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Brace yourself

The onslaught of contracts from the new infrastructure bill will not be easy to fulfill

by Ambika Puniani Reid



To access NRCA's workforce recruitment resources, go to professionalroofing.net.

The bipartisan infrastructure bill that passed Congress Nov. 11, 2021, is set to release \$1 trillion in federal infrastructure money. The influx of funds and projects means an increased demand for construction work and workers, and construction companies are concerned they won't be able to find enough help to meet demand.

The U.S. currently is facing overall low unemployment fueled by a rebound from the COVID-19 pandemic. In addition, the \$600 billion earmarked in the bill for transportation funding is going head to head with the construction industry's interests in finding new workers.

Brian Turmail, Associated General Contractors of America's industry group's vice president of public affairs and strategic initiatives, told *The Wall Street Journal*: "The severity of the labor shortage means you're paying workers more and your construction schedules are longer, both of which are big drivers in overall cost."

The Wall Street Journal also reports Moody's Analytics anticipates the peak of the bill's effects will be felt in the fourth quarter of 2025 when nearly 872,000 new jobs will be needed to complete projects throughout the U.S.

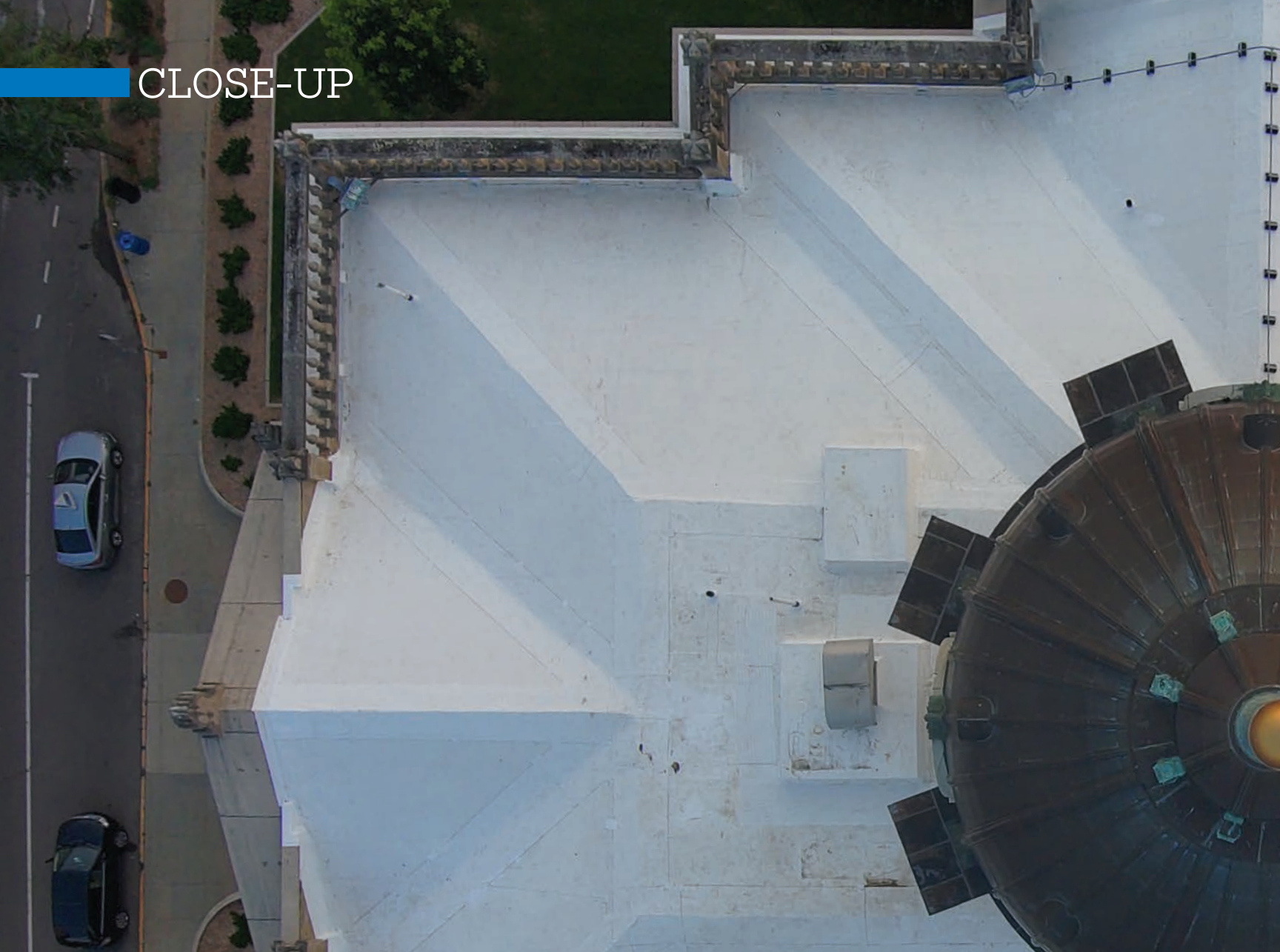
For its part, the government has announced it will host a talent pipeline challenge to provide construction job training, but even with these efforts, the construction industry at large continues to face an aging workforce and is competing with work-from-home occupations that are not as dirty or dangerous.

AGC expects wages to increase sharply as a result. The Bureau of Labor Statistics reports average hourly wages for craftsmen rose 6.2% from a year earlier—the fastest rate since 1982.

Ananth Prasad, president of the Florida Transportation Builders' Association, told *The Wall Street Journal*: "We need to have a conversation as a country about how we support a qualified workforce to do the things we want to do."

But until that happens, companies are improving benefits, workplace culture and amenities and hoping for the best.

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

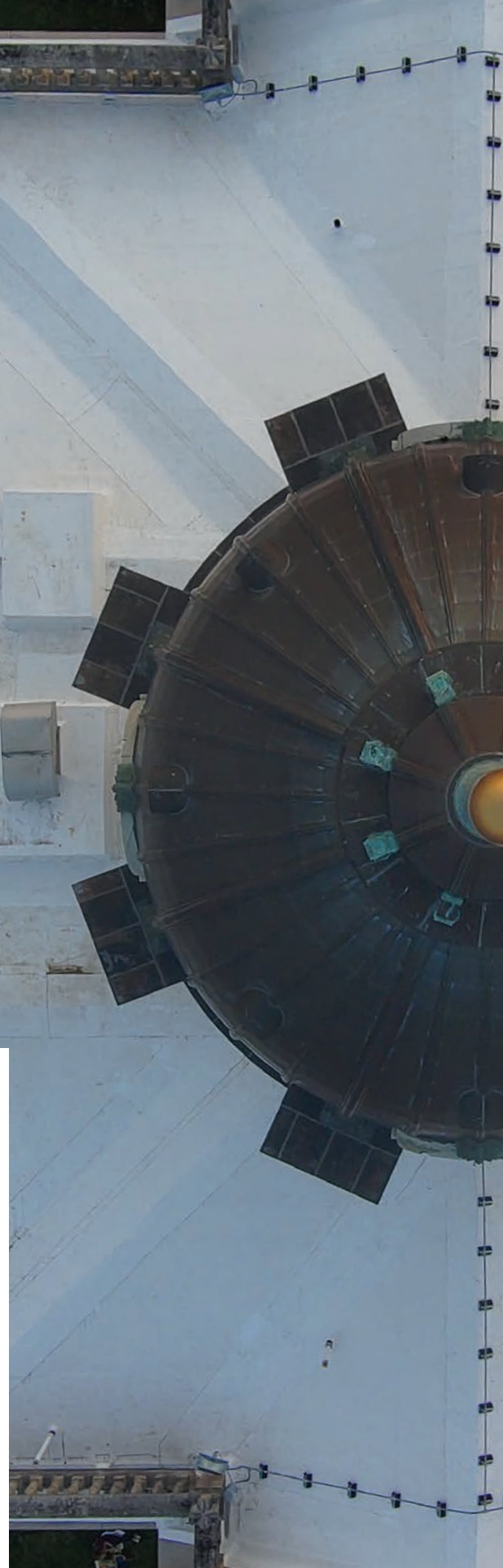


Built between 1900 and 1903, the McLean County Museum of History in downtown Bloomington, Ill., is an American Renaissance-style structure formerly used as McLean County's courthouse. The building features a limestone-clad façade with a steep-slope roof that connects the built-in gutter to a clocktower dome.

After extensive water damage from an aging roof threatened to destroy treasured artifacts housed in the nationally accredited museum, the McLean County Board hired Western Specialty Contractors, St. Louis, to replace the roof system.

The crew removed the four-ply, built-up roof system down to the clay tile deck and replaced it with a Firestone UltraPly™ TPO membrane roof system. Western Specialty Contractors' Springfield, Ill., branch also participated in the project by grinding out reglets, reworking clay tiles around drain replacements, and cleaning and sealing limestone at the gutter's edge.

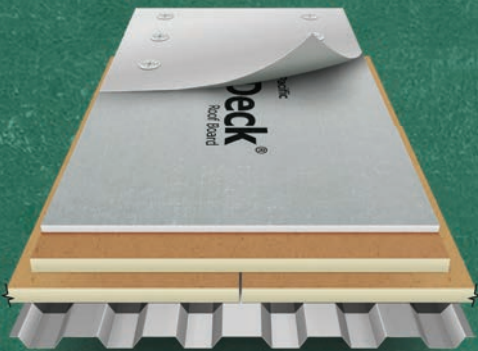
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THE THREAT OF COMMERCIAL ROOF DAMAGE COMES IN SIZE

11



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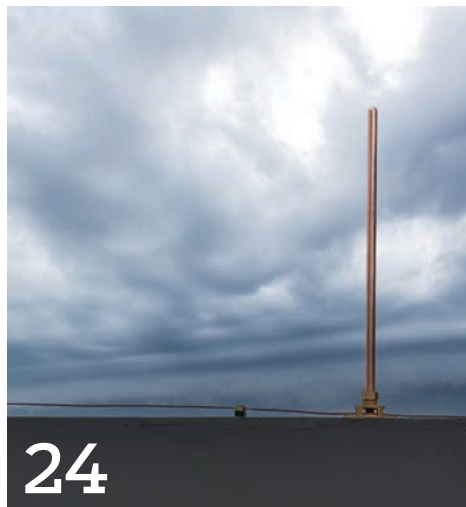
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Rustic Design

With a metal roof in a weathered steel finish



A metal roof in a Weathered Steel finish gives this wildlife refuge visitor center a classic farm-style look reminiscent of agricultural buildings seen at the time of President Roosevelt's visit to this area.

Theodore Roosevelt Visitor Center, Onward, MS Installing Contractor: Central Roofing
Architect: John S. Odom Photo: hortonphotoinc.com



[View the case study](#)

PAC-150 (180° seam)
Metal Roof System
Weathered Steel Finish



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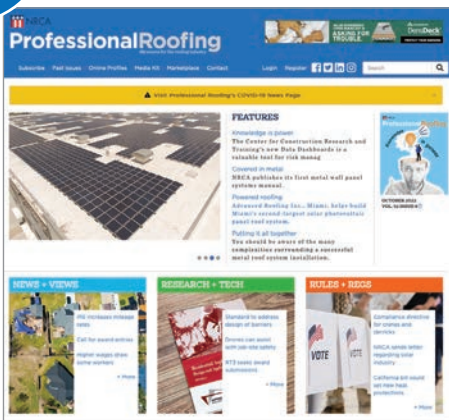
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#HASHTAG

#HISPANICHERITAGEMONTH

Hispanic Heritage Month was Sept. 15 to Oct. 15 and celebrates the histories, cultures and contributions of U.S. citizens whose ancestors came from Spain, Mexico, the Caribbean, Central America and/or South America. The latest labor force statistics from the 2021 Current Population Survey show Hispanics make up 31.5% of the construction workforce. Check out how the roofing industry celebrated #HispanicHeritageMonth across social media!



NRCA-Ruferos de los buenos
September 15 at 12:00 PM · 🌐

This month we celebrate working and building a better future for our partners. We are proud to be Latinos, we are proud to be roofers! 100% roofers of the good ones.



Empire Roofing Inc.
September 16 at 1:00 PM · 🌐

Celebrating National Hispanic Heritage Month. We honor their heritage and celebrate the Independence Days of Mexico, Guatemala, El Salvador, Costa Rica, Honduras, Belize, Nicaragua & Chile! #NationalHispanicHeritageMonth #TheEmpireWay #roofers



Nations Roof
September 15 at 10:33 AM · 🌐

Join us as we celebrate the rich heritage and incredible contributions of our Hispanic and Latino team members! #Unidos #HispanicHeritageMonth #Celebrate



Owens Corning Roofing
September 15 at 3:47 PM · 🌐

It's National Hispanic Heritage Month! We'll be celebrating by highlighting some of our Latino/a contractors nationwide. Follow along by tuning into our social channels all month long! #HispanicHeritageMonth





gafroofing • Follow

The Latino roofing community is a growing and strong one! Last week GAF's own, Alan Lopez hosted the first ever Latino's in Roofing Expo where contractors from all over gathered to learn and network with their peers.
 #HispanicHeritageMonth
 #RoofingContractor

trentonroofing



beaconbuildingproducts • Follow

Today is the first day of National Hispanic Heritage Month! We honor & recognize all of the contributions made by those with ties to Spain, Mexico, the Caribbean and Central and South America.

¡Hoy es el primer día del Mes Nacional de la Herencia Hispana! Honramos y reconocemos todas las contribuciones realizadas por quienes tienen vínculos con España, México,



bonedryroofing • Follow

Happy National Hispanic Heritage Month to all of our celebrating team members and Bone Dry Family! The next month is a time to honor and celebrate the countless contributions, unique cultures, and rich histories of the American Latino community.

Did you know that the origin of Hispanic Heritage Month dates back to 1968 and was originally observed as a single week? In 1988 it was extended to a full month, and now,



Atlas Roofing
 @AtlasRoofing

This [#HispanicHeritageMonth](#) we're excited to give a shout out to our team members with proud Hispanic roots who make Atlas great - starting with Marketing Operations Specialist Claudette Marchena!



IKO North America
 @IKORoofing

Para Carlos Sánchez, de Continental Roofing, es importante que su empresa retribuya a la comunidad.

En honor al Mes de la Herencia Hispana, conozca más sobre Carlos, uno de los muchos y valiosos techadores de nuestra comunidad.

