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JULY/AUGUST-SEPTEMBER/OCTOBER 2024 ISSUE

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Double Issue: July/August - September/October 2024

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AFFILIATED WITH NATIONAL ROOFING CONTRACTORS ASSOCIATION, INC.

NRCA

CRSMCA STAFF MEMBERS

Executive Director, Carla B. Sims [cbsims@crsmca.org]
Assistant, Karin Barahona [staff@crsmca.org]

THE CRSMCA MISSION STATEMENT

To promote and safeguard the common business interest of its members and to improve conditions by educating all persons concerning the roofing and sheet metal business and industry. To work for the development and progress of the roofing and sheet metal business industry and to work with individuals' organizations and governmental agencies toward the achievement of a stronger profession of the roofing and sheet metal industry.

Message from President, Bobbie Jo Deal

Dear CRSMCA Members:

I would like to say thank you for the opportunity to serve as the *first* female President of the CRSMCA and the marking of a significant milestone in the Association's history. It is a testament to how far our industry has come and how far we are willing to go in embracing progress, inclusivity, and fresh perspectives. As I step into this role, I do so with a deep respect for the expertise and history within this field.

As we close out 2024, I would like to take the time to thank you for your dedication to the Association. The CRSMCA Board members and I remain focused on expanding membership, addressing key challenges within the sector, such as workforce development, and key needs of the industry as well as our members.

It is very important that we look to the future of the roofing industry and create opportunities for skilled laborers, advocate for inclusive recruiting, remain committed to the safety of our employees, stay current with ever changing technology and advance roofing products, and emphasize that roofing can be a viable and rewarding career path for women as well as men.

I encourage both young professionals and industry veterans to get involved with CRSMCA's mission, advocating that active engagement helps enhance both professional growth and the community's overall development.

I am proud to serve on the Board of Directors and I am here to help, advocate, and am committed to serving our members.

Thank you to all the vendors for your past, present and future support to the Association.

Be sure and mark your calendars for the events in 2025:

- CRSMCA Sporting Clay Tournament [April 10]
- District Meetings [beginning in March]
- Carolinas Roofing Expo & Annual Meeting in Myrtle Beach, SC [June 25 - 29]

A special thank you to the current CRSMCA Board members listed below:

Robert Hodges, RK Hydro-Vac, Inc.
Hunter Steed, Wayne Roofing & Sheet Metal
Joshua Dernosek, CL Burks Construction
Jason Tetterton, Curtis Construction Co., Inc.
Jimmy Hinnant, MBA Construction Corporation of NC
Casey Morgan Triad Roofing Co., Inc.
Mike Degner, Lifetime Quality Roofing of NC
Stephen Trites, Radco Roofing
David Panella, Hamlin Roofing Co., Inc.
Sam Steed, Wayne Roofing & Sheet Metal
Kristina Zushma, Spann Roofing & Sheet Metal
Trip Howland, Monarch Roofing

Tara Burgei, Johns Manville
Mark Cameron, Mid-States Asphalt
Tim Smart, Beacon Building Products
Steve Hall, Mid-Atlantic Roofing Supply
Darren McEvoy, Premier Building Products, Inc.
David Summers, Beacon Building Products
Andy Butler, Beacon - Roofing Supply of Greenville
Justin Maycher, GAF Materials Corporation
Bradley Hall, Mid-Atlantic Roofing Supply
Todd Casey, Beacon Building Products
Chad Bolt, ABC Supply Co., Inc.
Jake Smith, Mid-Atlantic Roofing Supply
Lee Wells, Beacon Building Products
Nathan Rollins, HB Fuller Construction Adhesives

Please feel free to reach out to me with any questions, suggestions, or feedback that you feel would be helpful to our Association.

From this, I wish you all a wonderful holiday season and look forward to serving and seeing you all in the new year.

Bobbie Jo Deal, CityScape Roofing, Inc.
CRSMCA President 2024-2025

Message from Associate Group President, Tara Burgei

I hope this finds everyone well. I look forward to serving as your Associate Group Board President for the 2024-2025 year and working with Bobbie Jo Deal, your CRSMCA President of the association.

Thank you to Past President and proud new father, Darren McEvoy, for leading the Associate Group this past year. Your dedication and commitment to the association is commendable.

Our joint 2024 Carolinas Roofing Expo & Annual Meeting, held in Myrtle Beach, was a successful event thanks to the great preparation and leadership from Carla Sims, Jason Tetterton, Darren McEvoy along with our CRSMCA Planning Committee. Survey's were sent out and the constructive feedback was reviewed. Thank you for those that took the time to review and offer feedback. In turn, we will be making some minor changes to reflect the needs of the association.

