensive assemblies.

Toothed Spurge (*Euphorbia dentata*) is an annual weed that can become a nuisance in agricultural fields and can be found occasionally on green roofs. It’s not showy like its cousin Poinsettia, but it does have a red tinge on its foliage late in the season. This species thrives in poor soils and can revegetate barren areas on green roofs where nothing else seems to grow. If you find one growing in a problem area, leave it in place to reseed (though mourning doves may eat the seeds). It doesn’t compete with *Sedum* plants but rather offers some light shade, allowing existing *Sedum* plants to better cope with harsh conditions. A close relative, Fire-on-the-Mountain (*Euphorbia cyathospora*) has bright-red bracts when flowering and is available from a few seed vendors. Both are tough plants for difficult spots.



Rabbit-foot Clover (*Trifolium arvense*) is a nitrogen-fixing weed from Eurasia that often can be found growing within *Sedum* plantings. Short-statured, the attractive pink flowers poke up just above surrounding *Sedum* plants. Resist the urge to pull this species as it is helping feed its neighbors. Despite its invasive tendencies, it has not become a problem in natural areas as many mammals eat the foliage. On green roofs, it can be considered a helper plant that will decrease the need for synthetic fertilizers. Although it coexists nicely with *Sedum* plants, it will get outcompeted by larger plants in a meadow-type assembly. Seeds can be harvested and redistributed from existing plants or purchased from online suppliers.

Birdfoot Violet (*Viola pedata*) is no shrinking violet, growing best in dry soils.

It occasionally appears on extensive green roofs, likely brought in inadvertently by birds. Native to most states in the eastern half of the U.S., it has high wildlife value: Bees love the bright blue flowers, and various butterfly species use it as a host plant. Birdfoot Violet grows well with *Sedum* plants, filling in small gaps

between plants, and it is barely noticeable except when flowering. A few specialty nurseries sell seeds of this perennial species, which should be scattered in autumn.

Common Purslane (*Portulaca oleracea*) occurs

on many extensive green roofs and can be quite difficult to eradicate because it has a taproot that often breaks off when tugged and seeds that can remain viable for decades (if you've ever tried to pull Purslane out of sidewalk cracks, you know the struggle). This annual plant hugs the ground and does not tolerate shade. Rather than spending valuable labor hours weeding this plant, it may be better to leave it be, protecting bare soil from desiccation with its succulent foliage. If existing *Sedum* plants are not vigorous enough to outcompete it, consider over-seeding Purslane with another appropriate species.

Keep them growing

Whatever the type of growth medium used on a green roof, if there are plants growing, it indicates at least a modicum of healthy microbial presence. Disturbance to the growth medium can damage the underlying biology, so avoid disruptive weeding that churns over the soil. Increasing plant diversity will improve microbial diversity, making a green roof more resilient and wildlife-friendly and may reverse seemingly inevitable decline. Seeding appropriate species might be the most effective and inexpensive option for green roof system remediation. 🌱🌱🌱

MICHAEL BUKKA DAVENPORT is director of technical guidance for Omni Ecosystems, Chicago.

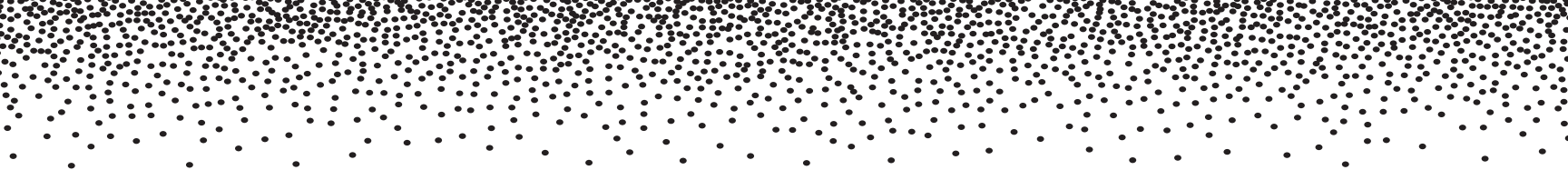


Leadplant has stunning flowers and fixes nitrogen.



Birdfoot Violet blooming with *Sedum*





WEATHERING EVERY STORM

**Metal roofing can
deliver long-term
performance**

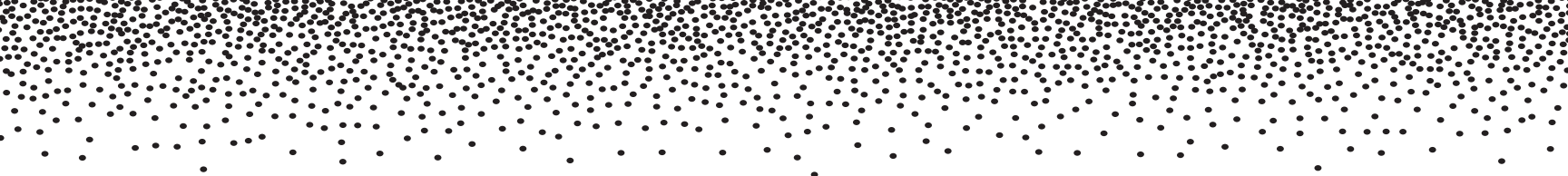
by Mike Weis

A roof has traditionally had one job above all else: protect the home or building and its occupants beneath it from the elements. But home and building owners are increasingly expecting more. They want roofs that can withstand increasingly severe and frequent weather events, maintain their appearance for decades with minimal maintenance and deliver lasting value on their investment.

That puts responsibility with roofing contractors to carefully assess each project's climate, maintenance requirements and the owner's budget and performance expectations when recommending roofing materials. In many instances, that process also includes considering the building's exposure to

high winds, hail, heavy rain, snow or wildfire, as well as applicable building code requirements. Taking all these factors into account helps contractors recommend roof systems that deliver reliable, long-term performance.

Among current roofing materials, metal is one material that stands out for its ability to perform in a wide range of climates and applications. Whether a project is located on a hurricane-prone coastline, in a wildfire-prone state or in a region that experiences heavy snow loads, contractors can specify metal roof systems designed to meet the unique demands of those environments.



Understanding how metal roofing performs under specific conditions allows contractors to make more informed recommendations, reduce callbacks and deliver long-term value to their customers. As demand continues to grow for resilient, low-maintenance roof systems, that expertise can also help contractors differentiate their businesses in an increasingly competitive market.

THE STANDARD FOR STORM RESISTANCE

Although some roofing materials perform well against certain types of weather events, few provide comprehensive protection against a broad range of extreme conditions. Metal roofing panels are one of the few that can.

In fact, some metal roof systems can provide wind resistance up to 120 mph, which defends hurricane-force winds. These systems are certified to wind-resistance testing standards such as UL 580, “Standard for Safety Tests for Uplift Resistance of Roof Assemblies”; TAS 125, “Standard Requirements for Metal Roofing Systems”; UL 1897, “Standard for Safety, Uplift Tests for Roof Covering Systems”; ASTM E1592, “Uniform Static Pressure Uplift”; and ASTM E1680, “Air Infiltration Test for Exterior Metal Roof Panel Systems.”

It is important to note these test standards focus on the different strains high winds exert on a roof, and their combination provides a more complete picture of how a roof will perform during the chaotic pressures and forces winds can cause.

High-force wind is often accompanied by rain and other types of precipitation. This makes guarding against water penetration under static and dynamic pressure conditions essential to ensuring a weather-resilient home or building. By resisting water infiltration, roofs can help minimize the risk of moisture-induced corrosion of structural and nonstructural elements.