[#HispanicHeritageMonth](#)
bit.ly/3UdZfDN



Wet/dry vacuums are lightweight

RIDGID® has introduced two toolbox-style wet/dry vacuums designed for power, portability and accessibility. The 3 Gallon 18V Cordless NXT Wet/Dry Vac and 3 Gallon 5.0 Peak HP NXT Wet/Dry Vac are 30% smaller and 10% lighter than the toolbox-style 4.5 Gallon ProPack Wet/Dry Vac. The vacuums' high-efficiency design reportedly provides a 20% increase in overall vacuum efficiency. Each vacuum features a rectangular toolbox design, weighs less than 13 pounds and has a 1 $\frac{7}{8}$ -inch Super-Flex 2- to 6-foot expansion hose that doubles as a blower. Enclosed compartments store a crevice tool, dusting brush, hose and battery (for a cordless unit) or cord (for a corded unit). In addition, the 3 Gallon 18V Cordless NXT Wet/Dry Vac comes with an oversized power switch; position-locking handle; and built-in, suction-powered RIDGID Sweep dustpan that allows a user to sweep debris in or glide the tool over a mess to be sucked up.

ridgid.com



Liquid barrier adheres to most surfaces

Georgia-Pacific has made available DensDefy™ Liquid Barrier, a fluid-applied, single-component silyl terminated polymer air- and water-resistive barrier. The elastomeric membrane formed by DensDefy Liquid Barrier is said to adhere to most common construction surfaces such as concrete, glass mat gypsum sheathing, OSB, plywood and galvanized steel and is compatible with a variety of sealants and waterproofing or air barrier components. The vapor permeable liquid barrier can be applied to adjacent substrates via roller or spray, may be applied in temperatures as cold as 25 F and cures in temperatures as cold as 32 F. DensDefy Liquid Barrier reportedly can be applied in wet weather and on damp substrates and tolerates rain immediately after application. It can be exposed to normal weathering conditions for up to 12 months.

buildgp.com

Bandage is color-changing

DrySee® has introduced a waterproof color-changing bandage with liquid intrusion alert. Designed as an alternative to traditional cloth or plastic bandages for improved wound protection, the waterproof bandage provides a secure covering for low-exudate wounds. If water or other liquids make their way under the bandage, liquid-indicating gauze along the perimeter of the bandage will turn dark blue. Fluid from the wound site also will cause the internal pad to change color, alerting the user a bandage change is necessary. DrySee color-changing bandages are sterile, disposable, breathable and nonlatex, and one bandage reportedly can be used for up to three days. The bandages are available in packages of 25.

drysee.com



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Screws available in new sizes

Triangle Fastener Corp. has added two sizes to its line of SD300™ stainless-steel bimetal self-drilling screws. Now available in a #12 diameter in 1- and 2-inch lengths, the screws have pancake heads and #2 square recess and can drill and tap up to .210-inch-thick steel or aluminum. Made of 304 stainless steel, the screws reportedly provide exceptional corrosion resistance and ductility, minimizing the chance of screw failure caused by stress-corrosion cracking or hydrogen embrittlement. In addition, the screws are TRI-SEAL® coated to minimize galvanic corrosion when used in aluminum applications.

trianglefastener.com



Solar roof system for commercial use

Sika Sarnafil has introduced its Sika SolaRoof® System, the first FM-approved commercial solar roof system. The Sika SolaRoof is an integrated solar solution said to eliminate interface challenges between roof assemblies and photovoltaic installations. Nonpenetrating and lightweight, the system is approved for long-term securement of rooftop PV. FM testing reportedly confirmed the PV racking system installation does not negatively affect the performance of an underlying Sarnafil roof system. The Sika SolaRoof can be assembled in a south or east-west facing configuration depending on a user's needs. The system secures in place using prefabricated PVC "clicks." Made with the same PVC formulation as Sarnafil roof membrane, the clicks are secured to each rack and hot air-welded to the membrane, eliminating potential leakage points. Ballast is not required.

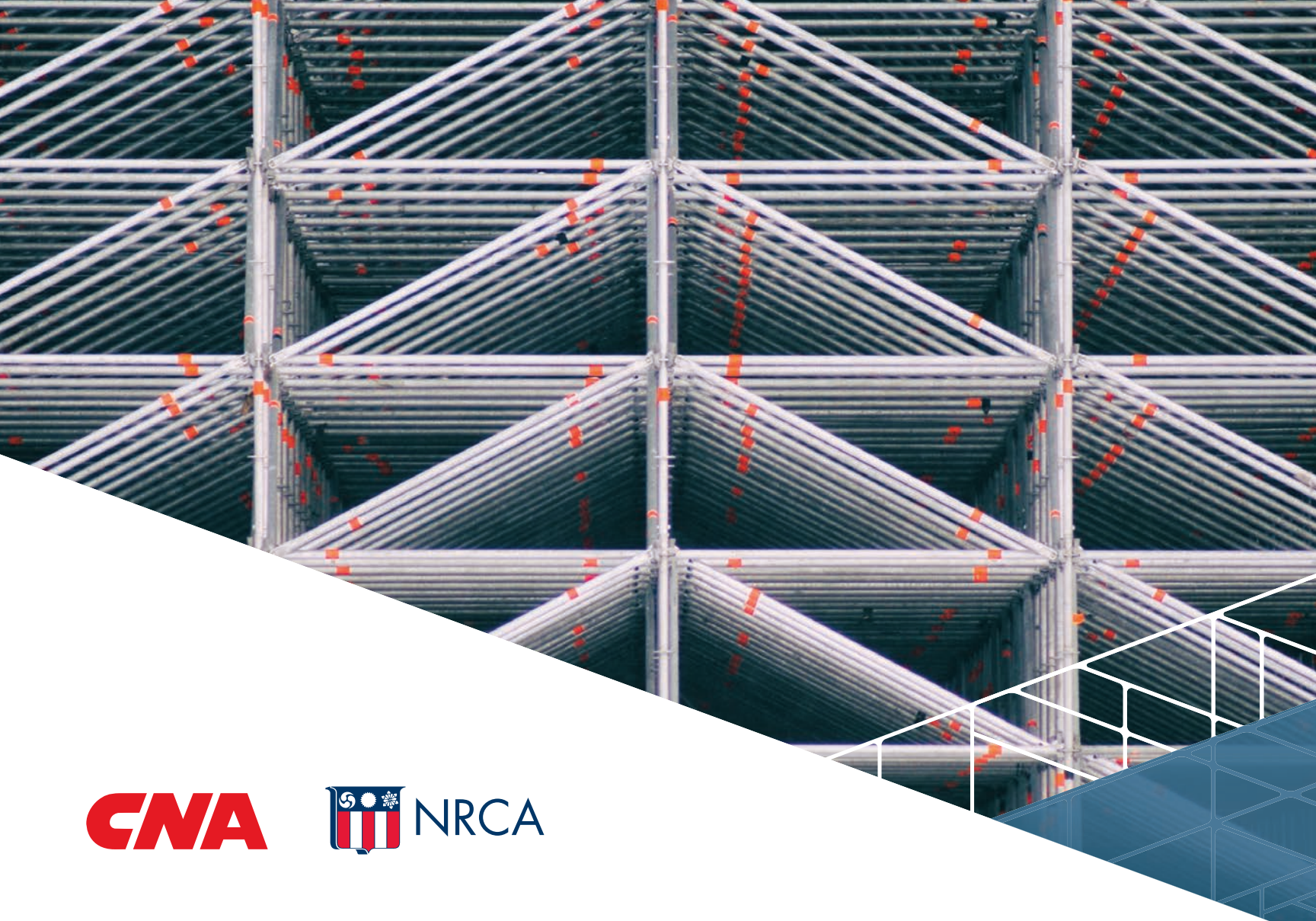
usa.sika.com

Roof truss support system installs easily

FastenMaster, a division of OMG® Inc., has made available its TrussBRACE™ steel roof truss support system. Designed as a safer alternative to temporary wood-based supports used to install roof trusses, TrussBRACE is said to provide lateral and diagonal restraint in one brace. The diagonal restraint is different from other metal braces and reportedly enables faster installation. The system allows users to set, space and brace roof trusses in one step. TrussBRACE is installed from the bottom chord, increasing job-site safety and eliminating the need for temporary top chord bracing that must be removed before sheathing.

fastenmaster.com





NRCA

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CNA Risk Control experts know that roofing fatalities occur at nearly twice the rate of other construction trades. That's why as part of our fall protection program, we recommend a 100% tie off with fall exposures over six feet. It's a guideline that helps limit injuries to bruises and scrapes, and helps our clients avoid financial disaster.

Learn more about how our risk control programs help NRCA members operate more safely. Contact your independent agent or visit cna.com/nrca.

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An unfair deal

Student loan forgiveness overlooks those who choose trades over college

by McKay Daniels

For those keeping track at home, the score is \$500 billion to \$1.35 billion.

That's the amount of college debt President Biden announced he is eliminating vs. the amount of money the federal government spent on career and technical education state grants for training in 2021. With the stroke of a pen, nearly 375 years' worth of skills training funds are going to the university sector.

My frustration stems from points made in my September column about the government's investment gap between four-year universities and worker training and our nation's skewed prioritization of one path above all others. As a country, we spend an astoundingly large amount of money sending kids to college—many of whom are cajoled into it through peer, parental and/or societal pressure. And many students don't finish or graduate and are unable to find fruitful, desired work based on their fields of study. Roughly 35% of 18-year-olds eventually will get a college degree; 65% won't. But we spend 100 times more to help the 35% with their careers.

Our nation and government promote the college path rather than cultivating a culture where young people are shown trades and other professions where they can have successful careers without all the debt and years



of struggling to fit a square young peg into a round educational hole.

Instead of trying to correct these underlying issues—let alone addressing the skyrocketing cost of college—President Biden doubled down on the status quo with his policy announcement, poured sugar into an educational cavity and said, in essence: “Stop brushing your teeth.”

Skills training doesn’t require the same level of investment as universities, and not all 65% of noncollege graduates would benefit from increased funding, but even a relatively small increase would be a gamechanger in a world where we can’t

find enough construction workers, truck drivers, contractors, builders, mechanics and other workers who build and make things.

An opinion piece in *The New York Times* praised the president’s move but conceded: “The plan also could encourage colleges to raise tuition even faster than they already are. Schools could try to persuade borrowers to take on as much debt as possible to cover higher tuition with the belief the federal government would help pay it back.”

Safe assumption.

Even Larry Summers, a past president of Harvard University(!) and former treasury secretary under President Obama, has concerns. Following Biden’s announcement, Summers stated: “Every dollar spent on student loan relief is a dollar that could have gone to

““ The policy is unlikely to lower the actual cost of higher education; it just shifts who pays. ””

support those who don’t get the opportunity to go to college.”

Many Democratic party officials echoed that sentiment, but Congressman Tim Ryan (D-Ohio) said it best: “While there’s no doubt that a college education should be about opening opportunities, waiving debt for those already on a trajectory to financial security sends the wrong message to the millions of Ohioans without a degree working just as hard to make ends meet.”

The Wall Street Journal said the president’s move “makes chumps of Congress and every American who repaid loans or didn’t go to college. ... Worse than the cost is the moral hazard and awful precedent this sets. Those who will pay for this write-off are the tens of millions of Americans who didn’t go to college, or repaid their debt, or skimmed and saved to pay for college, or chose lower-cost schools to avoid a debt trap.”

There’s little doubt this move will be used by both political parties in the midterm elections. After all, there’s never been an executive action with this sized price tag in peacetime, which also means plenty of legal challenges will be filed. But by the time you’re reading this, we likely will know how this played out in the midterm campaigns.

Did the previously expected Republican wave turn into a trickle? Or did it evaporate altogether like Lake Mead in the Nevada sun, exposing a political party’s corpses and skeletons on the dry lake bed? Did the Democrats hold the Senate and Republicans take the House by a small or large margin? Or did the president and the Democrats defy historical precedent and hang onto both chambers of Congress?

But regardless:

- The policy is unlikely to lower the actual cost of higher education; it just shifts who pays.
- The nonuniversity crowd could use a little more parity in the government’s investment dollars.
- Improved CTE policies will continue to be a significant focus for NRCA. 🇺🇸🌟

MCKAY DANIELS is NRCA’s CEO.

✉️ MDANIELS@NRCA.NET

New York City program seeks to place low-income workers in construction jobs

A New York City program will help place 2,300 low-income workers in new construction jobs, according to construction dive.com.

New York City Pathways to Industrial and Construction Careers will help job seekers with all phases of employment, including recruitment and training, job placement, retention and advancement. The program specifically targets participants who have an interest in construction and industrial careers and aims to place workers in high-wage and/or union jobs such as tradesperson, construction project manager or general utility worker.

Funded by an \$18.6 million grant, the program comes from the U.S. Economic Development Administration in response to a winning proposal to the Good Jobs Challenge under the American Rescue Plan Act of 2021.

In 2020, New York state had the fourth-largest construction sector in the U.S. but also the highest number of job losses, many of which resulted from the COVID-19 pandemic. Still, most firms employed fewer than 20 people, and more than 25% of workers earned more than \$80,000 annually.

PIMA's expanded QualityMark^{CM} certification program hits one-year mark

The Polyisocyanurate Insulation Manufacturers Association has expanded its voluntary QualityMark certification program for Canadian and U.S. manufacturers of polyisocyanurate insulation.

The program enables participants to obtain third-party certification of long-term thermal resistance values for insulation products independently selected from manufacturing locations. The expanded program now includes third-party verification of thermal resistance values (R-values) for full thickness products independently selected from distribution

locations. Results from the expanded program criteria will be published starting in 2023.

"PIMA began implementing QualityMark's new program requirements during the second quarter of 2021," says PIMA President Justin Koscher. "While the COVID-19 pandemic presented early challenges that included travel restrictions for independent agencies involved in product selection, we are encouraged by the program's success as we hit the one-year mark of the implementation phase. The past year has enabled PIMA to verify the expanded program will provide end users with valuable



information on performance by selecting and testing products on a more frequent basis."

The QualityMark program launched in 2004 to enable polyisocyanurate manufacturers to obtain third-party certified LTTR values for permeable faced polyisocyanurate insulation products manufactured in Canada and the U.S.



Tips for recovering from work stress

Work-related stress is a persistent problem. Only 32% of employees throughout the world say they are thriving, and 43% report high levels of daily stress, according to *Harvard Business Review*. Some reports suggest up to 61% of U.S. workers feel they are burning out at any moment in time, and those who are stressed out at work are more than three times as likely to look for a new job.

Employers increasingly are offering benefits such as virtual mental health support, spontaneous days off, meeting-free days and flexible work schedules. However, it is important you know what works to help you recover from stress, which involves restoring symptoms of work stress (such as anxiety) back to pre-stressor levels.

Harvard Business Review offers the following tips.

1. Detach psychologically from work. Research shows even thinking about work detracts from your ability to recover from it, and the simple presence of your mobile phone distracts you. Dedicate a fixed time each day when you can fully devote attention to a nonwork-related activity. Learn which triggers, such as your phone, prevent you from psychologically detaching from work.

2. Take micro-breaks during the workday. Ten-minute breaks taken during the workday can be surprisingly effective for recovering from daily work stress. You could use the time to meditate, eat a snack or have a nonwork-related conversation with a co-worker. Micro-breaks taken earlier in the workday reportedly contribute to greater recovery.