A huge thank you to those who continue to support the CRSMCA through sponsorships, time and resources, and certainly by attending events. The income generated from these events help the association to continue running the office that supports training events & meetings, generates scholarship funds, and allows new events to take place. Your membership gives you access to the *Carolinas Contacts* Magazine, educational programs, legal updates among other great benefits. ***I believe that the greatest value of all is the ability to network and build relationships. People IN this organization are what make CRSMCA special and has since 1943.***

Please continue to be on the lookout for upcoming events. These include the 7th Annual Golf Tournament [October 10], our 2nd Annual Sporting Clays Tournament [April 10, 2025], and 2025 Spring District Meetings [beginning in April].

Do not forgot to mark your calendar for the 2025 Carolinas Roofing Expo & Annual Meeting back in Myrtle Beach, June 25-29, 2025. This will again bring together the trade show combined with the summer annual meeting.

My goals for this year are to attend and support as many CRSMCA events as possible, help with attracting new members, and ask for active participation from members we haven't seen in a while. Feel free to reach out to discuss any thoughts, ideas, or concerns you may have.

In closing, I would like to recognize the 2024-2025 Associate Group Board that is serving this year with me:

- 1st Vice President - Mark Cameron, Mid-States Asphalt
- 2nd Vice President - Tim Smart, Beacon Building Products
- Secretary/Treasurer - Steve Hall, Mid Atlantic Roofing Supply
- Immediate Past President - Darren McEvoy, Premier Building Products

Thank you for the opportunity to work with you this upcoming year.

Sincerely,
Tara Burgei, Johns Manville
CRSMCA Associate Group President 2024-2025

Message from Executive Director, Carla B. Sims

Keeping a positive mindset for CRSMCA members!

The CRSMCA Board members are excited about a new year [2024-2025]. In this new year, the Board members will be working on new committee developments to enhance CRSMCA and its offerings to its members from events to education and training. But we need YOUR HELP to make these changes.

The CRSMCA Board members will be asking their members for input from phone calls and in-person events and the CRSMCA staff will be sending out surveys. We hope that you will participate in these conversations and surveys to help the CRSMCA Board members.

DON'T WANT TO WAIT... CALL ME TODAY! Tell me what YOU and YOUR COMPANY want and need from CRSMCA!

We want to know what you need. CRSMCA serves to be the voice of the roofing sheet metal industry of the Carolinas. CRSMCA works to promote and safeguard the common business interests of its members through education, public advocacy, programs and services, and providing a forum for networking.

CHECK YOUR EMAIL!

CRSMCA's e-Newsletter arrives every Tuesday!

CRSMCA Weekly e-Newsletters

CRSMCA's most consistent information of association events and industry updates provided every Tuesday! D o you have an event, education or training seminar that you would like for CRSMCA to share with its members, contact me today. This is a member benefit and free of charge for CRSMCA members only!

BE SURE TO CHECK YOUR EMAIL AND TAKE A MOMENT TO GET UPDATED!

CRSMCA 2025 EVENTS

- CRSMCA Sporting Clays Competition - Thursday, April 10 [Fuquay-Varina, NC]
- CRSMCA Spring District Meetings - beginning in March 2025
- Carolinas Roofing Expo & Annual Meeting - June 25-29 [Myrtle Beach, SC]
- Annual Golf Tournament - Thursday, October 23 [Concord, NC]

CHECK OUT CRSMCA's MEETING PAGE FOR MORE DETAILS AND TO REGISTER!! [www.crsmca.org/meetinginfo.php]

I look forward to speaking with you soon and seeing you at the CRSMCA event!

find us on social media

2024 ANNUAL GOLF TOURNAMENT

CAROLINAS ROOFING AND SHEET METAL CONTRACTORS ASSOCIATION, INC.
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Get ready to tee off at CRSMCA's 7th Annual Golf Tournament! Join us for a day of fun and friendly competition on the greens as we raise funds for the Dottie Nagle Scholarship Fund.