Select metal roof systems are certified to TAS 100, “Standard Test Method for Wind and Wind Driven Rain Resistance of Discontinuous Roof Systems,” ASTM E1646, “Standard Test Method for Water Penetration of Exterior Metal Roof Panel

Systems by Uniform Static Air Pressure Difference,” and ASTM 2140, “Standard Test Method for Water Penetration of Metal Roof Panel Systems by Static Water Pressure Head” standards. In combination, these standards demonstrate how a metal roof can provide a substantial barrier to water intrusion under several pressure conditions to reduce the damage water can cause to insulation, sheathing, structural members and electrical systems.

Rain is not the only type of precipitation a home or building may face. Hailstorms can cause significant damage. However, at their core, metal roof systems provide a durable substrate that can withstand impact damage from hail and falling tree limbs, achieving ASTM E1886, “Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials,” and UL 2218, “Impact Resistance of Prepared Roof Covering Materials,” which is the highest rating for roofing materials. Both standards demonstrate metal roofing can stay strong against hail and other impact damage.

As indicated by the many certifications metal roofs can achieve, these systems offer a well-rounded defense against the elements. Although their weather resilience makes them a powerful addition to a project regardless of location, premium metal roofs have received approvals from the Florida Building Code and the Texas Department of Insurance and have been approved for use in Miami-Dade County and other High Velocity Hurricane Zones.

DEFENSE AGAINST WILDFIRES

Weather resistance delivers significant value, but for many parts of the U.S., defense against wildfires can be another key consideration. Although California’s Palisades Fire made headlines in 2025 for its wide path of destruction throughout Los Angeles County, the threat of damage from wildfires radiates through the western U.S., extending north and south to the Canadian and Mexican borders

and east to Colorado's eastern edge. The danger wildfires pose stretches beyond buildings at the edge of the flames.

Burning debris, embers and other firebrands can float for miles on updrafts and wind currents before landing on a building and igniting. As such, roofs can play an integral role in protecting homes, businesses and other buildings from wildfire damage up close and afar.

In this role, metal roofs provide compelling benefits. First and most directly, these systems come with a Class A material rating as determined by UL 790, "Test Methods for Fire Tests of Roof Coverings," which is identical to ASTM E108, "Standard Test Methods for Fire Tests of Roof Coverings." This test determines how well a material can resist fire damage and ignition from sources originating from outside a building. Class A is the highest rating a roofing product can achieve. Class A-rated materials significantly reduce damage and the risk of flames spreading.

Metal roofs also have a smooth, nonporous surface that allows leaves, twigs and other flammable debris to slide off more easily than other roofing materials. This can help mitigate the buildup of fuel for flying embers to ignite and minimize maintenance requirements for end-users. Also, many metal panel profiles reduce the number of crevices where debris can accumulate, further shrinking the amount of fuel available for burning debris.

Their Class A rating and ability to easily shed debris work together to defend against wildfires and associated risks. As a result, metal roofs can be indispensable in wildfire-prone areas—for the homes and buildings they cover as well as community resilience.

A Boulder, Colo., family home with a new metal roof demonstrated this when in late 2021, a devastating wildfire prompted the evacuation of 35,000 people. Fueled by a dry season and 100-mph winds that fanned the fire's flames and intensified the heat, the fire was nearly impossible to contain. As the fire crept through the neighborhood, it caused a large propane tank near the home to explode, showering the roof and surrounding area with



flames, ash and destructive shrapnel. Despite the destructive nature of the fire and the propane tank explosion, the metal roof, paired with the home's noncombustible metal and stone siding, resisted damage, and the home remained standing.

Installed correctly, metal roof systems provide comprehensive protection against wind, water, hail and fire.

RESISTANCE TO UV EXPOSURE

Storms and wildfires often dominate conversations about the destructive forces that can damage a roof—and for good reason. Protecting occupants from extreme storms and fire can be a matter of life or death. But another threat works more slowly: years of constant ultraviolet exposure.

Whether steep- or low-sloped, roofs bear the brunt of the sun. UV radiation is especially intense in the Southwest and high-altitude Mountain West, where prolonged exposure can accelerate the aging of roofing materials.

One of the most visible signs of UV-related degradation is chalking, which is a white, powdery residue that can form on a roof's surface. Chalking occurs when UV rays gradually break down the resins in a roof's protective coating. As the resins deteriorate, they no longer can effectively bind and protect the coating's pigments. Over time, the loss of this protective layer can leave the metal substrate more vulnerable to the elements.

Fortunately, advances in pre-applied coatings have significantly improved metal roofing's resistance to long-term UV exposure. Some metal roofing manufacturers will use a polyvinylidene



Advances in pre-applied coatings have significantly improved metal roofing's resistance to the damaging effects of long-term UV exposure.

fluoride coating formulated with a Kynar® resin. Unlike lower-performance coatings, this premium PVDF system suspends pigments within a highly durable resin that resists UV degradation, allowing the roof to maintain its original color and protective finish for decades.

For projects located in sunny, high-heat climates, selecting a metal roof with a high-performance coating can be just as important as selecting the right panel profile. Contractors who understand the role these premium PVDF coatings play can help home and building owners invest in a roof system that continues to perform well and maintain its beautiful appearance over its service life.

STYLE CONSIDERATIONS

Metal roof systems can significantly contribute to a home's or building's ability to stand resilient against acts of nature. They can also support a wide range of design aesthetics without complicating and potentially delaying construction.

Metal roofing substrates can be formed into several profiles. These profiles can range from options with exposed fastener systems to mechanically seamed profiles with concealed fasteners and more. Each profile type has several options within it, and each of those options can be formed into variable widths. This alone allows project teams to find the right balance of profile and panel width for a project while maintaining the original design intent.

A landmark property in hurricane-prone St. Petersburg, Fla., for example, was able to use a 1½-inch snap-lock profile to create a durable roof that preserved the historical feel of the residence. Likewise, a hotel in Ship Bottom, N.J., used a

1¾-inch snap-lock profile with a broad seam width. This profile is able to withstand the high design pressures of a coastal project and mimics historical nautical architecture with its panel design and color, a Kynar finish in Deep Blue Sea.

Metal roofs are available in more than 50 colors, including woodgrain-inspired patterns and metallics. This can help teams nudge a metal roof into the particular aesthetic a project deserves, whether a barn house red for board and batten-style projects or a brilliant copper for an Art Deco look.

But these colors do more than contribute to a home's or building's overall aesthetic. They can be instrumental in supporting sustainable construction practices by reflecting and re-emitting solar radiation by up to 90%. Known as "cool" roof colors, these options have a third-party-certified solar reflection index and support efficient operation and may even help mitigate the urban heat island effect, according to the Cool Roof Rating Council.

ADDED BENEFITS

The ability for metal roofs to contribute to a sustainable building practice goes beyond cool roof colors. The material content and end of life protocols, system design and more can all contribute to buildings that operate more efficiently in the long term.

In terms of materials, metal roofs contain up to 60% recycled material and can be 100% recyclable at the end of their service lives. By contributing to a circular economy and increasing the transparency about supply chains, these roof systems can contribute to credits toward several green building rating systems such as LEED, the Living Building Challenge and similar life-cycle assessment-based certification frameworks while also playing a crucial role in helping reduce the billions of pounds of roofing waste generated in the U.S. each year, as reported by the Environmental Protection Agency. The waste reduction is further compounded by metal roofs' 40- to 60-year lifespans.

A roof that needs to be replaced less often means

a greener project overall because less energy is spent and carbon is wasted on replacement materials and disposal of old roofing debris.