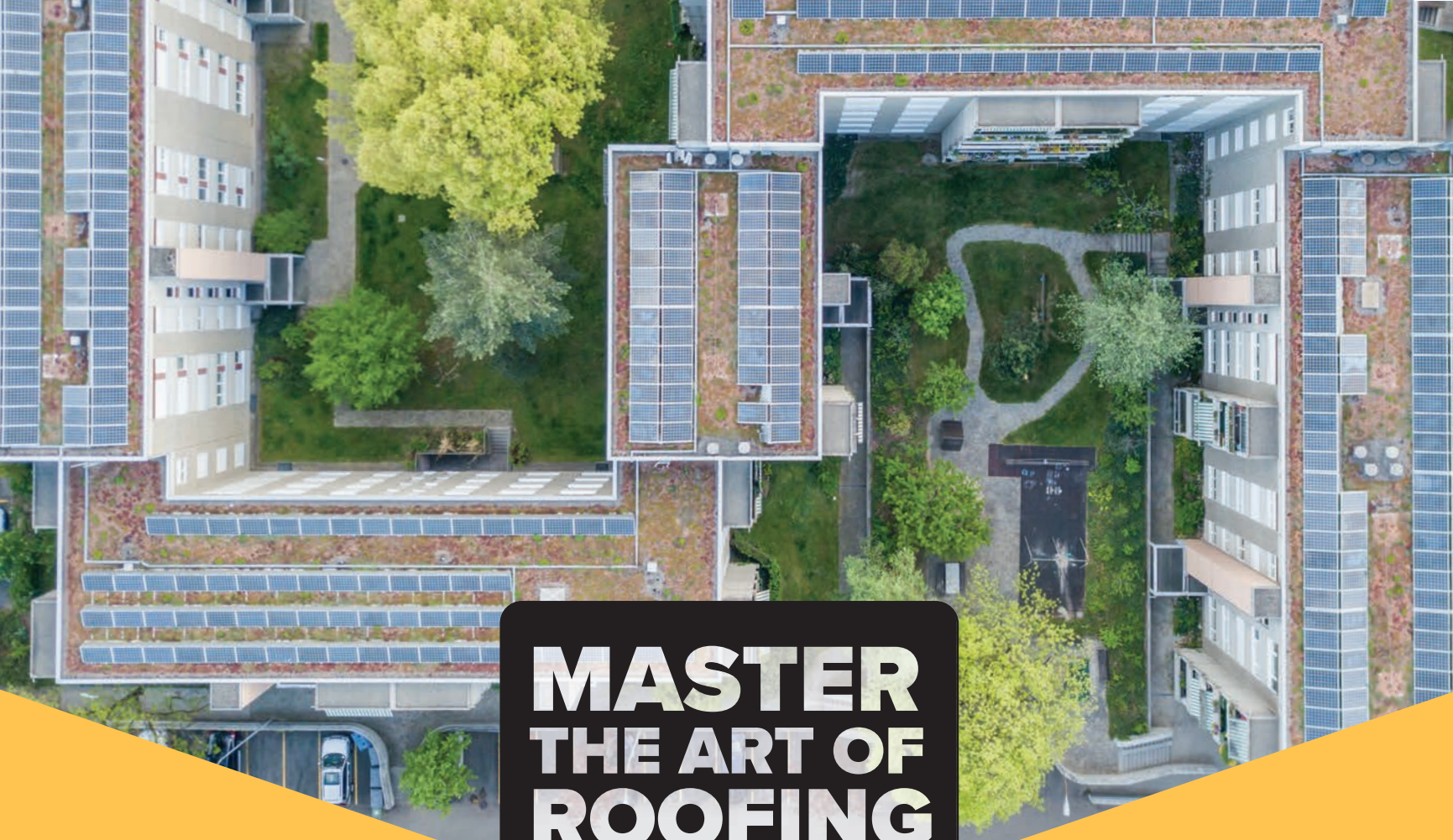
3. Consider your preference for recovery activity. Some people may feel pressured into going to a group exercise class or participating in a company activity during the weekend when they want to be home with their families. Not having a choice in your own recovery can sometimes do more harm than good. If you feel pressured to relax in a certain way, talk to your boss about how you can gain more autonomy to do recovery activities you prefer.

4. Prioritize high-effort recovery activities. Research shows exercise can be even more effective for recovery. If you do not enjoy going to the gym or playing team sports, you can try a fast walk, a hike or a swim. Other activities that can work well for recovery are "mastery experiences" that require high levels of dedication, such as learning a new language or how to play an instrument.

5. Shape your environment for optimal recovery. Being exposed to nature at work contributes positively to well-being and lowers the risk of burnout. Some companies are building exposure to natural elements into the workplace, such as park walks during lunch breaks. Exposure to daylight, having a window view or indoor greenery at the workplace have been shown to have a favorable effect on sleep quality, perceived stress and overall health. Even indirect exposure to nature—such as looking at nature scenes on a screen—can have recovery benefits.



To learn how to identify and overcome work burnout, go to professionalroofing.net.



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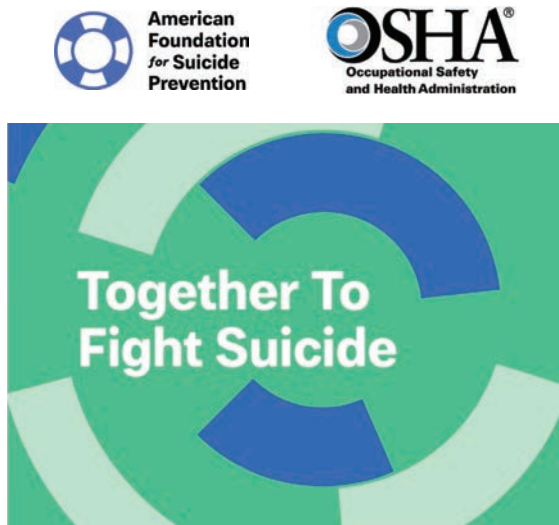


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OSHA, foundation form alliance for suicide prevention and mental health

The Occupational Safety and Health Administration and American Foundation for Suicide Prevention signed an alliance agreement Sept. 7 to promote workplace mental health and suicide prevention awareness. AFSP is a voluntary health organization giving those affected by suicide a nationwide community empowered by research, education and advocacy.

During the two-year agreement, OSHA and AFSP will develop information and products regarding workplace mental health and suicide prevention awareness in multiple languages that reflect diversity in

the workforce and encourage workers' sense of belonging. Participants will share best practices and effective approaches for promoting workplace suicide prevention awareness.

"Suicide is a leading cause of death among working age adults in the U.S. It deeply impacts workers, families and communities," says Assistant Secretary of Labor for Occupational Safety and Health Doug Parker. "OSHA is proud to join with the American Foundation for Suicide Prevention to eliminate barriers to getting help and promote the mental well-being of all workers."

Alliance objectives also include exploring opportunities for AFSP to contribute to a new chapter about Traumatic Stress for OSHA's Safety and Health Management System directive; updating and expanding on OSHA's Preventing Suicides webpage; and sharing information about suicide prevention, mental health and opioids during Suicide Prevention Awareness Month and Construction Suicide Prevention Week.

To access OSHA's suicide-prevention resources, go to professionalroofing.net.

Labor shortage threatens recent infrastructure efforts

A workforce survey conducted by the Associated General Contractors of America and Autodesk Construction shows labor shortages are affecting nearly all construction firms and could threaten the success of new federal investments in infrastructure and manufacturing, according to agc.org.

AGC and Autodesk Construction conducted the survey in late July and early August. Nearly 1,300 firms completed the survey from a broad cross-section of the construction industry.

"Construction workforce shortages are severe and having a significant impact on construction firms of all types, all sizes and all labor arrangements," says AGC Chief Economist Ken Simonson. "These workforce shortages are compounding the challenges firms are having with supply chain disruptions that are inflating the cost of construction materials and making delivery schedules and product availability uncertain."

Simonson notes 93% of construction firms report they have open positions they are trying to fill. Of those firms, 91% are having trouble filling at least some positions, particularly among the craft workforce performing much of the on-site construction work. Seventy-seven percent of firms say available candidates lack the skills needed to work in construction or cannot pass a drug test.

Additionally, 82% of firms report projects have been delayed because of supply chain challenges, and 66% have projects that have been delayed because of labor shortages. Eighty-six percent of firms have raised base pay rates for their workers while 70% have passed along rising materials costs to project owners during the past year. Fifty-eight percent of respondents report owners cancelled, postponed or scaled back projects because of increasing costs, and one-third of firms report projects were affected because of lengthening or uncertain completion times.

Aside from raising wages to address the labor shortage, 45% of companies are providing incentives and bonuses, and 24% have improved their benefits packages. Fifty-one percent of respondents report they have engaged with career-building programs such as high school, collegiate or technical school construction programs—up from 37% in the 2021 survey. Companies also are boosting investment in training programs and emphasizing the importance of digital technology skills.

Association officials say public leaders have a vested interest in ensuring new workers are better prepared for high-paying construction careers, urging them to invest in career and technical education and allow more workers to lawfully enter the U.S. The federal government's new infrastructure funding and more recent investments in semiconductor factories and energy infrastructure projects will be affected if there are not enough workers to keep up with demand.



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Be on the lookout

Coordination is necessary when encountering rooftop-mounted lightning protection systems

by Mark S. Graham

When reroofing, you need to be aware of lightning protection systems, more commonly known as LPS, that you could encounter. The following information and specific guidance will help you address LPS when you come across them.

LPS use

Lightning activity is a hazard in almost all areas of the U.S. and most intense in the mid-central, south-central and southeast regions of the country.

According to the Lightning Protection Institute, in 2018, insurance companies paid nearly \$1 billion in lightning-related claims to about 78,000 policy owners.

To minimize the risk to buildings and their occupants and contents, LPS sometimes are used to help avoid lightning-related damage.

LPS components

LPS are passive—they contain no moving parts—and each system's design is building- and structure-specific.



Effective LPS contain five primary components:

- Strike termination device, most commonly air terminals (formerly called “lightning rods”)
- Conductors
- Bonding
- Surge-protection device
- Grounding electrode system

The strike termination device, conductors and sometimes bonding typically occur at or above the roof surface and, as a result, become components roofing contractors may encounter.

Codes and standards

LPS are addressed in various building codes and standards.

In *NFPA 70 National Electrical Code*, Chapter 2-Wiring and Protection, Article 250-Ground and Bonding specifically addresses LPS in Section 250.106-Lightning Protection Systems. A nonmandatory informational note in Section 250.106 references NFPA 780, “Standard for the Installation of Lightning Protection Systems,” for further information.

NFPA 780 covers LPS for ordinary and certain specialized structures. Its purpose is to provide for the safeguarding of people and property from hazards arising from lightning exposure.

UL 96, “Standard for Lightning Protection Components,” addresses LPS components and

NRCA recommends designers clearly identify LPS components in construction documents provided to roofing contractors

provides a basis for component testing and labeling, such as UL Mark labeling.

UL 96A, “Standard for Installation Requirements for Lightning Protection Systems,” addresses installation requirements for LPS on most building and structure types.

LPI 175, “Standard of Practice for the Design, Installation and Inspection of Lightning Protection Systems,” is based on the latest edition of NFPA 780 and provides additional explanatory information intended to assist installers and inspectors.

UL Solutions has a Master Label Certificate and LPI has a Master Installation Certificate based on their respective standards.

FM Global’s Property Loss Prevention Data Sheet 5-11, “Lightning and Surge Protection for Electrical Systems,” provides additional guidance for FM Global-insured buildings.

NRCA’s recommendations

The installation, evaluation and maintenance of LPS are beyond the expertise of most roofing contractors though components of LPS are installed adjacent to or in direct contact with roof system components.

NRCA recommends designers clearly identify LPS components in construction documents provided to roofing contractors. Designers should include details indicating how LPS components interface with roof system components, taking into consideration the roof system manufacturer’s instructions.

In reroofing situations, if an existing LPS

has a Master Label Certificate or Master Installation Certificate, the building owner or manager or designer should notify the roofing contractor before beginning roofing work. Coordination with the building owner’s LPS contractor will be necessary to maintain the certificate.

For noncertified LPS, building owners should consider having existing LPS evaluated by their LPS contractors before beginning roofing work. UL’s Letter of Findings program or LPI’s Limited Scope Inspection program can be used to evaluate and document existing LPS and provide guidance about how to integrate existing LPS components with roof systems.

Project schedule coordination and proper work sequencing will be necessary between the roofing contractor and LPS contractor to ensure efficient installation of the roof system and LPS and minimize return trips to the job site.

Additional information about LPS is available in Appendix 3-Considerations for Lightning Protection Systems of *The NRCA Roofing Manual: Architectural Metal Flashing and Condensation and Air Leakage Control—2022*. NRCA members can download the manual free from the Free Member Resources link in the My Account section of nrca.net. A hard copy can be purchased from shop.nrca.net. 🌐📄🔍

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

 [@MarkGrahamNRCA](https://twitter.com/MarkGrahamNRCA)

CPWR research examines underlying causes of falls in construction

Falls from heights continue to be the leading cause of death and serious injury for the roofing and construction industries. According to 2020 data (the most recent data available) from the Bureau of Labor Statistics, 353 construction workers died from falls from heights that year. The Occupational Safety and Health Administration's fall-protection

standard, 29 CFR 1910, continues to be one of the most frequently cited standards by OSHA.

CPWR—The Center for Construction Research and Training—recently released findings from a research survey it conducted in the construction industry regarding the underlying causes of falls from heights.

The survey revealed several key findings and cited lack of planning, lack of rescue training and failure to use fall-protection equipment as primary underlying causes of falls from heights. In addition, respondents who believed fall protection was required by their employer were

much more likely to use fall-protection equipment compared with those who did not believe it was an employer requirement.

The goal of the survey was to increase understanding of underlying causes while also informing voluntary standards through ANSI/ASSP; create more targeted resources and materials to support OSHA's national fall-prevention campaign and stand-down; improve outreach and education; influence future research regarding fall safety; and improve collective fall-prevention efforts by safety and health organizations, industry representatives, government officials and other interested parties through data sharing.

NRCA and CPWR continue to foster a longstanding partnership to improve the safety and health of roofing professionals and the construction industry.

For additional information regarding NRCA's fall-prevention resources and training, contact Rich Trewyn, an NRCA director of enterprise risk management, at rtrewyn@nrca.net.



To access CPWR's survey findings, go to professionalroofing.net.

Most organizations remain unprepared for ransomware attacks

A recent survey revealed IT professionals at only one in five organizations consider their organizations as prepared as possible for potential ransomware attacks, according to [constructiondive.com](https://www.constructiondive.com). Boston-based data protection company HYCU Inc.'s 2022 State of Ransomware Preparedness survey included 400 respondents; almost 15% said they are very or somewhat unprepared for an attack.

Ransomware preparedness might not be a top priority for many organizations. A majority of respondents said they spend less than five hours per week on ransomware preparedness, and almost one-third invest less than an hour per week on the matter. More than four out of 10 respondents said they've already had a ransomware attack that resulted in infiltration or data encryption.

The gap between perceived and actual preparedness among respondents signifies most businesses are still trying to identify and mitigate points of compromise that could be exploited by attackers.

The survey showed employee training is an underused mitigation strategy. Only two in five respondents said their organizations fully implemented a training program for information security, email and ransomware. One in 10 said his or her organization has no such training at all; others have started the process.

The survey also examined the consequences of ransomware attacks and found organizations' recovery and response tactics are lacking. Crucial tools and services remain at heightened risk of prolonged ransom.