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NEWS FROM THE CAROLINAS

LEARN ABOUT THE CRSMC SELF-INSURERS FUND PROGRAM

Carolinas Roofing and Sheet Metal Contractors – Self-Insurers Fund is the oldest worker's Compensation group funded in the Carolinas and could be saving your company money! Members within the CRSMC-SIF program are not just purchasing their workers compensation but investing into a program that brings additional value to their company through a commitment to ensure the safety of their employees. As a member/customer within the program, you participate in building a fund that is beneficial for all members/customers within the program, you could receive competitive rates within the insurance industry, and you could receive a return of interest determined by the CRSMC-SIF Trustees and other approved returns during the year. In the year 2018, the CRSMC-SIF returned more than **$1 MILLION DOLLARS** to the CRSMC-SIF members!
Additionally, the CRSMC-SIF is large component of support for the CRSMCA through sponsoring the CRSMCA Annual Meeting/Summer Convention and attendance of Trustees at the event. ***HAVE YOU CONSIDERED CRSMC-SIF FOR YOUR WORKERS COMPENSATION NEEDS?***

South Carolina of Labor, Licensing and Regulation

www.llr.sc.gov
Training information, registration and course details can be found at www.osha.llr.sc.gov

SC OSHA Outreach and Education offers FREE on-site training designed to help reduce or eliminate such hazards and address OSHA compliance criteria. The construction industry has one of the highest rates of work-related injuries and fatalities. This is a result of the many serious safety and health hazards workers face, along with an ever changing worksite.

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The NCDOL is pleased to offer **pre-recorded webinars** ready for you and your employees to view at your convenience. To access a webinar visit www.labor.communications.its.state.nc.us/OSHPublic/ETTA/class_reglist/calendar.cfm, double-click on the applicable safety and health topic below and it will automatically start the training session.

Note: Some of the webinars are hosted on a training platform and will require you to log in with your name and email in order to access the training session.

The Department of Labor does not provide certificates for employees viewing our pre-recorded webinars. These webinars were live recordings and contain chat conversations. For this reason, you will not be able to interact with the instructor during the recording. If you prefer to receive a certificate and have interaction with an instructor, please refer to our training schedule above for current live webinar offerings.
Training information, registration and course details can be found at www.labor.nc.gov/safety-and-health/training

OSHA's walkaround rule raises questions of liability, safety

Written by Jen A. Miller, ConstructionDive
Several industry groups have filed suit to stop the change, which expands the definition of who can be present during jobsite inspections.
OSHA's new employee walkaround rule has raised a lot of questions.
The final rule went into effect on May 31, allowing employees to select a third-party representative to be present during OSHA inspections. The agency has touted the change as a way to improve inspections by increasing worker representation and making it easier for compliance officers to obtain more information about workplace safety.
But not everyone is happy with the rule. Opponents and employer groups have described it as vague, and say that adding more people to inspections raises questions about safety, liability and confidentiality.

A rule to match practice

Employees have always had the right to have someone walk with them on an OSHA inspection, said Curtis Chambers, certified safety professional and president of OSHA Training Services, an Arlington, Texas-based training and consulting firm. In fact, it was a longstanding practice observed by OSHA.
Nevertheless, a 2017 court case found that allowing third parties to represent employees was a "valid interpretation," but not consistent with the language of the rule. OSHA issued the final rule this year to change and clarify the agency's view and ensure the text aligned with its

previous interpretation that third parties are allowed on inspections.
Even before the final rule went into effect, multiple groups, including Associated Builders and Contractors, the National Association of Manufacturers and the U.S. Chamber of Commerce filed suit in the Western District of Texas to challenge it. In particular, business groups take issue with the rule indicating labor representatives can visit sites that do not have union workers.
"By allowing outside union agents access to nonunion employers' private property, OSHA is injecting itself into labor-management disputes and casting doubt on its status as a neutral enforcer of the law," ABC said in a statement about the lawsuit.
Chambers agrees the rule "mainly benefits unions trying to get into companies that don't have union contractors or representation," he said. "It's just a reflection of the political environment."

Legal questions

Chambers said the rule also expands the definition of the kind of person who can be present on an inspection. Instead of someone with specialized knowledge, like a safety engineer, it can be someone whose expertise can be language or communication skills, which could be just about anyone.
The impetus behind the rule change may have been done "primarily for the purpose of allowing a union rep to attend, but that person doesn't have to be a union rep," said Trent Cotney, a construction lawyer at Adams and Reese in Tampa, Florida. "The process allows an employee or employees to request a walkaround rep, and that rep does not have to be affiliated with the employer."
Often, those third-party escorts are union representatives for workers already belonging to labor groups, but the rule change makes it clear that is not always the case.
The new OSHA rule doesn't say that this person has to go through safety training or comply with employer safety requirements, Cotney said.
Contractors are "very hesitant to allow anyone onto a jobsite that doesn't allow a reason to be there other than purposes of this inspection," said Cotney.
Companies also have concerns about intellectual property because the new rule doesn't say that a third-party rep has to sign a confidentiality agreement, but Cotney said asking a rep to sign one would be "a reasonable request," per OSHA's guidelines.
"A manufacturing plant or contractor that has specialized materials processes may be exposing it to someone who is the competition or who has access to the competition," he said.
Peter Dyga, president and CEO of ABC's Florida East Coast Chapter, said he has safety concerns about this ruling because "anybody can be on the jobsite and have no company training or site-specific training." He also added that "the rule doesn't answer who is responsible if the third party, who could be any number of third parties — what happens if they're injured during inspection?"
He also accused OSHA of overreaching, saying that through this ruling "they don't even think about the basic consequences."