In terms of design, metal roofing panels can incorporate rigid roofing insulation to improve a building's thermal performance. Given about 25% of a building's heat loss occurs through the roof, a well-insulated system can support not only a more sustainable occupancy phase but also lower building operating costs in the long term by reducing the energy needed to keep an interior comfortable.

Metal roofs are also compatible with solar panels. Most panelized metal roofs allow the panels to be installed without penetrating the roof deck as they can simply clip into the standing seam, reducing the risk of leakage and creating zero damage to the roof itself. Along with the durability and long service lives of metal roofs, this minimizes the need for repair and reinstallation, which lowers the total cost of ownership for the end-user.

Although the decisions about a project's sustainability goals ultimately rest with the owner and design teams, these goals are increasingly becoming the standard for new buildings and retrofits. Roofing contractors who can install metal roof systems may be better positioned to handle future project demands than those who cannot.

INSTALLATION EFFICIENCIES

The performance of any roof system depends on more than the material alone. Even the most weather-resistant roof panel must be installed correctly to deliver the wind, water, hail and fire performance it was designed to provide. Fortunately, metal roof systems offer advantages that help contractors achieve installation efficiencies and long-term quality.

For instance, metal panels can be delivered to a job site fully formed or fabricated on-site by coil contractors. This flexibility can simplify logistics, reduce site congestion and help crews adapt to changing project schedules. Contractors who have invested in portable roll-forming equipment can order coils directly from certified dealers, fabricate

panels to the exact dimensions required and minimize material waste while streamlining installation.

As with any roofing material, metal has a few quirky but natural behaviors contractors should understand, including the oil-canning phenomenon and the occasional "popping" or creaking that can happen during thermal expansion and contraction. Proper material selection and installation practices, such as leveraging heavier gauges, rib options, narrower panel widths, careful color selection, working on smooth deck surfaces and avoiding over-tightening fasteners can help minimize these potential issues. Ultimately, understanding and accommodating the natural movement of metal panels can help ensure a successful installation and long-term roof performance.

LOOKING AHEAD

As weather events become more frequent and severe across many parts of the U.S., roofing contractors are increasingly being asked to recommend systems that deliver reliable, long-term protection across a wide range of environmental conditions. From hurricane-force winds and hailstorms to wildfires, prolonged UV exposure and decades of everyday weathering, metal roof systems provide a level of all-around resilience few roofing materials can match.

Contractors who understand these performance characteristics are better equipped to recommend the right roof for each project, reduce callbacks and deliver the lasting value home and building owners expect today. ☁️🌧️❄️

MIKE WEIS is vice president of sales at Carlisle Architectural Metals, Waukesha, Wis.

Metal roof panels are available in more than 50 colors: from a barn house red for board and batten-style projects or a brilliant copper for an Art Deco look.





The exhibit hall roof under construction



ROOFING FOR



HEROES

KPost Company helps build the National Medal of Honor Museum in Texas

by Chrystine Elle Hanus

The National Medal of Honor Museum in Arlington, Texas, is a permanent tribute to the sacrifice, courage, commitment, integrity and patriotism of the U.S.' most decorated service members in uniform. Designed to inspire and educate future generations, the museum carries deep national significance.

Funded by the National Medal of Honor Museum Foundation, construction of the museum began in March 2022. KPost Company, Dallas, was selected by the general contractor, Linbeck Group LLC, Austin, Texas, to install multiple roof systems while working with complex geometry, various elevations and hundreds of structural steel penetrations.

THREE UNIQUE ROOFS

The 102,000-square-foot landmark building was designed by Rafael Vinoly Architects, New York, N.Y., to symbolize the weight and responsibility carried by Medal of Honor recipients.

The museum's centerpiece is a 200- by 200-foot "box" that appears to hover 40 feet above ground, representing the heavy burden carried in battle by medal recipients. The box is supported by five monumental mega-columns, each representing a traditional branch of the U.S. Armed Forces to symbolize collective strength and unity. To represent the U.S. Space Force, a central oculus pierces the box, allowing a dramatic source of natural light.

Before KPost Company began roofing operations in October 2023, the team installed safety guard rails around roof perimeters to protect workers from fall hazards. For work within 6 feet of the roof's edge, workers were 100% tied-off.



Hundreds of steel penetrations on the exhibit hall roof required meticulous attention to detail. Newly constructed National Medal of Honor Museum

Exhibit hall

On the 40,000-square-foot roof area on the box supported by concrete pillars, the team mechanically fastened Georgia-Pacific DensDeck® Roof Boards to the steel frame followed by Soprema Elastophene® SP 2.2. SBS polymer-modified bitumen membrane as a temporary roof and to dry in the building. Crew members then constructed a Celcore Roof Deck Insulating System that included cellular insulating concrete, SBS polymer-modified bitumen and expanded polystyrene insulation boards.

“The Celcore lightweight insulating concrete system provided a durable, high-performance thermal barrier and slope-to-drain solution while accommodating the structural and design requirements of the museum’s low-profile roofline,” says Andy Valdez, senior estimator for KPost Company.

Next, the team applied two layers of SOPREMA Sopralene® 180 Sanded 2.2 SBS polymer-modified bitumen membrane capped with Alsan® RS two-component PMMA liquid membrane around more than 450 structural steel penetrations.

“With numerous roof penetrations, complex roof geometry, strict wind-performance requirements and a fast-track schedule, this project pushed the limits of traditional roofing practices,” says Mark DeFreitas, vice president of national and strategic accounts at SOPREMA US, Wadsworth, Ohio. “KPost rose to the occasion, delivering a seamless installation.”

Flashings at curbs and walls and around more than 150 penetrations were accomplished by

heat-welding Sopralene FLAM 180 SBS polymer-modified bitumen membrane and Sopralene 180 SP 3.0 SBS polymer-modified bitumen membrane and applying Alsan RS 230 Flash liquid resin.

“The team installed the roof with meticulous attention to detail around hundreds of steel penetrations,” says Billy Ward, superintendent for KPost Company. “These penetrations supported the structural framing of the metal panels, requiring custom detailing and flashing to maintain the waterproofing integrity of the system. Each penetration was integrated into the system to ensure long-term performance under high-demand conditions.”

During the final stages of this roof area’s installation, cold-formed metal framing was concurrently being installed by other trades workers 2 feet above the roof surface.

“This required tight coordination to protect finished roof areas and maintain the tight construction schedule,” Ward says.

Despite challenges, the KPost Company team remained on schedule and maintained 100% safety compliance with no lost time or injuries throughout the project.

Amphitheater roof

For the outdoor 2,160-square-foot amphitheater roof, the team installed an Overlay Panel Systems Evolution® architectural metal panel roof system to complement the museum’s bold, modern aesthetic. This included two layers of Carlisle® Insul-base 2.2-inch-thick polyisocyanurate insulation,

Project name: National Medal of Honor Museum
Project location: Arlington, Texas
Project duration: October 2023-March 2025
Roofing contractor: KPost Company, Dallas
Roofing materials: Aluminum panels, insulated steel panels, liquid-applied PMMA membrane and polymer-modified bitumen membrane
Roofing manufacturers: Celcore Inc., Black Mountain, N.C.; East Coast Metal Systems Inc., Tridelpia, W.Va.; Georgia-Pacific Gypsum LLC, Atlanta; Henry,® a Carlisle Company, Kimberton, Pa.; Kingspan® Group, Terrell, Texas; SOPREMA, Wadsworth, Ohio



Aerial view of museum



Completed pumphouse roof

¾-inch-thick fire-retardant-treated plywood fastening substrate and self-adhering Carlisle WIP 300HT rubberized asphalt underlayment.