To minimize downtime, organizations need to assess all systems and categorize them based on business importance, the study concluded. This exercise allows organizations to develop appropriate mitigation and recovery plans in line with potential risks and investments they're willing to make in each category.



National BIM program will launch

The National Institute of Building Sciences has developed an implementation and launch plan for the U.S. National Building Information Management Program, which aims to reach a new level of efficiency and productivity through digitalization, according to constructiondive.com.

The program reportedly will create a BIM standard throughout the life cycle of designing, constructing and operating in the built environment. An executive roundtable recently was held to present the plan, including a budget and steps to make the building process more efficient, less expensive and safer during the next five years.

The BIM process virtually builds a structure in a digital environment first, putting each steel beam, floor tile and window in place to work through every aspect of construction before completing it in the real world.

Although the U.S. has been a global leader in developing and implementing BIM applications, the construction industry reportedly has lagged regarding implementing technology that significantly can increase productivity, averaging just 1% productivity growth during the past 20 years, according to NIBS.

NIBS began the planning process for the U.S. National BIM Program in 2021. The program is the result of work from NIBS' BIM Council, which focuses on the requirements of U.S. building owners to document best prac-

tices and provide guidance regarding the adoption of digital technology to increase productivity and performance.

The BIM program aims to help the construction industry by accelerating supply chain effectiveness, providing predictable processes, improving project outcomes, driving efficiency and fostering innovation.

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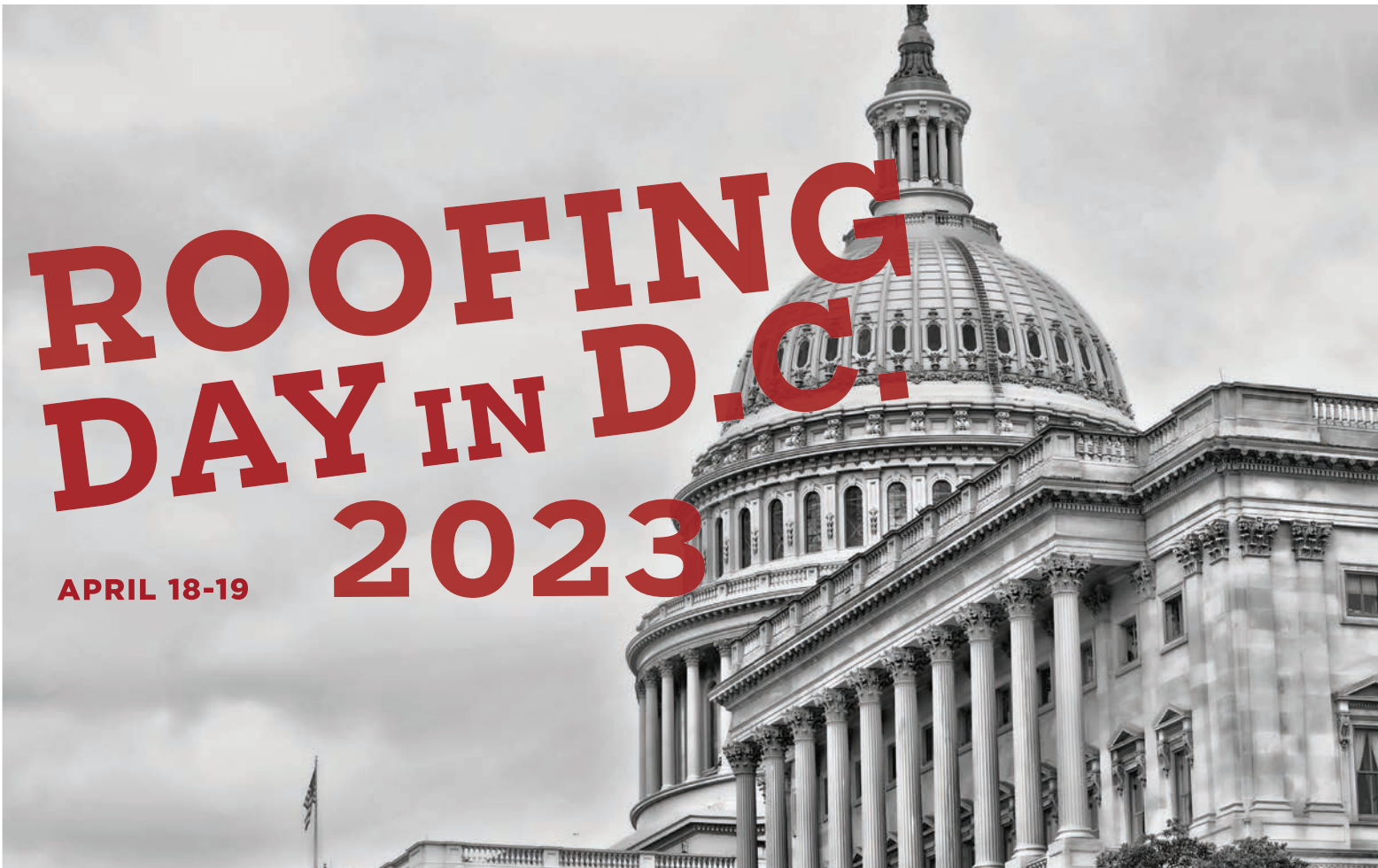
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See you in the spring!

NRCA invites all industry professionals to Roofing Day in D.C. 2023

by Deborah Mazol

On April 18-19, the roofing industry will gather in Washington, D.C., for Roofing Day in D.C. 2023, the premier industry advocacy event of the year. This annual event provides an opportunity for lawmakers to hear the industry speak with one voice regarding key government policy issues. With a new Congress, it is critical the industry be heard now. All roofing industry professionals are invited and urged to participate to demonstrate the breadth and diversity of the industry.

With hundreds of participants attending in previous years, Roofing Day in D.C. has become one of the largest advocacy events in Washington, D.C. It brings together all segments of the roofing industry to advocate collectively regarding matters that are unifying and critical to the industry's continued success. The event is a collaboration among NRCA members; industry stakeholders; and numerous regional, state and local associations and designed to expand the professionalization and prosperity of the industry.

The plan

Roofing Day in D.C. 2023 will kick off with an opening program and reception April 18 at the Grand Hyatt Washington. On April 19, participants will attend a morning program with speakers who will discuss the current political



outlook, give tips for successful congressional meetings and talk about emerging industry issues. In the afternoon, participants will have three to four meetings with senators, representatives and congressional staff to convey the roofing industry's message.

Participation is easy, as all meetings will be scheduled by NRCA and Advocacy Associates, a leading Washington, D.C.-based consulting firm that specializes in managing large advocacy events. Participants will have access to an online platform that will host schedules of congressional meetings, position papers, talking points, links to video meet-

ings, automated thank-you note templates and other features.

Building on success

All participants will be given position papers and talking points for the key policy issues that will be the focus of the meetings with members of Congress. Selected with input from members of NRCA's Roofing Day Advisory Committee, the issues unify all segments of the industry. At press time, the 2023 advocacy issues have not been finalized but previous topics have included federal legislation to address workforce

“Your participation is vital to helping make your business and the industry more successful and prosperous. Lawmakers need to hear directly from constituents regarding issues of importance.”

challenges, immigration, and pro-growth spending and tax policies. Progress has been made regarding most of the issues the industry has presented to Congress.

First, since Roofing Day in D.C. began in 2018, Congress has increased funding for Perkins Basic State Grants by nearly \$200 million. This funding for career and technical education is critical to help employers meet their workforce development needs. NRCA and the roofing industry also helped secure passage of the bipartisan Infrastructure Investment and Jobs Act, which included a strong buildings component.

Roofing Day in D.C. helped increase support for the Strengthening Career and Technical Education for the 21st Century Act to ensure workforce development programs work well for the roofing industry and

helped pass important provisions of the Energy Savings and Industrial Competitiveness Act of 2019, legislation to promote energy efficiency in residential and commercial buildings. Additionally, the Essential

Workers for Economic Advancement Act was reintroduced to create a new visa program to help roofing industry employers meet their workforce needs. This kind of immigration

reform has been a long-standing priority for the roofing industry.

The primary goal of each Roofing Day in D.C. event is to establish long-term relationships with lawmakers in Congress that ultimately will help achieve important policy goals for the roofing industry's future.

Your voice matters

NRCA strongly encourages all industry professionals to participate in Roofing Day in D.C. 2023. All participating companies are encouraged to include one or more field workers; elected officials benefit greatly from hearing from the roofing industry's dedicated workforce. Registration fees are \$95 per person for company representatives and \$35 for field workers, students and spouses. Additional information about Roofing Day in D.C. 2023 and registration information are available at nrca.net/roofingday.

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

On behalf of NRCA's leadership and staff, we look forward to seeing you April 18-19 in Washington, D.C! 🇺🇸🏠

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



To learn about advocacy issues during previous Roofing Day in D.C. events and watch testimonial videos and a video from NRCA CEO McKay Daniels, go to professionalroofing.net.

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Florida roofing contractors are arrested in insurance scheme

Two roofing contractors are facing charges for an alleged roofing scheme that targeted homeowners' insurance companies in southwest Florida after Hurricane Irma struck the area in 2017, according to nbc-2.com.

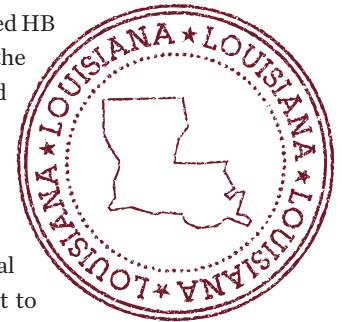
Brian Webb and Brandon Jourdan, who operated Webb Roofing & Construction LLC, Fort Myers, Fla., are accused of persuading homeowners in Lee and Collier counties to submit claims to their home insurance companies by promising rebates that would cover their deductibles. (Their company is not an NRCA member.) As part of the scheme, the men allegedly enticed homeowners to submit full roof replacement claims to their insurance companies related to damage allegedly caused by Hurricane Irma.

Webb and Jourdan are accused of telling their sales team to "solicit insured homeowners with a promise they can get them a new roof without paying the required homeowner's deductible." The sales team also reportedly was told to persuade homeowners to submit claims for "damaged" roofs related to Hurricane Irma for full roof replacements.

Employees had homeowners sign over their insurance claim rights and sign "advertising agreements" where they agreed to have signs placed in their yards, post positive reviews and give referrals in exchange for a rebate or a credit toward the deductible. Webb and Jourdan are facing nine felony counts of false and fraudulent insurance claims and could each face a maximum sentence of up to 45 years in prison and a \$45,000 fine.

Louisiana bill requires updated energy-efficiency codes

On June 22, Louisiana Gov. John Bel Edwards signed HB 803 into law requiring the statewide adoption of the 2021 International Energy Conservation Code® and the 2021 International Residential Code,® Chapter 11—Energy Efficiency, according to iccsafe.org. The Louisiana legislature previously had cleared the bill unanimously.



The bill will transfer responsibility of commercial energy code enforcement from state government to the local, municipal/parish governments and third-party providers, and the Louisiana State Uniform Construction Code Council will add the IECC as part of statewide adopted codes.

To facilitate the code's adoption, HB 803 also establishes the Energy Code Commission, which comprises 16 members and is responsible for reviewing and amending the 2021 editions of IRC Chapter 11 and IECC for residential, commercial and state-owned buildings. This temporary commission will review and consider amendments to the 2021 energy code provisions and dissolve upon the completion of the Louisiana State Uniform Construction Code Council's Administrative Rule process, completing the adoption of the 2021 IECC. The code's ultimate statewide effective date is July 1, 2023.

The legislation comes as the Department of Energy is using a grant program to help implement updated energy codes. The Energy Code Implementation Program was established in the Infrastructure Investment and Jobs Act passed in November 2021, which provides \$225 million during the course of five years.



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

Denise, adopted 17-year-old Amina



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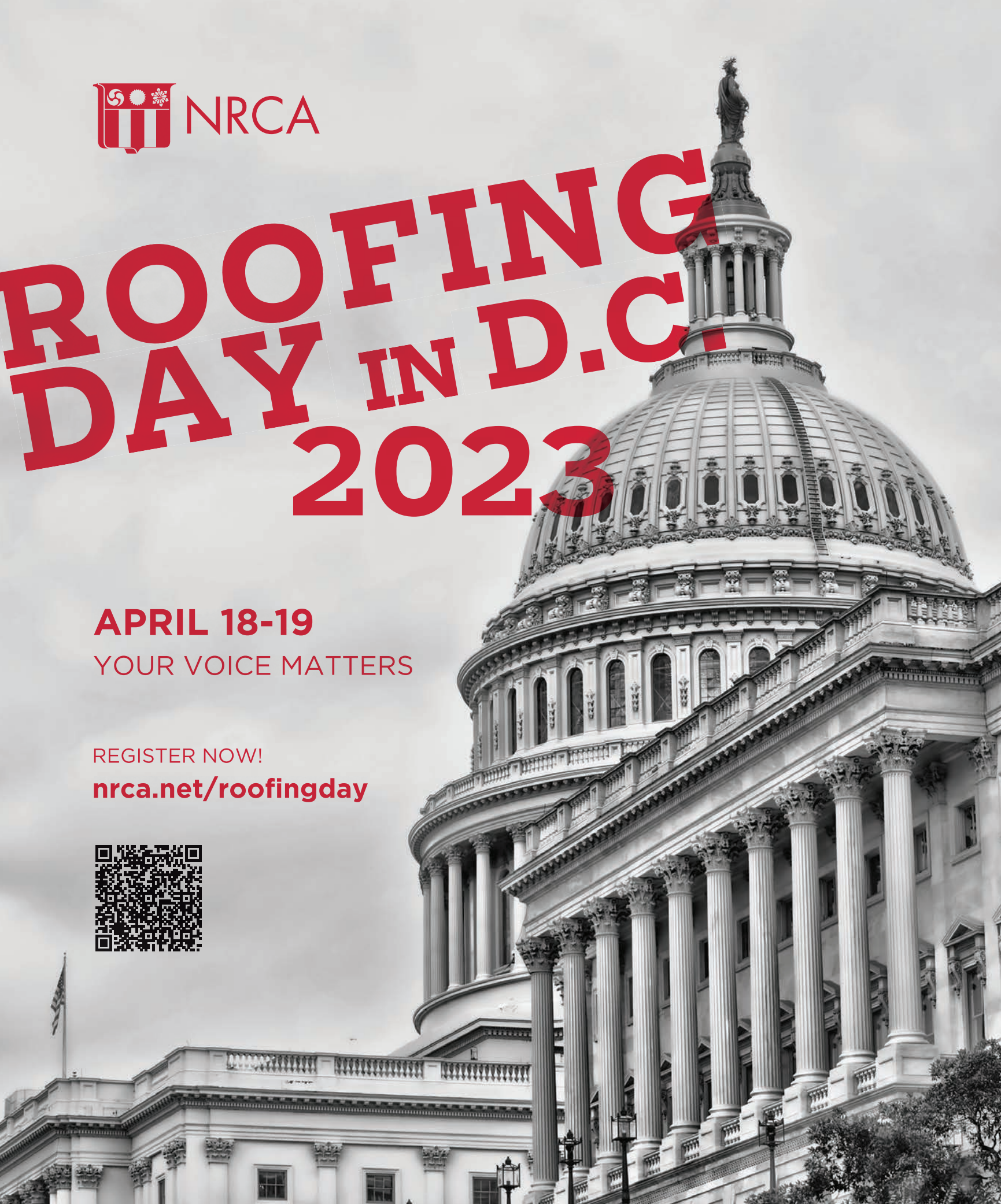
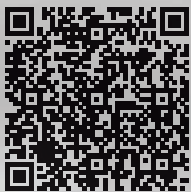
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Louisiana roofing contractor faces penalties after worker's fatal fall

A Louisiana roofing contractor faces penalties after ignoring federal safety inspectors' February 2022 warnings that not complying with required fall-protection standards exposed workers to serious dangers, according to osha.gov. Premier South Roofing LLC, Baton Rouge, La., faces \$249,323 in proposed penalties after Occupational Safety and Health Administration investigators determined a worker's deadly fall could have been prevented if protective devices were used.