Pumphouse roof

For the 593-square-foot pump house roof, the team installed a Kingspan® KingRib® 3 insulated roof panel system over steel purlins. All flashings and trim were custom-fabricated from prefinished 26-gauge Galvalume® sheet by KPost Company craftsmen to match the panel finish.

Other sheet-metal work fabricated and installed by the crew included copings, coping cleats, other perimeter flashings and drip edges.

With multiple trades working overhead and around critical roof areas, coordination was key.

“Our team collaborated with the general contractor, architects and SOPREMA representatives to ensure every step of the roofing scope was completed with zero compromises to quality and safety—all while staying on schedule,” says Austin Anderson, director of project management for KPost Company.

“I had the opportunity to work closely with the KPost team from early design through the final inspection,” DeFreitas adds. “Their dedication to quality, safety and collaboration was evident at every step of this high-profile project.”

A PROPER SALUTE

In March 2025, the KPost Company team completed work on the National Medal of Honor

What is the MEDAL OF HONOR?

The Medal of Honor is the highest U.S. military award given to military members, often posthumously, for “conspicuous gallantry and intrepidity at the risk of life above and beyond the call of duty.” It is awarded by the U.S. president, typically during a formal ceremony at the White House.

There are three variations of the Medal of Honor: the Department of the Army, Department of the Navy and Department of the Air Force. All three feature a five-point star hung from a blue neck ribbon, but each features a different centerpiece.

Since its creation in 1861, 3,520 Medals of Honor have been awarded to members of the Air Force, Army, Coast Guard and Marine Corps. Nineteen service members have received the Medal of Honor twice, all for actions during or before World War I. Theodore Roosevelt is the only president to have received the award; he was given it posthumously in 2001 in recognition of his actions during the Spanish-American War 100 years prior. Mary Walker, M.D., a civilian who served with the Army during the Civil War, is the only female Medal of Honor recipient.

National Medal of Honor Day is March 25 to acknowledge and honor all recipients. Members of the Congressional Medal of Honor Society mark the day by laying a wreath at the Tomb of the Unknown Soldier in Arlington National Cemetery, Arlington, Va.

For a list of all Medal of Honor recipients, visit the Congressional Medal of Honor website at cmohs.org/recipients.

Museum. The project was highly technical, high profile and full of moving parts. Its bold architecture left no room for mistakes.

“This wasn’t just another roof,” says Steve Little, president of KPost Company. “Every trade on-site knew this building stood for something special, and the teams treated it with the respect it deserved. Workmanship was at the core of this project’s success. It pushed the team technically and logistically, and it reminded us why we take pride in this trade.

“Every bend, cleat and fastener placement mattered,” Little continues. “It had to look sharp, hold strong and shed water—all at the same time. That took skill, training and pride not just tools. From craftsmanship to coordination, this project reflects the best of what the men and women at KPost Company do.”

For its work on the National Medal of Honor Museum, KPost Company was selected as a 2026 NRCA Gold Circle Awards winner in the Outstanding Workmanship: Low-slope category.

“The National Medal of Honor of Museum exists to honor our country’s most courageous heroes and to pass on their values of service, sacrifice and integrity,” DeFreitas says. “Building a facility worthy of that mission demanded not just technical expertise but an extraordinary level of care, coordination and accountability. KPost Company met that challenge head on.” 🌟🏆

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



FIND A CHAMPION

How to improve the quality of commercial low-slope roofs in new construction

by Jason Wilen, AIA, NCARB, CDT, RRO, and Nick Casaletto, AIA, BECxp, CEBA, CxA+BE, CDT, LEED AP BD+C, RRO

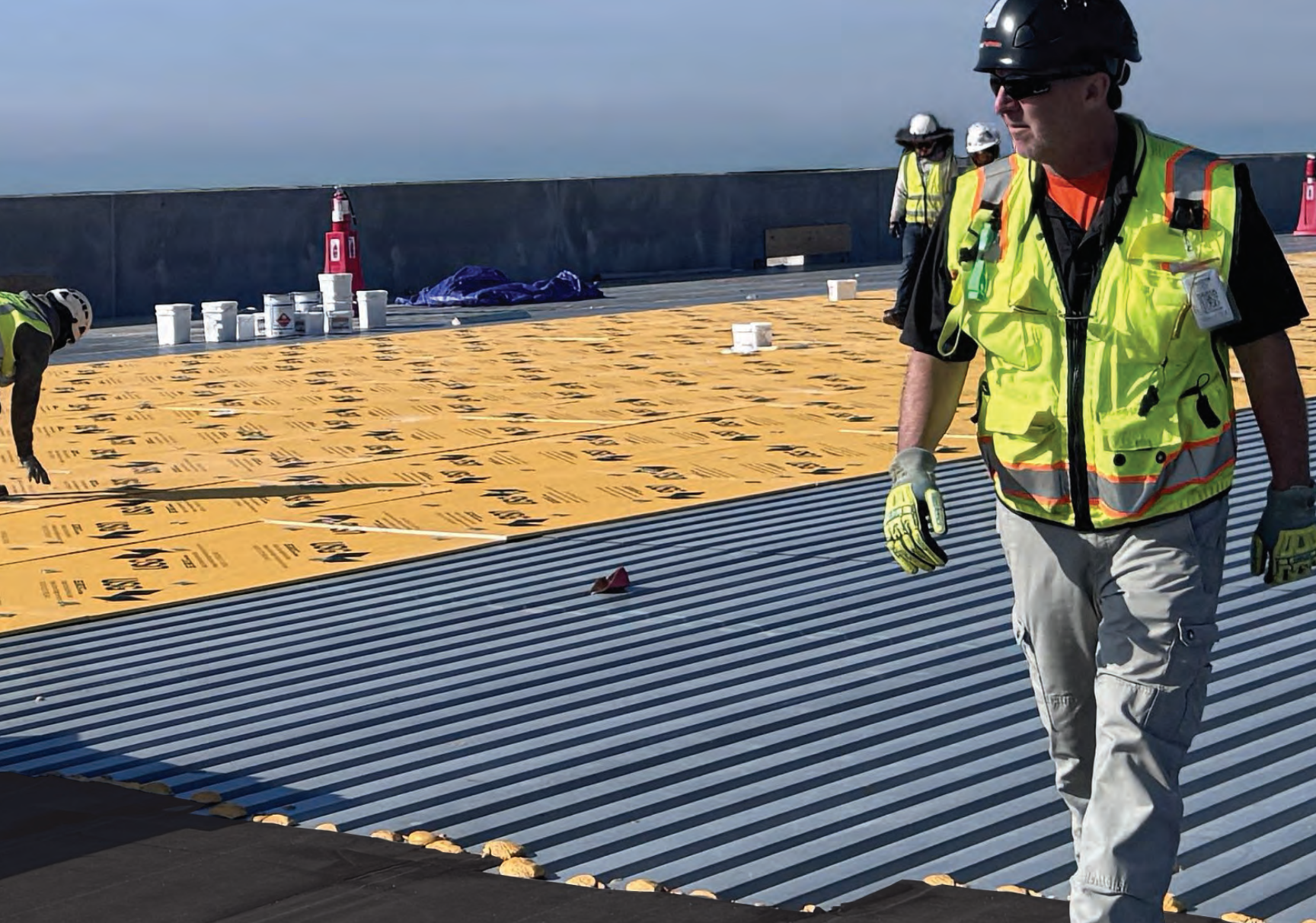
In commercial construction, few building systems are asked to do more with less attention than low-slope membrane roofs. They affect multiple trades, budgets and schedules and often serve as the platform for other systems, such as solar panel arrays, amenity areas and critical building mechanical equipment, among others.

Yet responsibility for long-term performance is often fragmented between design and construction, which results in roof systems that may “meet the documents” but fail buildings over time relative to expectations. Successful low-slope membrane roof systems depend on a clear point person (or

persons) for every project: a champion of quality who advocates for roofs from early design decisions through final installation. These people are not just checking details; they are aligning design intent, constructability, materials and sequencing with the owner’s programs and goals.

A project without a roof “champion” risks unfavorable outcomes. By maintaining continuity and accountability throughout the process, a roof champion helps ensure a finished system performs as intended not just on day one but for decades.

This role may be assumed by building enclosure consultants, architects, roof system designers,



owner's representatives or commissioning authorities. In some cases, highly engaged general contractors or even roofing subcontractors may take on this responsibility. What distinguishes roof champions is their commitment to safeguarding roof system performance across all project phases.

Roof champions serve as advocates for roofs, protecting critical system components from compromise by inappropriate value engineering or cost-driven substitutions. They also act as coordinators, aligning the efforts of multiple trades whose work intersects with roof systems, and ensure installation practices conform not only to construction documents but also to manufacturer requirements and industry standards. Most importantly, they provide continuity, preserving institutional knowledge as project teams evolve and ensuring design intent and key design decisions are not lost or diluted during construction.

CODES AND STANDARDS

To achieve high-quality low-slope membrane roofs, it is important to recognize building codes and standards establish the minimum acceptable construction quality. Roof system designers, typically architects of record (the professionals who stamp permit documents), and roof champions should have a thorough understanding of the code requirements specific to the jurisdictions where their projects are located. Staying up to date on the latest model code requirements for low-slope membrane roofs is also beneficial as these provisions should be considered when determining the standard of care for construction, especially in areas that have not yet adopted the most current codes or standards.

The most widely adopted model codes among U.S. local jurisdictions are the International Codes

(I-Codes), a family of building and energy conservation codes. Although code compliance does not, in general, guarantee performance, the base requirements for low-slope commercial roofs are mature and, in many instances, predate the I-Codes. Minimum requirements have also become more stringent over time. In our experience, low-slope membrane roofs compliant with current code requirements for drainage and wind-uplift resistance tend to perform better over time whereas roofs that are not code-compliant, especially with drainage and wind pressure provisions, are more likely to have shorter service lives and experience failures. Roof champions should understand code requirements in jurisdictions where roofs are constructed and be empowered to confirm compliance.

The *2024 International Building Code®* is the most current volume of the I-Codes. Chapter 15, “Roof Assemblies and Rooftop Structures,” contains minimum requirements for roofs installed during new construction. The chapter incorporates relevant standards by reference and references IBC’s Chapter 16, “Structural Design,” and the International Plumbing Code,® Chapter 11, “Storm Drainage,” for roof system drainage requirements.

The term “roof covering” is commonly used in building codes. However, the term can be misleading and some may believe it refers only to the top surfaces of roofs rather than all the layers of material and attachments above roof decks. It’s important to realize all layers of roofing materials compose the roof covering and are subject to code requirements as a system.

WIND AND FIRE

There are two primary attributes of low-slope membrane roofs that are determined by overall roof assemblies. Roof system manufacturers test their product assemblies (all components that make up roofs installed on particular roof deck types) and report test results using test methods specified in IBC Chapter 15. Roof system designers determine minimum required performance based on the following attributes:

Wind-uplift pressure resistance: For adhered and mechanically attached roof assemblies, roof system designers calculate minimum design pressures per ASCE 7-22, “Minimum Design Loads And Associated Criteria For Buildings And Other Structures.” Manufacturers test roof assemblies in accordance with various standards and can certify the tested performance meets or exceeds the minimum calculated design pressures. Roof champions should ask for written certification from manufacturers to document compliance.

The acceptable use of ballasted roof assemblies and roof assemblies with ballasted components has become more restricted over time, and limitations have been added to relevant code sections, including the requirement for mandatory parapets and lower maximum roof deck heights. Roof champions should review calculations from roof system designers to document compliance.

Roof edge metal: A common failure mode for low-slope membrane roofs occurs when wind gets under the membrane edges, causing membrane peel failures (roof blow off). To prevent this, metal edges or copings are often used to secure membrane edges. Such roof edges are required to resist calculated wind pressures based on the calculated minimum uplift design pressure of roof membranes for particular projects as defined in ANSI/SPRI ES-1, “Test Standard for Edge Systems Used with Low Slope Roofing Systems,” which also defines test methods where metal edge configurations are tested to determine maximum pressure resistance.

External gutter systems design and test methods are defined in ANSI/SPRI GT-1, “Test Standard for Gutter Systems.” Roof champions should advocate for roof system designers to specify a gutter size/



Existing ballasted roof assembly that a roof champion reviewed for roof deflection

profile that has been tested or installers should provide a GT-1 tested profile demonstrating the intended metal edge configurations meet or exceed the calculated design pressures.

Fire classification: Roof system designers refer to IBC Table 1505.1, which indicates the minimum roof assembly external fire classification for various types of construction. Most buildings require roof assemblies be tested and achieve at least a Class B rating in accordance with ASTM E108 or UL 790, both of which are named “Standard Test Methods for Fire Tests of Roof Coverings.” Manufacturers can provide test reports that certify the minimum tested fire classification. Roof champions should ask for written certification from manufacturers to document compliance.

ROOF DRAINAGE

In most jurisdictions, the code requires roof system designers to calculate the minimum capacities of primary and secondary roof drainage points based on the rain intensity at the building location and roof area configuration. Certain building use types (also called risk categories) require more robust drainage, such as those buildings considered essential in emergency situations or with large occupancies.

IBC’s Chapter 16 indicates roof system designers are responsible for determining prescribed rainfall intensities at project sites and designing roof drainage capacity so stormwater does not overload structural systems of buildings even when all primary drainage system points become blocked or non-functional at the same time.

Primary drainage

Primary drainage points—roof drains and scuppers or a combination of both—are required to be sized according to calculated water flow at each drainage point. Roof system designers determine the areas of roofs and portions of adjacent walls that will flow to each drainage point based on the roof slope. Once calculated, each drain or scupper, along with related storm drainage elements

(leaders, storm drainage piping, etc.), is sized to the calculated flow.

Rain intensity is larger for Risk Category III and IV buildings. IBC addresses minimum roof slope for new construction based on specific roof system types being used; generally, $\frac{1}{4}$ of an inch per foot is required. Roof system types not included in the code are required to comply with minimum slopes for those systems that are in the code. IPC provides a formula to convert rain intensity times roof area to gallons per minute (flow). Determining the drainage capacity of scuppers is more complex; FM Product Loss Data Sheet 1-54, “Roof Loads and Drainage,” is a helpful reference.

As requirements extend beyond the scope of roof system designers, coordination is needed with designers of the overall storm drainage system, and roof champions should facilitate communication and coordination.

Secondary drainage

Secondary drainage requirements require roof system designers to determine the rain load that will accumulate on roofs, imagining all primary roof drains and scuppers are blocked simultaneously. Often, overflow drains are used to limit the rain load, and such drains must be piped independently of primary storm drainage systems and drain to grade not to the storm drainage system. When overflow scuppers are used, water is permitted to flow directly to grade (conductor boxes and downspouts are not required). Overflow can also occur at roof edges without parapets or at curbs or short parapets provided roof decks are designed to accommodate anticipated rain loads and roof deck deflections.

IBC references ASCE 7’s Chapter 8, which notes the calculation methodology and requirements to avoid ponding instability. Assumed rain intensity is about double compared with the rain intensity assumed when sizing primary drainage points and



A roof champion reviewed the construction detailing at this parapet interface.

larger still for Risk Category III and IV buildings. As a result, the minimum capacity of drainage points should be calculated rather than assumed to be similar to primary drainage requirements.