Premier South Roofing, which is not an NRCA member, is accused of exposing six employees to fall hazards by failing to ensure required fall protection was used April 2. Workers were repairing and replacing a roof system when a 22-year-old worker stepped on and fell about 30 feet through a skylight. The worker succumbed to injuries later at a hospital.

"Falls continue to be the leading cause of deaths in the construction industry and yet, employers like Premier South Roofing repeatedly failed to protect their workers from the risk of disabling injuries or worse," says OSHA Area Director Roderic Chube. "Ensuring workers are trained on and use proper fall protection, as required by law, can prevent tragedies such as this from recurring."

On Feb. 2, 2022, an OSHA inspector observed five Premier South Roofing employees working on a roof without adequate fall protection and initiated an inspection as part of the agency's Regional Emphasis Program for Construction.

Following its most recent inspection, OSHA cited Premier South Roofing for two repeat violations for failing to provide fall protection and verify employee training. The company had 15 business days from receipt of citations and penalties to comply, request an informal conference with OSHA's area director, or contest the findings before the independent Occupational Safety and Health Review Commission.



To view OSHA's three steps to prevent falls, go to professionalroofing.net.

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KEEPING it GREEN(ER)

Sustainability continues to remain a goal within the built environment; however, the construction community is starting to place a greater emphasis on resiliency as a part of sustainability for buildings and other structures. In fact, *ARCHITECT* magazine reported more than 30% of architectural firms expect projects designed using a sustainable rating system to increase during the next two years.

ASTM International is working to define resiliency within the work of Committee E60 on Sustainability and Committee E06 on Performance of Buildings. But until resiliency is specifically written into building codes, the design and construction communities have two sources for sustainability related to buildings: ASHRAE/ICC/USGBC/IES 189.1, “Standard for the Design of High-Performance Green Buildings,” and LEED.® The difference is the standard can be a mandatory requirement when adopted by a local jurisdiction, but LEED is a voluntary rating system.

Unpacking the code

Generally, sustainability requirements provide a whole-system approach to the design, construction and operation of buildings and include cost-effective measures that result in reduced operating costs, better indoor environments, reduced effects on natural resources, and improved neighborhood connections and walkability.

The International Green Construction Code®’s intent is to provide for the health, safety and life of the built environment; increase buildings’ economic and resource efficiencies; reduce the effects of climate

change through more resilient buildings, communities and cities; and provide for the best modern buildings without compromising future generations' needs.

Published by the International Code Council,[®] the 2021 edition of the IgCC is the code's fourth edition and part of a family of comprehensive, coordinated and modern model codes, including the International Building Code,[®] International Residential Code[®] and International Energy Conservation Code,[®] along with 11 other I-Codes published by ICC. The 2021 IgCC is the second fully integrated edition developed collaboratively by ICC and ASHRAE Inc.

With the publication of the 2018 IgCC, ASHRAE/ICC/USGBC/IES 189.1 and the code essentially became one document. ICC is responsible for maintaining IgCC's Chapter 1—Scope and Administration, and Chapters 2-11 and the appendixes are the responsibility of ASHRAE's Standard 189.1 Committee.

ASHRAE published Standard 189.1-2020 in January 2021, which updated the standard's 2017 version. In June 2021, ICC published the 2021 IgCC that incorporated ASHRAE 189.1-2020.

The IgCC is updated and modified every three years, which is the only time changes may be submitted for Chapter 1. Proposed revisions to Chapter 1 for the 2024 IgCC currently are being reviewed.

However, the technical portion of the code—Chapters 2-11 and the appendixes—is a continual maintenance document. This means these portions can be revised or updated any time. A proposed change to the standard may be submitted between standard publication dates. If approved, the change is published as an addendum that immediately can be adopted by a jurisdiction as a mandatory requirement. Then, at the next publication date, all approved



RESILIENCY is gaining ground on SUSTAINABILITY

by Glen Clapper, AIA, LEED AP

Climate zone		Minimum insulation R-value					
		Nonresidential		Residential		Semiheated	
		2021 IgCC	2019 ASHRAE 90.1	2021 IgCC	2019 ASHRAE 90.1	2021 IgCC	2019 ASHRAE 90.1
4	Insulation entirely above roof deck	R-33 c.i.	R-30 c.i.	R-33 c.i.	R-30 c.i.	R-12 c.i.	R-10 c.i.
	Attic and other	R-51	R-49	R-51	R-49	R-33	R-30
5	Insulation entirely above roof deck	R-33 c.i.	R-30 c.i.	R-33 c.i.	R-30 c.i.	R-17 c.i.	R-15 c.i.
	Attic and other	R-51	R-49	R-51	R-49	R-33	R-30
6	Insulation entirely above roof deck	R-33 c.i.	R-30 c.i.	R-33 c.i.	R-30 c.i.	R-17 c.i.	R-15 c.i.
	Attic and other	R-51	R-49	R-51	R-49	R-33	R-30
7	Insulation entirely above roof deck	R-38 c.i.	R-35 c.i.	R-38 c.i.	R-35 c.i.	R-27 c.i.	R-25 c.i.
	Attic and other	R-62	R-60	R-62	R-60	R-39	R-38
8	Insulation entirely above roof deck	R-38 c.i.	R-35 c.i.	R-38 c.i.	R-35 c.i.	R-27 c.i.	R-25 c.i.
	Attic and other	R-62	R-60	R-62	R-60	R-39	R-38

Figure 1: Comparison of minimum R-values for roof assemblies between the *International Green Construction Code*,® 2021 Edition and ASHRAE 90.1-2019

addendums since the previous publication date automatically are incorporated into the updated published standard. As of July 2022, there have been 13 addenda published for ASHRAE 189.1-2020.

Roofing requirements

The IgCC is formatted using ICC’s code format and contains Chapters 1-11, Appendixes A-M and Annex 1.

Appendixes are treated differently from other I-Codes’ appendixes, which are provided to offer optional criteria to the provisions in the main chapters of the specific I-Code. These are identified in two categories: normative appendixes (mandatory requirements) and informative appendixes, which provide additional information but are not mandatory provisions or part of the code.

The two appendixes related to roof assemblies are Appendix A (mandatory), “Prescriptive Building Envelope Tables,” and Appendix E (nonmandatory), “Building Envelope Tables,” which provides minimum R-values for nonresidential, residential and semiheated roof assemblies based on climate zone.

Chapter 5—Site Sustainability and Chapter 7—Energy Efficiency directly address roof system design and installation. Section 501.3.5.3 Roofs requires buildings and covered parking roof surfaces for building projects in climate zones 0 (not present in North America), 1, 2 and 3, 4A and 4B to have a minimum of 75% of the roof surface covered with products that have:

- A minimum three-year-aged solar reflectance index of 64 for roofs with slopes less than or equal to 2:12
- A minimum three-year-aged SRI of 25 for roofs with slopes more than 2:12

There are four exceptions for Section 501.3.5.3 that depend on climate zone, whether an energy simulation is performed, a building’s space conditioning category and ballast criteria.

Areas to be excluded from the calculated required area include areas occupied by one or more of the following:

- Rooftop penetrations and associated equipment
- On-site renewable energy systems
- Portions of the roof used to capture heat for building energy technologies
- Roof decks and rooftop walkways
- IgCC-compliant vegetative terraces and roof systems

The required SRI is determined in accordance with ASTM E1980, “Standard Practice for Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces.”

The 2021 IgCC considers vegetative terraces and roof systems as containing plantings capable of surviving in the local microclimate, which includes but is not limited to precipitation, temperature and wind.

Similarly, the growing medium in which plants are to be placed also must support the plantings in the local microclimate. The installation of plantings also must

meet the requirements of the roof covering manufacturer’s instructions and provide the intended coverage within two years of the issuance of the final certificate of occupancy.

The use of potable or reclaimed water to irrigate plantings is prohibited after the plants are established or 18 months after the initial installation of the plants, whichever is less. After 18 months or when the vegetation is established, the irrigation system for potable or reclaimed water must be removed unless the authority having jurisdiction approves the continued use of on-site reclaimed water for vegetative roof system irrigation.

In a related section in Chapter 10—Construction and Plans for Operation, roof surface materials selected to comply with the requirements of Section 501.3.5.3 must include maintenance procedures for keeping roof surfaces clean in accordance with manufacturers’ recommendations. In addition, the care needed to promote healthy plant growth and maintain roof membranes for vegetative terraces and roof systems, as well as replacement procedures of plantings, must be provided. The nonvegetated roof area borders and clearances must comply with provisions of the International Fire Code.®

To comply with IgCC Chapter 7, a project must meet specific mandatory requirements and either the prescriptive or performance option. Section 701.3.2 On-Site Renewable Energy Systems is a mandatory provision and requires (with three exceptions) a building project to contain on-site photovoltaic systems based on the horizontal projection of the gross roof area over conditioned and semiheated spaces. On a constrained building site, this could result in a PV system being installed on a roof.

Areas to be excluded from the gross roof area calculation are those that are shaded more than 1,500 annual hours between 8 a.m. and 4 p.m., areas of vegetative roof systems that comply with Chapter 5, areas for helipads and areas designated for public occupancy.

The minimum R-value for roof assemblies is contained in the prescriptive provisions of Section 701.4.2.1 Building Envelope Requirements, which references ASHRAE 90.1, “Energy Standard for Buildings Except Low-Rise Residential Buildings.” For climate zones 0, 1, 2 and 3, the minimum R-values and maximum U-factors are published in ASHRAE 90.1. In climate zones 4, 5, 6, 7 and 8, the values are increased as shown in Figure 1. These minimum R-values also are published in IgCC’s Appendix E and are not part of the code.

Additionally, Section 701.4.2.3 Single-Rafter Roof Insulation requires single-rafter roof systems (commonly referred

to as cathedral ceiling roofs) comply with the requirements of Table A101.1 in Appendix A as shown in Figure 2. These requirements supersede those contained in ASHRAE 90.1.

However, Section 701.4.2.9 Building Envelope Trade-Off Option permits a trade-off based on improved performance of the building envelope for the proposed project over a theoretical base design if the requirements in Section 701.4.2 are incorporated into the proposed design of the building envelope (roof assembly).

The performance option provisions are contained in Section 701.5 and include the requirements in Appendix C for renewable, recoverable and purchased energy in addition to building performance calculations. There is one additional compliance path for meeting energy efficiency in the IgCC that is contained in Appendix H, which references the IECC prescriptive path. However, Appendix H is informative only (not part of the IgCC) unless specifically adopted by a local jurisdiction.

Climate zone	Minimum insulation R-value					
	Nonresidential		Residential		Semiheated	
	2021 IgCC	2019 ASHRAE 90.1 d'≤8"/ 8<d'≤10"/ 10<d'≤12"	2021 IgCC	2019 ASHRAE 90.1 d'≤8"/ 8<d'≤10"/ 10<d'≤12"	2021 IgCC	2019 ASHRAE 90.1 d'≤8"/ 8<d'≤10"/ 10<d'≤12"
0, 1	R-38	R-19/ R-30/ R-38	R-38 + R-10 c.i.	R-19/ R-30/ R-38	R-19	R-19/ R-30/ R-38
2	R-38 + R-10 c.i.	R-19/ R-30/ R-38	R-38 + R-10 c.i.	R-19/ R-30/ R-38	R-19	R-19/ R-30/ R-38
3, 4, 5	R-38 + R-10 c.i.	R-19/ R-30/ R-38	R-38 + R-10 c.i.	R-19/ R-30/ R-38	R-30	R-19/ R-30/ R-38
6	R-38 + R-10 c.i.	R-19/ R-30/ R-38	R-38 + R-10 c.i.	R-19/ R-30/ R-38	R-38	R-19/ R-30/ R-38
7	R-38 + R-15 c.i.	R-19/ R-30/ R-38	R-38 + R-15 c.i.	R-19/ R-30/ R-38	R-38	R-19/ R-30/ R-38
8	R-38 + R-15 c.i.	R-21/ R-30/ R-38	R-38 + R-15 c.i.	R-21/ R-30/ R-38	R-38	R-21/ R-30/ R-38

d', actual rafter depth

Figure 2: Comparison of minimum R-values for cathedral ceiling roofs between the *International Green Construction Code*, ® 2021 Edition and ASHRAE 90.1-2019

Chapter 8—Indoor Environmental Quality can indirectly affect roof assemblies. Section 801.4.1.1.1 Minimum Daylight Area requires 50% of a floor area to be in a daylight area. There are multiple ways to produce daylight area for a floor, including skylights, roof monitors and windows. Therefore, depending on a building’s dimensions, providing daylight through a roof assembly may be the option chosen to meet the daylighting requirement. In addition to daylighting, provisions in Chapter 8 include emissions and volatile organic compound requirements for materials, such as adhesives, sealants, coatings and other products. The 2021 IgCC only applies these requirements to products used on a building’s interior and not roofing work.

The mandatory provisions in Chapter 9—Materials and Resources will affect new roof system installations as well as roof system replacements. In Section 901.3.1.1 Diversion, a minimum of 50% of nonhazardous construction, demolition or deconstruction waste material must be diverted from disposal in landfills and incinerators by reuse, recycling, repurposing and/or composting. Not included in the calculation is excavated soil, land-clearing debris and waste-to-energy incineration. All diversion calculations must be based on weight throughout the construction process.

For new construction, Section 901.3.1.2 Total Waste states that before the issuance of a project’s final certificate of occupancy, the total amount of construction waste generated shall not exceed 20 pounds per square foot of new building floor area. This requirement applies to all waste whether diverted, landfilled, incinerated or otherwise disposed. In addition, excavated soil, land-clearing debris and demolition debris are not to be included in the calculation. The amount of waste must be tracked throughout the construction process in accordance with the construction waste management plan.