As requirements extend beyond the scope of roof system designers, coordination is needed with structural designers of roof decks, and roof champions should facilitate communication and coordination.

ENERGY CONSERVATION

Most states and some local jurisdictions have energy conservation code requirements for new construction. There are typically two general paths to demonstrate compliance: prescriptive compliance or simulated building performance (previously called “total building performance” in the 2021 International Energy Conservation Code®). Requirements vary depending on climate zone. Once a compliance path is established, all building systems, including low-slope membrane roofs, are subject to that path.

IECC lists compliance paths for commercial buildings. Note most jurisdictions allow project teams to select IECC or ASHRAE 90.1, “Energy Standard for Sites and Buildings Except Low-Rise Residential Buildings.” For low-slope membrane roofs, the relevant ASHRAE 90.1 requirements are similar. Additionally, the chosen compliance path must be noted on permit drawings per IECC along with other pertinent information.

Climate zones are listed in IECC’s Chapter 3 and are based on the county or parish where buildings are located. For the purposes of this article, IECC commercial prescriptive path require-

ments are discussed. Roof champions should be familiar with the energy conservation code information required on documents per IECC and coordinate with roof system designers to confirm the required information when documents omit required data.

For low-slope membrane roof systems, regardless of the compliance path used, there are three relevant categories of requirements:

- *Minimum R-value.* This requirement determines the minimum acceptable thermal resistance of low-slope membrane roof systems (it also can be expressed as a maximum allowable U-factor). In most cases, a roof system’s overall R-value is achieved with insulation components. When insulation is used entirely above a roof deck, the requirement is less stringent than when insulation is used in whole or in part below a roof deck. This is because insulation above roof decks is generally continuous, and insulation below roof decks is usually interrupted by structural elements. It is common for insulation thickness (and R-values) to vary across roofs, especially when tapered insulation systems are used to develop roof slopes. It is generally acceptable to calculate and use an average R-value over large roof areas to demonstrate compliance. IECC Table C402.1.3 lists the minimum required R-value for roof systems by climate zone. IECC also contains requirements for the installation and configuration of roof system insulation. Roof champions should coordinate with roof system designers and installers to confirm overall R-value compliance strategies. Coordination is generally needed with designers and installers of adjacent systems because overall roof system thicknesses have ramifications for transitions between systems and for roof drainage paths.
- *Minimum solar reflectance and thermal emittance.* Roof systems installed above mechanically cooled (air-conditioned) spaces in more southerly locations (generally Climate Zones 0-3) and in select more northerly jurisdictions require roof system surfaces to be highly reflective and emissive (release heat). IECC Table C402.4 lists minimum reflectance and emittance values for roof membranes, and IECC lists situations where roofs, or portions of roofs, that would otherwise have to comply



This solar array is an example of when a roof champion can review construction detailing.

are exempt from requirements. Roof champions should understand where such requirements exist and when roofs are exempt. If local jurisdictions have adopted reflectance and emittance requirements, roof champions should coordinate with roof system designers to understand condensation potential during winter months and the use of vapor barriers within roof systems to prevent condensation within roof systems and related damage.

- *Minimum air leakage.* Most jurisdictions require continuous air barriers to be provided throughout building enclosures (roofs and exterior walls) to prevent conditioned interior air from leaking to the exterior. Air barrier components may be located inside, outside or within building enclosure elements (including low-slope membrane roofs). IECC requires air barrier detailing and transitions to be included in construction documents. Completed air barriers must be verified in accordance with IECC. Roof champions should understand the design team's strategies for complying with air leakage requirements for each project and coordinate with building enclosure system installers to ensure the sequencing of work is coordinated.

ROOFING-ADJACENT SYSTEMS

In addition to low-slope membrane roof-related code requirements identified, there are other requirements roof champions should be aware of. These include:

- *Rooftop photovoltaic systems.* IBC requires rooftop-mounted PV panel systems be tested, listed and identified with a fire classification in accordance with UL 2703, "Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels," and that the fire classification meet or exceed the required fire classification of the roof system where they are installed. IBC includes structural requirements related to PV panel systems.



A roof champion can observe torch-down vapor retarder installation.

- *Vegetative roof areas:* IBC requires vegetative roof areas (sometimes referred to as landscaped roofs or green roofs) to be installed according to ANSI/SPRI VF-1, "External Fire Design Standard for Vegetative Roofs." Also, the International Fire Code® includes requirements for vegetative roofs.
- *Pedestal paver systems.* IBC requires pedestal paver systems, sometimes called "raised deck systems," to be designed to resist wind loads. For systems installed at height, it is common for manufacturers to require lock-down systems with perimeter hold-downs. IBC requires perimeter enclosures at the edges of pedestal paver systems to prevent fire intrusion below the pavers. Such systems also are required to be tested and have a fire classification equal to the minimum required for roof systems where they are installed.

TROUBLE SPOTS

Because of how long codes and standards have been in effect, it can seem puzzling why roofs are subject to such varying degrees of performance.

The challenge is performance issues develop through cumulative complexities of the construction process and fragmentation of responsibility.

For example, erosion of intent occurs with small compromises in materials, sequencing and coordination across the lives of projects.

The construction process, with its competing priorities, is where even well-designed systems are most vulnerable. A roof champion should be positioned to resist this erosion.

Responsibility fragments occur because each stakeholder approaches a project from a different perspective. Designers define assemblies based on code, experience and manufacturer guidance. Contractors receive documents and reinterpret them through the lens of cost, schedule and subcontractor capabilities. Subcontractors execute the work within constraints that may differ substantially from those originally assumed.

As a result, recurring failure points emerge:

- Value engineering during design and roof system procurement alters performance characteristics.
- Bad handoff into the construction phase results in final design details not accurately relayed to field teams and open items at this transition are no longer tracked.
- Inconsistent quality assurance and control could exist during installation, especially coordination gaps between roofing workers and interfacing trades.

These issues commonly align with known failure patterns in low-slope roofing, such as poor drainage design, inadequate flashing details and incompatible materials. Even if documents are followed, roof systems may still underperform. Roof systems are highly interdependent assemblies of multiple components; deficiencies in any component can cascade into system-wide failures.

And as projects move toward substantial completion, a subtle risk arises when staff is reassigned to other projects coming online, leaving team members who haven't been deeply entrenched in roof construction to oversee final execution and detailing. This transition can significantly reduce oversight at precisely the moment when it is most needed, such as flashing roof interfaces, tying in expansion joints sequenced later in schedules, closing out punch list items or

managing incidental damage from other trades who are wrapping up their scopes.

This same transition also creates voids in the critical context surrounding earlier design decisions, accepted substitutions or sequencing strategies that may no longer be readily available, increasing the risk of misinterpretation or incomplete execution during the final stages of a project. In these conditions, there is often a greater reliance on subcontractors to self-manage quality, which can lead to inconsistencies in installation and documentation.

Compounding these issues, the final portions of roofing work are typically performed under compressed schedules and constrained weather windows, heightening the risk of errors. Roof champions help stabilize this transition by maintaining consistent oversight.

ALIGNMENT

Delivering long-lasting low-slope roofs requires alignment across teams. Clear communication is paramount for maintaining alignment among stakeholders and ensuring proper documentation as roof system details are refined.

Roof champions use this upfront effort in the design phases as the roadmap for execution in the field, starting with active participation in pre-construction and planning meetings. These discussions are where roof champions confirm final design details are accurately relayed to field teams and the sequencing of roof systems is coordinated with overall project schedules. Even if there are outstanding submittals and requests for information regarding roof systems, it is vital roof champions continue to track them as installations begin.