Before a demolition or building permit can be issued, Section 901.3.1.3—Construction Waste Management Plan requires a preconstruction waste management plan be available to the building owner and the authority having jurisdiction. The plan must:

- Identify the construction and demolition waste materials expected to be diverted
- Identify materials to be deconstructed
- Determine whether construction and demolition waste materials are to be source-separated or comingled
- Identify service providers and designate destination

facilities for construction and demolition waste materials generated on the job site

- Identify the average diversion rate for facilities that accept or process comingled construction and demolition materials
- Identify the method of tracking
- Identify the reporting method for disposal of the above items

If Chapter 9’s prescriptive option is selected for compliance, a project is required to comply with any two of the following requirements:

- A minimum of 10% of all installed materials for the project, by cost, must contain recycled or salvaged content.
- A minimum of 15% of the products or materials, by cost, must be manufactured or extracted/harvested/recovered within a 500-mile radius of the project site.
- A minimum of 5% of the materials, by cost, must be biobased products.
- A third-party reviewed multi-attribute certification and an environmental product declaration for each product must be present.

Additional requirements in Chapter 10 include the commissioning and functional and performance testing of a building. Informative provisions of the commissioning process are contained in Appendix K. The commissioning process typically is performed by an independent third party to review design documents, installation of materials and systems, and verify performance or compliance testing with the project documents.

Looking ahead

According to ICC’s website, no state has adopted the 2021 IgCC. However, three states and the District of Columbia have adopted an earlier version of the IgCC or a locally developed green code. In addition, local jurisdictions in several states have adopted some form of green building code.

Protecting the environment continues to be a priority for many building owners. And it is important you stay abreast of recent changes to green building codes and standards to ensure you are installing roof systems appropriately. 🌱🌿

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



ANATOMY OF A REGLETED COUNTERFLASHING

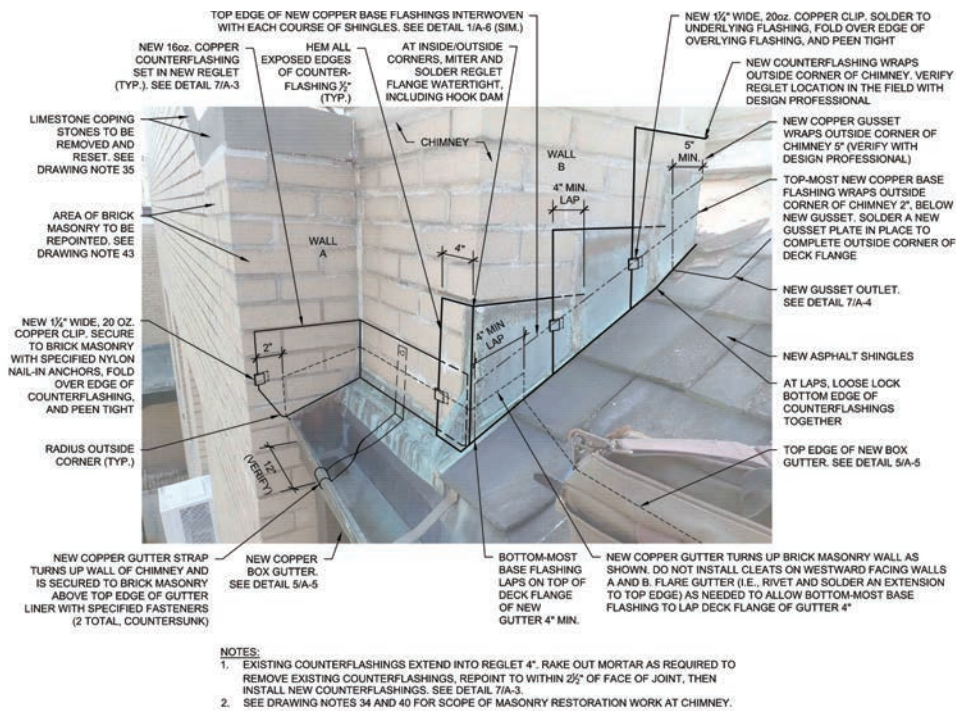
Properly installing counterflashings is crucial to a weathertight roof system

by Jeffrey S. Levine

Counterflashings are critical components of steep- and low-slope roof systems. They prevent rainwater from migrating behind underlying base flashings, the primary means of protecting roof-to-wall interfaces. Yet all too often, counterflashings are incorrectly detailed and poorly installed. Problems range from insufficient overlap, exposed fasteners, shallow reglets, missing hook dams, ledges that direct rainwater back into the masonry wall and inappropriate material selection.

THE PIECES

When installing a proper counterflashing, there are several considerations. What follows is a list of key features of this seemingly simple detail with a focus on regleted counterflashings set into masonry walls, which often are used in historical steep-slope roofing. (Through-wall counterflashings, receivers and surface-mounted counterflashings are beyond the scope of this article as are counterflashings for use with cavity walls, thin stone or brick veneer walls, exterior insulation finish system walls, and concrete or precast walls.) Figure 1 on page 40 illustrates the various components.



NEW CHIMNEY FLASHINGS

SCALE: NOT TO SCALE

Figure 1: Example of new copper counterflashings to be installed at a brick masonry chimney



Photo 1: The lower corners of these soft copper counterflashings have been angled back toward the roof to help minimize their apparent size (red arrow), and their bottom ends are hemmed and loose-locked together to help prevent outward displacement.

Reglet

Reglets (sometimes called raggles) are grooves, or slots, cut into masonry walls for the purpose of receiving the horizontal or reglet flange of counterflashings. Reglets typically are cut in horizontal mortar joints between masonry units to create a stepped pattern. Avoid cutting a continuous reglet through the masonry units parallel with the roof surface. This practice can expose the clay body of brick masonry units to moisture and create small fragments of masonry that are prone to cracking or breakage.

In addition, avoid vertical reglets because they typically require cutting through masonry units and tedious detailing of each counterflashing's reglet flange and rarely are executed properly. Reglet layout must allow for adequate base flashing height parallel to the roof surface—4 inches minimum for a typical steep-slope roof. Too often, reglets are pre-cut one or two courses too low or cut directly through previously installed base flashings, effectively reducing the height and functionality of the base flashings. It is good practice for the design professional and contractor to meet and jointly mark the locations of counterflashing reglets using a marker, keel or tape, or by drawing on a photo after the meeting.

Laps

Establishing the correct lap of counterflashings over each other and over the base flashings is part of the layout process.

Counterflashings should:

- Lap each other a minimum of 4 inches to help prevent wind-blown rain from traveling laterally and bypassing the counterflashings
- Lap underlying base flashings a minimum of 3½ inches while extending to within ½ of an inch of the roof surface. (*Editor's note:* NRCA recommends 4-inch-tall base flashings be lapped a minimum of 2 inches by counterflashings. NRCA recommends that counterflashings should not rest on the roof system and not extend lower than about 1 inch above the roof surface.)

If masonry units are large, you can minimize the overall size of the counterflashings by cropping their lower corners (see Photo 1).

Bottom edges

Hem the bottom edge of counterflashings for stiffness and neatness. At the laps, the hems can be loose-locked

together. This helps keep the counterflashings from displacing outward under wind and snow loads (see Photo 1).

Material selection

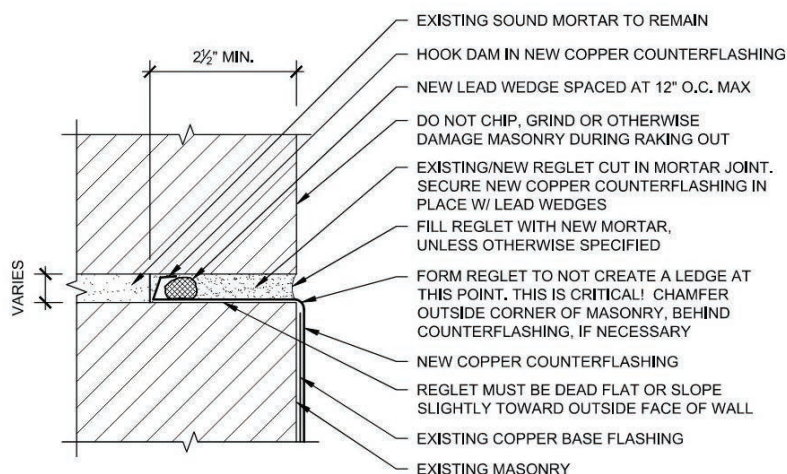
Sixteen-ounce cold-rolled copper (H00 temper) is perhaps the most common counterflashing material used in restoration work. It is easily formed; its soldering requirements are familiar to most sheet metal mechanics; and it can withstand prolonged contact with mortar materials. Given the vertical orientation of counterflashings, they will not be subject to erosion via flowing rainwater. As such, a heavier weight copper generally is not required. Sixteen-ounce soft copper (O60 temper) is more malleable than cold-rolled copper and may be advantageous when rock-faced masonry is present because it can readily be peened to conform to masonry's profile (see Photo 1).

In the past, lead-coated copper frequently was used as a counterflashing material in lieu of copper to avoid staining of light-colored masonry, such as limestone and marble. Lead-coated copper has not been readily available since about 2011 when the U.S. stopped production because of environmental and health concerns associated with the lead coating. You can use tin-zinc alloy-coated copper instead of lead-coated copper, but it should not contact other metals or be placed downslope from other metals on a roof to avoid the potential for galvanic corrosion.

Avoid using lead for counterflashings because of its toxicity and tendency to creep and suffer from fatigue cracking over time. Stainless steel may be used as a counterflashing material, but it is difficult to work with because of its rigidity and even its least reflective surface finish is shiny and often aesthetically objectionable, especially for historical preservation work.

Reglet detailing

In mass masonry walls, reglet depth should be between 2 to 2½ inches though a depth of 1¾ to 2 inches often is more practical based on the size of mechanical grinding equipment (see Figure 2). Infrequently, it may be necessary to cut a counterflashing reglet directly in a stone masonry unit to provide for the necessary lap of adjacent counterflashings. This most often occurs at inside corners where horizontal joints between masonry units do not align and in rubble-stone walls where the coursing can be irregular. In such cases, it usually is prudent to limit reglet depth to about 1 inch.



REGLET (TYP.)

SCALE: 6"=1'-0"

Figure 2: Some key features of a properly designed reglet, including reglet depth and not creating a ledge at the lower outside edge of the reglet

The goal is to prevent bulk water that may have entered the masonry from migrating around and below the reglet flange of the counterflashing. In addition, the reglet must be cut deep enough to accommodate counterflashing securement and a durable depth of pointing mortar. Some prefer to fill counterflashing reglets with backer rod and sealant, but sealant tends to trap moisture within the masonry even when weeps are specified. Mortar, on the other hand, will allow the masonry to dry to the exterior. The narrow crack that may develop between the copper and mortar is of no concern as the small amount of water drawn into this crack via capillary action should not penetrate past the reglet flange of a properly detailed counterflashing.

Cut reglets so they are dead-level or slope slightly toward the exterior face of the wall. This prevents directing rainwater into the masonry. It may also be necessary to bevel the lower outside edge of the reglet or grind down projecting portions of masonry located behind the counterflashings to avoid creating a ledge in the counterflashing, which can pond water or direct water into the wall. To preclude a ledge from forming, it is important to make the reglet flange of the counterflashing the same depth as the reglet itself. If the reglet flange is too long, it will project from the face of the wall and create a ledge. Reglets that are too shallow, slope in toward the center of the masonry wall or create a ledge in the counterflashing should be redone (see Photo 2 on page 42).



Photo 2: This reglet will have to be redone. The reglet flange of the counterflashing is too narrow given the depth of the reglet cut in the mortar joint. The kink below the lead wedge on the right indicates the reglet slopes into the wall in this area. The lead wedges also are set too close to the surface of the joint, allowing for insufficient coverage of the yet-to-be-installed mortar fill.



Photo 3: Lack of coordination between the roofing contractor and masonry contractor led to the concealed portion of the underlying counterflashing's reglet not being filled with mortar before installation of the overlying counterflashing (red arrow).

Securement

Counterflashings are secured in their reglets with lead wedges (rolled, 4-pound lead sheets) tapped into position to create a friction fit. Lead wedges typically are spaced 12 inches on center and a minimum of two per counterflashing. If the counterflashing moves under hand pressure, add wedges as needed.

Fill reglets with mortar to match the color and texture of the adjacent joints. Alternatively, you can fill reglets

with mortar to within about 1 inch of the surface of the joint; once the mortar cures, the remaining depth of the reglet can be filled with backer rod and sealant. As stated previously, the drawback of using backer rod and sealant is latent moisture within the masonry or on the counterflashing's reglet flange cannot dry out through the reglet. Set wedges at the back of the reglet to allow for sufficient coverage ($\frac{3}{4}$ to 1 inch minimum) of the mortar fill. Fill the portion of each reglet that will be covered by an overlying counterflashing before installing the overlying counterflashing (see Photo 3).

There should be no exposed fasteners in a properly detailed counterflashing. Fasteners—whether rivets, nail-driven expansion anchors, screws or nails—represent holes which, even if covered with sealant initially, will allow rainwater to penetrate eventually when the sealant fails and the fasteners loosen or displace over time. Hemming counterflashings' exposed edges provides rigidity and, when combined with loose locking the bottom edges at the laps, precludes the need for exposed fasteners in most cases. When counterflashings are more than 8 inches in height, exposed or concealed sheet-metal clips of a heavier gauge than the counterflashing can help keep the counterflashings in close contact with each other and prevent outward displacement (see Photo 4).

For 16-ounce copper counterflashings, $1\frac{1}{4}$ -inch-wide clips may be fabricated of 20-ounce copper and either soldered to the underlying counterflashing or fastened to the masonry wall with appropriate fasteners, such as nylon nail-in anchors. In both cases, the means of fastening is concealed by the overlying counterflashing and the clips are folded around the vertical leg of the counterflashing and peened tight.

Changes in direction

The hook dam at the back end of a counterflashing's reglet flange impedes the passage of stray moisture that may enter through the face of the reglet from progressing further into the masonry wall. At changes in direction in the counterflashing (such as inside and outside corners), it is important the reglet flange, including the hook dam, is watertight. At outside corners, the reglet flange may simply be slit, lapped and soldered. At inside corners, you should install a small gusset plate (square or rectangular-shaped piece of metal of the same type and thickness as the counterflashing) to complete the reglet flange and solder it watertight.

Aesthetics

On steep-slope roofs, counterflashings can be highly visible. As such, keep aesthetics in mind when designing and installing new counterflashings. For example, the bottom outside corner of the leading counterflashing (the first to be installed) may be radiused. As mentioned previously, you can hem exposed edges $\frac{1}{4}$ to $\frac{1}{2}$ of an inch not only to provide stiffness but also to create clean, slightly rounded edges. Lastly, keep the steps between counterflashings as uniform as possible, especially where bed joints are regularly spaced as in brick masonry (see Photo 5).

OTHER TIPS

In addition, the following detailing items can help contribute to a successful counterflashing installation:

- When raking out counterflashing reglets with a grinder, make sure to maintain the existing mortar joint width and not widen the joint by removing masonry at the top or bottom of the joint.
- Grinders leave a radiused profile at the end terminations of reglets. To maintain the full depth of the reglet and avoid overcutting, rake out end terminations using hand chisels or pneumatic chisel guns.
- Rake out and repoint deteriorated mortar joints located behind existing counterflashings (and base flashings if these are being replaced, as well) before installing new flashings. After all, this may be the last opportunity to do so for many years.
- Counterflashings can do a good job protecting a roof system from water infiltration, but if there are numerous open mortar joints and/or cracked, spalled or displaced masonry units located above the counterflashings, it is likely too much bulk water will enter the masonry for the counterflashings to be effective. As such, it is good practice to undertake masonry restoration work above the counterflashings in advance of or at the same time as counterflashing replacement if possible.
- The bottom edge of any given counterflashing should be located slightly above the bottom edge of the overlying counterflashing at the laps. If it hangs lower, the aesthetics are poor and the exposed edge can trap debris and cause rainwater to back up into the base flashings, especially on lower sloped roofs. Loose locking the bottom edges of overlying counterflashings at the laps can largely resolve this issue.



Photo 4: Close-up of 20-ounce copper clips used to help secure counterflashings



Photo 5: Regularly sized steps in counterflashings help improve their appearance, especially where masonry units are of uniform size.

Of course, if underlayments and base flashings at vertical walls are detailed incorrectly, the level of detailing and workmanship bestowed upon the counterflashings will be to little benefit. But, alas, these are issues for another article. 🌀🌩️

JEFFREY S. LEVINE is a roof consultant and associate principal in the Philadelphia office of Wiss, Janney, Elstner Associates.

Post- hurricane roofing

**CMR Construction & Roofing
deploys to the Bahamas**

by Christine Elle Hanus

Hurricane season typically runs June 1 through Nov. 30. An average season has 12 named storms, six hurricanes and three major hurricanes (a major hurricane is a storm that ranks Category 3 or higher), according to the National Oceanic and Atmospheric Administration. At press time, Hurricane Ian knocked out power on the entire island of Cuba, hammered Florida with historic flooding and catastrophic damage, and was heading up the east coast. For many, Ian will be remembered as “the big one.”

In 2019, the Atlantic hurricane season was the fourth consecutive above-normal season. The only other period on record that produced four consecutive above-normal seasons was 1998-2001, according to NOAA. The 2019 season produced 18 named storms, including six hurricanes of which three were major hurricanes.

On Sept. 1, 2019, Hurricane Dorian reached peak intensity and made landfall across several areas, becoming the worst natural disaster for the Bahamas. The storm killed 74 people, 245 people were reported missing and 13,000 homes on the Abaco Islands were severely damaged. Following the hurricane, the team at CMR Construction & Roofing, Haltom City, Texas, deployed to the islands to provide immediate roofing assistance.

Logistics

There were three major hurricanes in 2019—Dorian, Humberto and Lorenzo. Hurricane Dorian is tied with three other hurricanes—a Labor Day Hurricane in 1935, Hurricane Gilbert in 1988 and Hurricane Wilma in 2005—as the second-strongest hurricane on record in the Atlantic basin in terms of wind speed (185 mph), according to NOAA.

Before the storm reached the Bahamas, two CMR Construction & Roofing partners, a general contractor and Stormseal® Industries Pty. Ltd., New South Wales, Australia, were getting ready for post-storm recovery work.

“Matt Lennox, owner of Stormseal, was preparing for the imminent threat Category 5 Hurricane Dorian posed to southeast Florida,” says Daniel Brown, account manager for CMR Construction & Roofing. “He knew the storm would result in an urgent need for durable, temporary roof systems.”

Meanwhile, Hurricane Dorian stalled over the Bahamas for 24 hours, causing devastation to the Abaco Islands, where the general contractor was working.



A hurricane-damaged roof before Stormseal



The roof in the process of being Stormsealed



The roof after Stormseal installation

Project name: Hurricane Dorian storm response
Project location: Abaco Islands, the Bahamas
Project duration: September 2019-September 2021
Roofing contractor: CMR Construction & Roofing, Haltom City, Texas
Temporary roofing type: Polyethylene film
Roofing manufacturer: Stormseal,* New South Wales, Australia

“They had an immediate need for mitigation work, repairs and temporary roofing for the surviving structures on Great Guana Cay,” Brown says. “So we readied a storm response crew to take care of the properties.”

In early October it was safe to enter the Bahamas, and the CMR Construction & Roofing crew arrived on the island with tools, materials and camping gear fit for off-grid survival.

“When our team first reached the cay, no power, food, water or structures were available for camping,” Brown says. “The general contractor team had a few travel trailers delivered the day before our arrival, so we towed them from the dock to a sandy clearing near the beach. We were able to access two trailers, and we used items from our tool kits to splice power cables into the job-site generator we brought. From that point, we

made marginal improvements each day after work

to make our living conditions more comfortable. Eventually, we managed to get running water and even an ice machine!”

Getting materials to a site following a catastrophic event is challenging—let alone working on a small island in another country where everything must arrive on a barge and pass through customs.

“Fortunately, the general contractor had an established logistics channel that facilitated the process,”

Brown says. “We immediately started repairs and installing Stormseal to temporarily seal the roofs on six properties, which included three to five large roofs plus a few smaller structures throughout the island. In total, we successfully sealed and protected 30 roofs.”

A few months before Hurricane Dorian, a CMR Construction & Roofing team from the company’s Naples, Fla., facility completed the Stormseal installer training program.

“We pride ourselves on having a highly skilled team with expertise in a wide variety of roofing materials, including shrink-wrap products,” Brown explains. “With the training fresh in our minds, we were confident we could perform the installations in any condition.”

Roofing repairs

During the reroofing phase, the crew faced more challenges as the COVID-19 pandemic spread across the globe.

“That meant COVID-19 protocols, lockdowns, travel restrictions, long material lead times and staff shortages contributed to the difficulty of the project,” Brown says.

During 13 months on the island, crew members sealed and repaired 26 cedar shake roofs; sealed and repaired four asphalt shingle roofs; and replaced 25 cedar shake, 11 TPO membrane and one two-ply polymer-modified bitumen roof systems.

“Our team was able to experience the island’s recovery first-hand—from the days immediately following the hurricane through the final roof system installations,” Brown says. “We were able to see the island transform through the hard work, dedication, and collaborative efforts of locals and visiting contractors. It is a terrific feeling we will not soon forget.”

Operation Blue Roof

One month after returning from the Bahamas, the CMR Construction & Roofing crew’s disaster recovery skills were again needed. In late August 2021, Category 4 Hurricane Ida became the second-most damaging and intense hurricane to make landfall in Louisiana, causing 85 deaths and \$36 billion in insured losses, according to the Insurance Information Institute. Upon landfall, Ida generated a storm surge up to 14 feet above ground level in southeastern Louisiana.

CMR Construction & Roofing was one of three contractors selected by the U.S. Army Corps of Engineers

to participate in a Stormseal shrink-wrap pilot project.

“CMR was asked to help assess the viability of full Stormseal encapsulations for specific types of damaged residential roofs that had been technically disqualified from the Operation Blue Roof program,” Brown says.

Operation Blue Roof is a program managed by USACE for FEMA. The service is free and provides homeowners in disaster areas with fiber-reinforced sheeting to cover damaged roofs until permanent repairs can be made. After a “blue roof” is installed, the structure is declared habitable. However, not all roof types qualify for the program. Most low-slope roofs or those made of metal, clay, slate or asbestos tile do not qualify.

The pilot project was implemented from CMR Construction & Roofing’s Hurricane Ida response command center and warehouse in Harvey, La. The project focused on five roof system types:

- Asbestos tile/shingle
- Composite shingle
- Corrugated sheet metal
- Low-slope sheet metal with asphalt-based roof coating
- Sheet metal

“The Stormseal film was determined to be an excellent supplement to the FEMA Operation Blue Roof program as it would allow homeowners who are typically disqualified from the program to stay in their homes until permanent repairs can be made,” Brown explains. “FEMA hotel, tent and trailer costs would be significantly reduced by eliminating the need for temporary relocation of homeowners. And community displacement could be mitigated, enabling residents and communities to recover more quickly.”

The on-site installation time to seal a roof averaged two to three hours.

“Because there are fewer fasteners and the battens that anchor the film in place do not require installation into the roof, there is also minimal roof damage caused by the installation itself,” Brown says. “Homeowners were pleased with the protection and longevity of the material, which is estimated to last more than one year. Crews

also benefit from reduced height-related safety hazards because welding can be performed on the ground.”

Rebuilding communities

Although the 2022 hurricane season has been relatively quiet, it only takes one storm to make a season historic. From damaging winds and heavy rain to power outages and widespread flooding, hurricanes create devastation often requiring years of recovery. Fortunately for homeowners, the CMR Construction & Roofing storm disaster recovery crew is ready to lend a hand.



Damaged roof before Stormseal



Damaged roof before Stormseal



After Stormseal installation



After Stormseal installation

“For 20 years, CMR Construction & Roofing has been dedicated to helping communities, homeowners and businesses recover from the devastation caused by severe storms,” Brown says. “The Hurricane Dorian and Stormseal pilot projects exemplify the purpose behind our mission. The opportunity to be part of rebuilding a community after such a destructive event is a truly rewarding experience.” 🌐🌱

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

Sustainability strategies



Going **green** matches market trends and helps the environment

by Justin Brown



The combination of negative health and environmental effects from unsustainable roofing products shows the importance of responsible product choice. Using third-party certified products helps because the certification process evaluates toxin levels and disposal processes.

Shifting consumer preferences

As a society, we are increasingly seeking ways to reduce our carbon footprints. With round-the-clock access to a plethora of information, consumers understand the significant roles companies play in protecting the environment. This has caused an increasing shift in consumer purchasing habits to support companies that operate sustainably and offer environmentally friendly products.

Roofing manufacturers have an opportunity to meet this market demand by investing time and resources into creating a strong environmental, social and governance strategy. A strong position builds reputational preference with consumers, which may increase profits.

Manufacturers also should consider product transparency in this effort, providing information about what their products are made of, where their products are made and how their companies are operating sustainably.


It is imperative companies such as roofing manufacturers invest in sustainable operations; be transparent; and have strong environmental, social and governance strategies to maintain their market shares. This becomes important as younger generations are increasingly concerned about the environment and becoming roofing customers.

Green: The color of sustainability

During the past several years, the architecture, engineering and construction industries have been trending toward sustainable building practices. This trend is expected to continue: A study, “2021 World Green Building Trends,” conducted by Dodge Data & Analytics showed 28% of respondents across the globe in the

architecture, engineering and construction industries reported most of their projects are categorized as “green” projects. Additionally, 42% expect to reach the green project level within the next two years. The benefits of this trend trickle down to commercial real estate investors as they can save money through decreasing their material waste by using sustainable building practices.

Using third-party certified building products to build environmentally friendly structures can help achieve well-respected sustainability ratings.



Like most things in modern society, roofing products can affect the environment. Roof systems require a considerable amount of materials, and depending on the type of system installed, the lifespans of the materials can be about 20 years, requiring routine replacement and landfill space.

Fortunately, consumers have been asking for sustainable building products, and contractors and manufacturers are beginning to meet their needs.

Roofing material threats

About 8 billion people currently live on Earth and produce garbage daily. We have a limited amount of space in landfills, so it is imperative we consider how to reduce waste to conserve space for materials that cannot be reused or recycled. Considering the toxins and diseases that can be emitted as waste breaks down, it's important the roofing industry increases use of recyclable and sustainably sourced materials.

Widely used sustainability ratings include:

- **LEED®:** A green building rating system used globally. Buildings that achieve this standard are proven to be healthy and energy-efficient built environments that also save costs.
- **Living Building Challenge:** An international rating based on energy, materials, water and other components that are self-sufficient and have positive effects on human and environmental health.
- **WELL certification:** A global rating system for all types of buildings that advance human health and well-being.

Commercial real estate developers and investors enjoy achieving these industry ratings because they add value to their properties. According to Youmatter.world, an online news media site with a focus on science, certified buildings are easier to rent and can be rented at a higher rate than noncertified buildings because human health and wellness certifications make the spaces more attractive to renters.

Green materials are considered safer materials because they typically carry fewer toxins and harmful chemicals than standard materials. This is especially important for companies that require office space and are focused on health and wellness within office-type work.

For articles related to this topic, see “Eco-friendly roofing,” July/August 2021 issue and “Stepping forward,” December 2018 issue.

These are crucial factors to consider when evaluating whether a building will meet the needs of key stakeholders. The Environmental Protection Agency states standard buildings contribute to 30% of all greenhouse gases in the U.S. Green buildings typically use renewable and sustainable energy to operate, keeping utility costs down and decreasing greenhouse gas contribution.

The same Dodge Data & Analytics study shows green building owners and investors report an average of 10% reduced operating costs for the first year. That number is reported to increase to 16% within five years. Many certified buildings incorporate efficient lighting systems that consume less energy in conjunction with using natural light. Sufficient building insulation also helps decrease utility costs by reducing the overuse and need for monitoring thermostats.

Roofing materials can play a helpful role if they reflect sunlight substantially, reducing the need for additional air conditioning. Factors like this add value to





commercial real estate investors' properties because these factors can decrease operating costs and increase profit margins. Sustainable construction materials are increasingly demanded by building owners and construction project teams as a result of the high environmental impact of the built environment.

Third-party certification

The most trusted way to verify, improve and showcase a product's sustainability within the building products marketplace is through third-party certification.

For example, NSF® certification addresses the environmental impacts of roofing practices and materials, helping roofing contractors adapt to shifts in sustainable operations and products. By increasing transparency through third-party certification with certification bodies such as NSF, the roofing industry can adapt to meet market demand and stay competitive in an ever-evolving marketplace.

Earning a third-party sustainability certification, such as NSF/ANSI 347-Sustainability Assessment for Single Ply Roofing Membranes, demonstrates to consumers a product has undergone rigorous testing and evaluation.

As industry trends show the growing transition to sustainable buildings, third-party certification can help manufacturers stand out to construction teams seeking materials. Additionally, third-party certification verifies a product's sustainability claims. This allows certified products to better meet state and federal procurement guidelines as well as allows manufacturers to obtain preferred vendor status from government entities and other specifiers.

For roofing materials, NSF/ANSI 347 is the leading national standard that evaluates products throughout their entire life cycles. Roofing products that fall into this

category include EPDM, KEE, PIB, PVC and TPO membranes. NSF/ANSI 347 evaluates roofing products against

established requirements in key areas, including product design, product manufacturing, membrane durability, corporate governance and innovation.

Sustainable practices

Efficiency gains can be realized for companies that operate in sustainable ways. In a manufacturing setting, this can be accomplished through understanding the supply chain of the raw materials used by evaluating how the materials are sourced and transported and how durable they are in the final product. All these factors contribute to a material's environmental impact.

Additionally, sustainable manufacturing practices can allow companies to operate more efficiently during the production process with reduced energy use, water use and waste creation. Reductions like these can help a company operate more sustainably as well as save money during the manufacturing process.

In addition to purchasing sustainable raw materials, many companies are going a step further to reduce their carbon footprints and operating costs. Businesses are implementing simple yet sustainable business practices such as embracing natural light in their buildings rather than using electric bulbs.

Companies also are switching from paper documents to virtual forms, reducing the amount of paper and waste they create. Another popular but easy practice is shutting off all electronics, machines, lights and HVAC systems when leaving the building at the end of the workday. These simple adjustments can help businesses transition to operating more sustainably as well as help improve bottom lines.