This alignment is critical for achieving performance goals and for preserving warranty coverage. Modern roof warranties often depend on strict compliance with manufacturer specifications, approved materials and authorized installation practices. Deviations from these requirements, particularly when undocumented, can jeopardize coverage and leave project stakeholders exposed to significant future costs should issues arise.



A roof champion observed these workers installing through-wall scuppers.

Key stages of construction require careful review to confirm compliance with design and manufacturer requirements, especially when enhancements are necessary to qualify for longer warranty periods. Roof champions should review and confirm compliance, at least in part, and ensure other project team members have clear roles and responsibilities when it comes to quality control tasks. Experience tells us inspections alone do not guarantee performance.

Field documentation must be properly coordinated, reviewed and retained. Without such records, it is difficult to verify compliance and resolve disputes should they arise later. Roof champions serve as the central point of accountability in this process, tracking adherence to specifications, confirming substituted materials match the final approved submittals and ensuring deficiencies identified in the field are resolved before they become concealed within assemblies. Roof champions also coordinate the final compilation of documentation needed for warranty issuance, helping to ensure owners receive not only completed roofs but also verifiable and supportable systems.

ENVIRONMENTAL EXPOSURES

Even with strong design intent and disciplined coordination, roofing remains uniquely sensitive to real-world constraints because weather and schedule pressures can significantly influence outcomes. This also applies to the project at large where other trades are waiting on the “dry-in” predecessor task built into project schedules.

Temperature, humidity, precipitation and wind affect installation quality and everything from adhesive performance to seam-welding or adhering consistency. Even minor issues such as debris blowing under membranes can create small protrusion stresses. More severely, moisture can become trapped within assemblies if installation proceeds under unsuitable conditions, and wind can compromise partially completed systems.

Roof champions anticipate and manage these variables by promptly bringing weather forecasts and appropriate installation conditions to field

teams’ attention, allowing them to evaluate schedule adjustments as needed. They verify temporary dry-in measures are implemented and advise work not to proceed when conditions would compromise performance (which is an unpopular position when faced with fast-paced project schedules).

Equally important is roof champions advocating for coordination with other trades. Roofing-related operations rarely occur in isolation, and subsequent activities, such as installing rooftop equipment and adjacent systems, introduce new risks. Damage from foot traffic, unplanned penetrations and improper attachments are common sources of failure when work is not coordinated.

To that end, roof champions reinforce discipline across project teams, ensuring completed roof areas are protected from damage, penetrations are properly detailed and approved before installation and sequencing changes are carefully evaluated rather than improvised. In doing so, they help maintain roof system integrity despite the inherent unpredictability of construction environments.

A PERFORMANCE STRATEGY

The assertion every good roof needs a champion is grounded in the realities of modern construction. Fragmented responsibilities, evolving project teams and compressed schedules create conditions where even well-conceived systems can underperform.

Ultimately, roofs that achieve their intended service lives, maintain watertight performance and satisfy owner expectations are rarely the result of chance. They are the product of deliberate, sustained attention that, in many cases, can be traced back to the presence of dedicated roof champions who ensure roof systems receive the focus they deserve. 🧐🔍

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A roof champion investigated a leak at this exposed roof drain on an inverted roof membrane assembly with landscape overburden

MANUFACTURER NEWS



GAF launches roof contest

GAF, Parsippany, N.J., has launched the 2026 GAF Roof of the Year contest, designed to recognize outstanding roofing projects completed by contractors certified by GAF across the U.S.

Submissions will be accepted in five categories: Best Use of Premium Products, Most Challenging Roof, Helping Others in the Community, The Gold Standard and Best Metal Roof.

For each of the five categories, one grand prize-winning contractor and four runners-up will be selected, giving those professionals the opportunity to earn industry-leading recognition while showcasing their work to homeowners, peers and communities nationwide.

Each prize-winning contractor will receive \$10,000 in co-branded paid media support from GAF to help promote their business within their local market. In addition, each homeowner associated with a grand prize-winning project will receive a \$10,000 cash award; homeowners whose projects are selected as runners-up will receive \$1,000. All prize-winners will also receive recognition through digital badges that can be used to share their achievements with customers and local communities along with a case study featured on gaf.com.

For more information, visit roofoftheyear.com.

Polyglass announces fire-protection technology

Polyglass U.S.A Inc., Deerfield Beach, Fla., has announced a major milestone in fire-protection innovation with the company's Burn Shield® Technology for steep-slope underlayment. This reportedly marks Polyglass as the first manufacturer to receive CAL FIRE Building Materials Listing approval for a complete low-slope, Class A fire-rated polymer-modified bitumen roof system.

Engineered to slow the spread of fire, this new innovation provides extra time for building occupants to exit safely and first responders to assess the situation. The technology reportedly powers Polystick® XFR and Polyanchor® XFR: two Class A, CAL FIRE BML-listed underlayments.



IKO opens facilities in Florida

IKO Industries Inc., Wilmington, Del., has opened a manufacturing campus in Clay County, Fla., reportedly a \$250 million investment that will strengthen the company's North American footprint.

The 300,000-square-foot campus is IKO's first manufacturing facility in Florida. The campus will include three production lines dedicated to asphalt shingles, insulation boards and residential underlayment rolled roofing. The site is expected to employ more than 100 people locally and marks the company's eighth modern shingle production line.



CONTRACTOR NEWS

Pressure Point Roofing acquires Evergreen Roofing of Oregon

Pressure Point Roofing, Central Point, Ore., backed by Tambr Partners, has acquired **Evergreen Roofing of Oregon**, Eugene, Ore. Both are NRCA members.

The acquisition will bring together two long-established companies with complementary service offerings and a shared commitment to quality, customer service and their local communities. Evergreen Roofing will continue to operate under its own brand as part of the growing Pressure Point Roofing platform.

Weddle & Sons announces new partnership

Weddle & Sons Inc., Manhattan, Kan., has partnered with FirstRidge Service Partners, Minnetonka, Minn., a private equity-backed national alliance of roofing specialists. This marks the eighth brand to join Weddle & Sons since its inception less than three years ago.

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EVENTS

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nrca.net

7-9

METALCON

Metalcon

Orlando, Fla.

Contact: Metalcon

(617) 965-0055 or registration@metalcon.com
metalcon.com

14

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(866) ASK-NRCA (275-6722) or info@nrca.net
nrca.net

18-20

2026 IIBEC Building Enclosure Symposium

International Institute of Building Enclosure
Consultants

Indianapolis

Contact: IIBEC

(800) 828-1902
bes2026.iibec.org

21-23

Texas Roofing Conference

Roofing Contractors Association of Texas
Grapevine, Texas

Contact: RCAT Customer Service
(512) 251-7690 or rcat.net/contact-us
rcat.net

28-30

China International Roofing and Waterproofing Expo

China National Building
Waterproof Association
Beijing, China

Contact: Vivian Yan
vivian.yan@cnwb.net
chinaroofexpo.cn

28-30

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INFORMATION

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DISTRIBUTOR NEWS

ABC Supply acquires Koch Building Products

ABC Supply Co. Inc., Beloit, Wis., has acquired the assets of Koch Building Products, a longstanding distributor in Sandusky, Ohio. This acquisition strengthens ABC Supply's presence along the Lake Erie shoreline and will help improve service for contractors and builders in northern Ohio.

Kosch Building Products will continue operations as ABC Supply. All current associates will remain to ensure a smooth transition and continued service for customers. Jill Hartley, Koch Building Products leader and daughter of owner Randy Koch, will remain with the business during the transitional period to support the team and customer continuity.



UP THE LADDER

Amrize announced the appointment of **Konrad Wernthaler** as president of Gaco™ and Enverge®, two brands within Amrize's Building Envelope business.

MuleHide Products Co. Inc. has appointed three new territory managers. **Brandon Britsch** will manage the West Central and Southwest Florida territory; **Shane Mills** will lead the Tennessee territory; and **Conner Wilson** will lead the Northern California territory.

Sika Sarnafil Inc. has named **Laurie Hill** vice president of technical roofing/insulation. Hill has been at the company since 2000.



Wernthaler



Britsch



Mills



Wilson



Hill

OTHER NEWS

Roofing Alliance announces new leadership



The **Roofing Alliance** has announced its Board of Trustees for 2026-2027.

The volunteer-based leadership of the Roofing Alliance is composed of 210 dedicated roofing contractors, manufacturers, suppliers and distributors, service providers and industry professionals united in their commitment to shape, strengthen and advance the roofing industry.

The Roofing Alliance has named the following to its new leadership: President Sherri Miles, vice president of J.D. Miles & Sons Inc., Chesapeake, Va., and president of Miles Roofing Inc., Chesapeake; Vice President John Campbell, vice president of sales and marketing at Eagle Roofing Products, Rialto, Calif.; Secretary-Treasurer Jason Dark, vice president of commercial operations at Duro-Last Inc., Saginaw, Mich.; and Immediate Past President Greg Hudson, vice president of commercial excellence at Duro-Last Inc.

METALCON honors Legacy 10



METALCON is celebrating 35 years with its Legacy 10, a group of 10 companies that have exhibited at every METALCON since its debut in 1991.



The following NRCA members will be honored as part of the Legacy 10 during METALCON 2026, Oct. 7-9: ATAS International Inc., Allentown, Penn., and Englert Inc., Perth Amboy, N.J.

BRIEFINGS



NRCA NEW MEMBERS

ARCHITECTS/ENGINEERS/ CONSULTANTS

Copeland Building Envelope Consultants, Maynard, Mass.
Farnsworth Group, Normal, Ill.
Hale Associates LLC, Disputanta, Va.
J.S. Held LLC, Waleska, Ga.
KEAD Building Consultants LLC, Honolulu
Miller Building Group LLC, Gainesville, Fla.
Omega Insurance Appraisals, Jackson, Tenn.
RLGA Technical Services LLC, Scottsdale, Ariz.

CONTRACTORS

A L Best Construction Corp., Queens Village, N.Y.
AC Roofing Service LLC, Kennewick, Wash.
Affordable Quality Roofing LLC, Orlando, Fla.

AJF Roofing, Miami
Archway Roofing, Nashville, Tenn.
B&Z Custom Sheet Metal Inc., Orlando, Fla.
City Star Roofers, Sault Ste Marie, Ontario
Columbia Roofing Inc., Columbia, Md.
Curtis Edwards Roofing & Seamless Gutter Inc., Middletown, Calif.
David Taylor Construction Inc., Moultrie, Ga.
Falcon Building Corp., Centreville, Md.
Green Country Roofing, Tulsa, Okla.
Hexagon Roofing, Los Angeles
Highfill Exteriors, Henrico, Va.
JB Industrial Roofing LLC, Elkins, Ark.
Patriot Metal Roofing, Charlotte, N.C.
Residential Roofing Restoration LLC, Cleveland, Ohio
Roofing & Restoration of Florida, Palm Beach Gardens, Fla.
Rooftop Heroes, Ann Arbor, Mich.

UnderCover Roofing, Lexington, Ky.
Weather Guard Industries, Deerfield Beach, Fla.
Witch City Roofing Co. Inc., Salem, Mass.
Woodland and Associates, Boise, Idaho
MANUFACTURER/MANUFACTURER REP
EcoRoc, Orlando, Fla.

MEMBER BRANCHES

Bumble Roofing of Birmingham, Birmingham, Ala.
Bumble Roofing of Franklin, Columbia, Tenn.
Renaissance Historic Exteriors, Fenton, Mo.
Skycraft Roofing Inc., Buena Park, Calif.

SERVICE PROVIDERS

10X Roofing, Scottsdale, Ariz.
Isuzu Commercial Truck of America Inc., Anaheim, Calif.
Reworked AI, Miami



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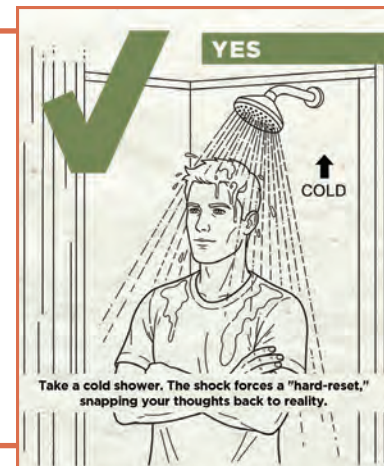
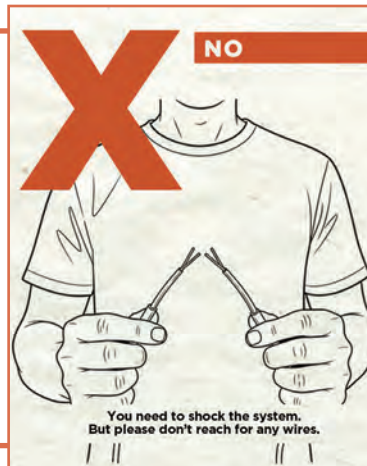
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Source: *Man Therapy*

To learn more about NRCA x Man Therapy, go to betoughenough.org.



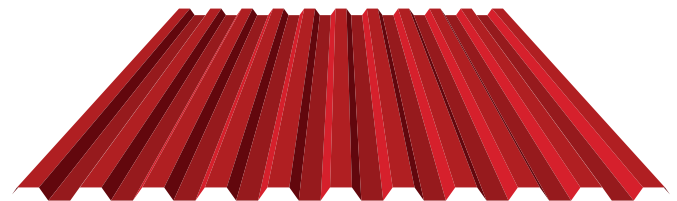
Rockefeller Center

In 1930, the first green roof in the U.S. was built on top of the Rockefeller Center building in New York.

Source: *National Association of Home Builders*



40-60 YEARS



The average life span of a metal roof

Source: *legacyhomeroofing.com*

To learn more about metal roofs, go to page 30.



Leaking

The most common reason **(33%)** homeowners report for needing a new roof

Source: *rubyhome.com*



1996

The year NRCA restored a townhouse in Washington, D.C., to serve as its office in the nation's capital



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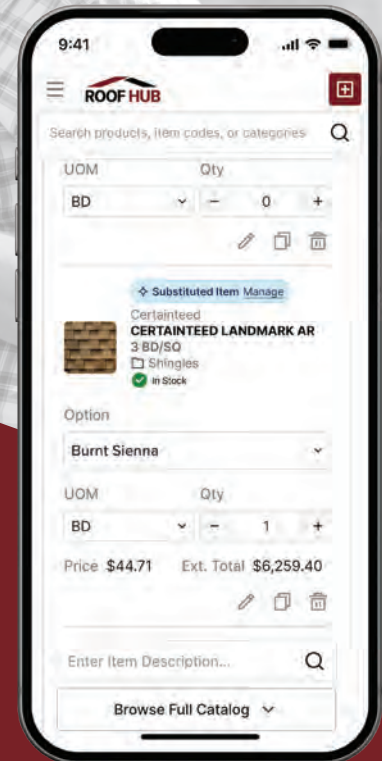
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