Global collaboration

As an industry that helps construct buildings either through manufacturing the products or erecting the structures, we have a responsibility to operate in an increasingly sustainable way. One of the ways we can help negate the effects of climate change and depleting natural resources is to build long-lasting, quality structures with sustainable materials. By using third-party certified sustainable building products and practices, NSF and our clients contribute to making our planet healthier for future generations. ♻️🌱

JUSTIN BROWN is a senior technical reviewer for environmental products, NSF,® Ann Arbor, Mich.

MANUFACTURER NEWS

Owens Corning expands shingle availability

Owens Corning, Toledo, Ohio, has made its TruDefinition® Duration FLEX® and Duration STORM shingles available in more U.S. regions. The expansion helps meet growing demand for high-performance shingles in high storm areas.



TruDefinition Duration STORM and/or Duration FLEX shingles now are available to contractors and homeowners in more than 35 states. TruDefinition Duration STORM shingles are impact-resistant and have integrated polymeric backing material with WeatherGuard® technology. TruDefinition Duration FLEX shingles are flexible with SureNail® technology for improved grip and are available in a variety of colors.

Additional information is available at owenscorning.com.

SOPREMA® awards scholarships

SOPREMA Inc., Wadsworth, Ohio, has awarded scholarships to four college students as part of the company's annual program. The company started the SOPREMA Scholarship program to assist students pursuing a degree in architecture, engineering, construction management or a similar building envelope field at accredited four-year colleges or universities. Each winner receives \$5,000 to use toward his or her studies.

This year's winners are Francisca (Franny) Anunobi, Saint Martin's University, Lacey, Wash., who majors in mechanical engineering and will graduate in 2023; Erika Clinard, Clemson University, Clemson, S.C., who is studying civil engineering; Ian Doherty, Michigan State University, East Lansing, who majors in engineering; and Rhett Tinklenberg, South Dakota State University, Brookings, who majors in construction management and works as a superintendent intern for commercial construction company Puetz Design + Build, Sioux Falls, S.D.

SOPREMA has invested \$175,000 in scholarships in the building envelope field during the past seven years. Applications for the 2023-2024 SOPREMA Scholarship program will be available soon at soprema.us/soprema-scholarship-program.

TAMKO® Building Products launches contractor benefits

TAMKO Building Products LLC, Galena, Kan., has launched two new features for TAMKO Certified Contractors designed to provide more professional roofing industry solutions for business growth.

The new features are Homeowner Leads Solution with an automated integration in The TAMKO Edge™ portal and a new digital site for ordering marketing materials, including product samples and literature.

Homeowner Leads Solution allows homeowners to use a "Locate a Contractor" feature on tamko.com to directly request quotes from TAMKO Certified Contractors in their area. Automated communications then make it simple for contractors to follow up on potential job leads and digitally manage leads from their accounts. In addition, TAMKO Certified Contractors now can order product literature and samples through an e-commerce solution featuring items like sample folders, brochures, sell sheets, banners and counter mats. All items are available at no cost and include free shipping to the contractor.

Additional information about The TAMKO Edge program is available at tamko.com/edge.

GAF opens new distribution center

GAF, Parsippany, N.J., has opened a new distribution center in Michigan City, Ind.

The facility includes a 200,000-square-foot warehouse and 28 acres of outdoor storage and loading space and employs 30 workers from the greater Michigan City area. The new center increases capacity and improves shipping efficiency for GAF products throughout the central U.S. region.

In addition, GAF has announced plans to build a new manufacturing plant in Valdosta, Ga., to support its commercial roofing operations. GAF will bring 135 jobs to Lowndes County during the next six years, adding to its Georgia operations in Cumming, Savannah and Statesboro. GAF has signed an agreement to purchase 130 acres of land for the future home of a plant that will expand the company's thermoplastic polyolefin roofing manufacturing. Construction is expected to begin this fall with full production of the company's EverGuard™ line of products to commence during the first quarter of 2024. The new plant will join GAF's four existing TPO operations in Cedar City, Utah; Mount Vernon, Ind.; New Columbia, Pa.; and Gainesville, Texas.



The Garland Co. receives award

The **Garland Co.**, Cleveland, has received the Employers Resource Council's NorthCoast 99 award for being one of the top 99 places to work in northeast Ohio.



NorthCoast 99 award winners are selected based on how their organization addresses top-performer attraction, development and retention in the areas of organizational strategy, policies and benefits; talent attraction, acquisition and onboarding; employee well-being; employee engagement and talent development; total rewards; and diversity, equity and inclusion. This is the twenty-third consecutive year The Garland Co. has won the award.

"We pride ourselves on consistent excellence," says Matt McDermott, president of The Garland Co.'s U.S. roofing division. "What makes this year's NorthCoast 99 even more special is that it comes during a period of unprecedented change in the American workplace. While much is changing, we feel a strong culture and a shared mission, reinforced by our employee ownership, are values employees will continue to embrace, and this award reinforces that belief."

Holcim products now are HFC-free

Holcim U.S., Chicago, has announced its full line of Elevate™ products (Elevate is the new name for Firestone Building Products roofing, wall and lining systems) now are HFC-free and compliant with all HFC restrictions throughout the U.S. and Canada.

For example, Firestone Twin Jet spray adhesive now features an HFO propellant. HFO, or hydrofluoroolefin, differs from HFCs in that HFOs don't trap heat in the atmosphere and have zero ozone depletion potential, making them a more environmentally friendly option.

Additional information is available at holcimelevate.com/en.

DISTRIBUTOR NEWS

ABC Supply opens two locations

ABC Supply Co. Inc., Beloit, Wis., has opened locations in Cheswick, Pa., and Redding, Calif.

The locations will offer roofing, siding, and other exterior and interior building products to local customers. The Cheswick store is ABC Supply's 24th location in Pennsylvania, and the Redding store is the company's 46th location in California.

OTHER NEWS

ARMA accepting award submissions

The **Asphalt Roofing Manufacturers Association** is accepting submissions for the 2023 Excellence in Asphalt Roofing Awards Program. Roofing contractors are encouraged to submit their best steep- and low-slope asphalt roofing projects from the past three years for consideration by Dec. 1.



Projects will be judged in four categories: beauty, performance, asphalt and distinction. Submissions require a project questionnaire and high-resolution images. There is no limit to the number of entries a company may submit as long as each project meets the program criteria.

Winning companies will be recognized during the 2023 International Roofing Expo® March 7-9 in Dallas. Winners will receive a monetary prize, as well as recognition in national trade media, local media, and on ARMA's website and social media.

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

UP THE LADDER

ABC Supply Co. Inc. has named **Kevin Banfield, Greg Booth, Phillip Broberg, Brian Engen, John Heron, Sean Maxwell, Garrett Meyer** and **Greg Stempniewski** managing partners.

Malarkey Roofing Products® has named **Mike Fields** west regional sales manager.

Town & Country Industries and ABC Supply Co. Inc. have named **Ray Lloyd** managing partner.

NRCA NEW MEMBERS

ARCHITECTS/ENGINEERS/CONSULTANTS

Bacon Lane Architect LLC, Cornwall Bridge, Conn.
Bill Whittaker, Architect, Anniston, Ala.
Creative Risk Management Solutions LLC, Kingsville, Md.
EJS Consulting LLC, Guaynabo, Puerto Rico
Kirksey Architecture, Houston
MPI Architects, Addison, Texas
Superior Impact Inc., New York City

CONTRACTORS

Acorn Roofing, Kenosha, Wis.
Blue Dog Roofing & Construction, Fort Myers, Fla.
Cedar Peak Roofing LLC, Myrtle Beach, S.C.
Coastal Insulation & Waterproofing LLC, Dallas
Cotect Roofing LLC, Southwest Ranches, Fla.
CueBid Facilities, McAllen, Texas
Excel Construction Group-Austin division,
Round Rock, Texas
Excel Construction Group-Denver division, Denver
Excel Construction Group-Lubbock division,
Lubbock, Texas
Excel Construction Group-San Antonio division,
San Antonio
Great Barrier Roof LLC, The Woodlands, Texas
I & E Construction, St. Louis
Innovative Roofing Systems, Columbus, Ohio
J2J Contracting LLC, Danville, Ill.
JM Roofing Innovations and Construction Plus,
Rogers, Ark.
Km's Exterior & Interior Remodeling LLC, Loves Park, Ill.
Mammoth, San Angelo, Texas
Manuel's Roofing LLC, Henderson, N.C.
Mast's Top Choice Roofing LLC, Jefferson, Ohio
Matrix Metalworks Inc., Las Vegas
McCann's Roofing and Construction, Edmond, Okla.

Mid-Tenn Roofing LLC, Smyrna, Tenn.
Myriad Roofing & Construction LLC, Dallas
Nathan Roofs LLC, Sugar Land, Texas
Pflugerville Roofing & Exteriors LLC, d/b/a
Mpact Roofing, Pflugerville, Texas
Pristine Roofing & Gutters, Colorado Springs,
Colo.
River City Roofing, Rapid City, S.D.
Roofing USA, Mount Pleasant, S.C.
Roofs & Exteriors, Austin, Texas
SHC Roofing, Douglasville, Ga.
Skyline RAC LLC, Bellingham, Wash.
Smith Roofing & Exteriors, Knoxville, Tenn.
WorleyByrd Roofing & Restoration, Austin, Texas

MANUFACTURER

Huntsman Building Solutions, Arlington, Texas

SERVICE PROVIDER

Labor Central, Bedford, Texas



EVENTS

NOVEMBER

8-11

NRCA's Fall Meetings

NRCA

Chicago

Contact: NRCA's Customer Service
Department

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

info@nrca.net

nrca.net

15-16

**NRCA's Qualified Trainer
Conference**

NRCA

Orlando, Fla.

Contact: Jared Ribble, NRCA's
director of Qualified Trainer and
ProCertification® programs

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

nrca.net

17

CERTA Train-the-trainer

NRCA

Elgin, Ill.

Contact: NRCA's Customer Service
Department

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

info@nrca.net

nrca.net

DECEMBER

1

**Foreman Leadership Training,
Level 1**

NRCA

Rosemont, Ill.

Contact: Jeff Jarvis, NRCA's vice
president of membership, sales
and business development

(847) 493-7512 or jjarvis@nrca.net
nrca.net

6-8

**Fall Protection Competent Person
Training**

NRCA

Elgin, Ill.

Contact: NRCA's Customer Service
Department

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

info@nrca.net

nrca.net

JANUARY 2023

18

Virtual CERTA Train-the-trainer

NRCA

Online

Contact: NRCA's Customer Service
Department

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

info@nrca.net

nrca.net

25-26

**Virtual Qualified Trainer
Conference**

NRCA

Online

Contact: Jared Ribble, NRCA's
director of Qualified Trainer and
ProCertification® programs

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

nrca.net

Jan. 29-Feb. 1

**Storm Restoration Contractor
Summit**

Storm Consultants LLC

Denton, Texas

Contact: April Hall, president of

Storm Consultants

(469) 416-6883 or april@srcsummit

.com

srcsummit.com

Jan. 31-Feb. 2

**NAHB International Builders'
Show®**

National Association of Home
Builders

Las Vegas

Contact: NAHB

(202) 266-8184

buildersshow.com

FEBRUARY 2023

12-15

**SprayFoam 2023 Convention &
Expo**

Spray Polyurethane Foam Alliance
Daytona Beach, Fla.

Contact: Kelly Marcavage

(800) 523-6154 or kmarcavage@

sprayfoam.org

sprayfoam.org/sprayfoam23

MARCH 2023

22

Virtual CERTA Train-the-trainer

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Online

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Department

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A lifetime of partners and ethical business practices.

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

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

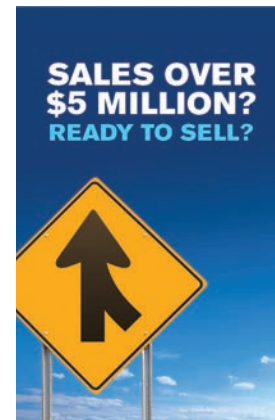
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MICHELLE LANE

WHAT IS YOUR POSITION WITHIN YOUR COMPANY? I am vice president of marketing and communications for the building envelope division at Holcim (formerly Firestone Building Products), Nashville, Tenn.

WHY DID YOU BECOME INVOLVED IN THE ROOFING INDUSTRY? I had been working in marketing for more than 15 years in a variety of roles, most recently in leadership. An opportunity opened to lead a larger team outside of the tire business, and I was intrigued. I spoke to several people regarding the opportunity and the down-to-earth, relationship-driven roofing industry. Immediately, I knew it was a place my skills and personality would fit. Plus, I come from a family with a construction background.



WHAT IS YOUR ROOFING INDUSTRY INVOLVEMENT? I have been active in NRCA committees since 2018, serving on the committees for career and technical education, diversity and inclusion, government relations and membership. I also serve on the Roofing Alliance's board of directors. Both organizations do such great work, and I really enjoy working with the talented, spirited people.

WHAT SONG ARE YOU LISTENING TO OVER AND OVER? I can always listen to Prince's "Purple Rain."



PEOPLE WOULD BE SURPRISED TO KNOW ... I am an avid golfer! I love to play when I have time, and I especially enjoy a round of golf with my dog, Tito, in the evening to wind down the day.

WHAT WAS YOUR FIRST JOB? I cleaned the office for my dad in the family business and then worked as a server at Pizza Hut for several years when I was in high school and college.

WHAT QUALITY DO YOU MOST ADMIRE IN A PERSON? Integrity—sticking to your principles will guide you in any situation.

IF YOU COULD TRAVEL ANYWHERE IN THE WORLD, WHERE WOULD YOU GO? WHY? I've always wanted to go to Fiji and stay in an overwater bungalow. The island looks beautiful and relaxing, and there is something about swimming and snorkeling outside your bedroom that sounds purely delightful.

WHAT ARE YOUR FAVORITE STRESS RELIEVERS? Long walks and exercise in general

WHAT DO YOU CONSIDER A WASTE OF TIME? Rehashing a decision that already has been discussed thoroughly. Time is better spent on superior execution and review.



WHAT'S THE MOST EXCITING/ADVENTUROUS THING YOU'VE DONE? I went hang gliding in Rio. It's the scariest thing I've ever done, and I'm not sure I would do it again!

WHEN YOU WERE A CHILD, WHAT DID YOU WANT TO BE WHEN YOU GREW UP? A veterinarian

WHAT ARE YOUR FAVORITE FOODS? I love all different types of food but especially Asian food. Sushi and Thai are my favorites.



MY FAVORITE PART ABOUT WORKING IN THE ROOFING INDUSTRY IS ... The people. There is so much pride, dedication and authenticity in this business that make it really special.

BIG CITY OR SMALL TOWN? Both—I love the conveniences of the city, but I am originally from Iowa and feel grounded and at home in the country.

WHAT DO YOU CONSIDER YOUR MOST REWARDING EXPERIENCE? I always feel rewarded when I see someone succeed, such as a promotion or overcoming a fear. Playing a

role in helping a person be successful and achieve his or her goals is an amazing feeling.

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