What's next?

Since the final rule is still new, contractors are mostly in the "wait and see" phase. Cotney said that he expects the first third-party reps under this rule to be present on jobsites in areas where union labor is more common than in open-shop areas.
He also said that a contractor can object to a third-party representative. If they do so, the decision will go back to the OSHA area director, who will make a decision as to whether or not the process can move forward. If the area director decides it can go forward, and a contractor objects again "hypothetically they can issue a warrant or issue a citation or take other types of punitive potential actions," he said.
Cotney's also keeping an eye on the lawsuits filed over the challenge, especially since a recent Supreme Court ruling ended the Chevron deference, where courts deferred to agency interpretations of ambiguous statutes.
The Chevron deference had given "huge, huge power" to federal agencies, he said. The recent reversal means that the judicial branch checks that power, said Cotney, which can play out in multiple ways, and could include knocking down the power of an agency like OSHA to institute these kinds of rules.

Results are in from the latest market index survey for reroofing

A coalition of industry trade associations representing contractors, consultants and manufacturers in the U.S. and Canada completed its latest Quarterly Market Index Survey for Reroofing for the second quarter of 2024. The survey takes the pulse of the reroofing industry on a quarterly basis and serves as a regular barometer of the industry's business conditions.
Seventy-seven percent of survey responses came from contractors and 23% came from roof consultants.
Some topline excerpts of the survey are:

- Thirty-five percent of all respondents indicated their customer inquiries increased during the second quarter of 2024 compared with the same quarter in 2023. Thirty-one percent of respondents reported a decrease in customer inquiries during the same period, and 33% indicated no change in activity.
- Project contracts increased for 32% of respondents and decreased for 32% of respondents; 35% reported no change.
- Twenty-six percent of roofing contractors reported no project backlogs, 39% reported project backlogs of one to two months and 18% reported project backlogs of three to four months. Sixteen percent of roofing contractors reported project backlogs of five months or more.
- Thirty-two percent of respondents reported that the volume of materials installed increased during the second quarter of 2024 compared with the same quarter in 2023. Thirty-eight percent of respondents reported a decrease in materials during the same period, and 30% indicated no change.

Additionally, two indices offer insight regarding customer inquiries and project contracts across market segments. The indices are based on a 0 to 100 scale. A score of 50 or higher suggests expansion or optimism; a score below 50 indicates contraction or pessimism.
The customer inquiries index score is 36 for the steep-slope reroofing market; 53.7 for the low-slope reroofing market; and 56.3 for the blended low- and steep-slope reroofing market. The project contracts index score is 38 for the steep-slope reroofing market; 53 for the low-slope reroofing market; and 51.9 for the blended low- and steep-slope reroofing market.
The complete results of the Quarterly Market Index Survey for Reroofing are available to those who participate in the survey via an online dashboard that enables users to filter results by region and other metrics. Contractors and consultants who want to participate in next quarter's brief survey can **sign up for a notification**.
The survey is an industry-wide effort spearheaded by a coalition of trade associations, including the Asphalt Roofing Manufacturers Association, Canadian Roofing Contractors Association, Chemical Fabrics & Film Association Inc., EPDM Roofing Association, International Institute of Building Enclosure Consultants, Metal Construction Association, NRCA, National Women in Roofing, Polyisocyanurate Insulation Manufacturers Association, RoofersCoffeeShop and Single Ply Roofing Industry.

Judge strikes down Federal Trade Commission rule regarding noncompete agreements

A federal judge invalidated the Federal Trade Commission's rule to prohibit the use of noncompete agreements by employers for most employees. The agency had issued the rule in April, arguing it is needed because such clauses in employment contracts constitute unfair methods of competition and therefore violate Section 5 of the Federal Trade Commission Act. If implemented, noncompete agreements for most employees would no longer be enforceable. NRCA had submitted comments based on member input opposing the rule as overly broad in scope and going beyond the authority granted by Congress to regulate methods of competition.
U.S. District Judge Ada Brown ruled the FTC exceeded its authority in issuing a broad rule applicable to all types of noncompete agreements rather than reviewing instances of anticompetitive practices on a case-by-case basis, as it currently does. The ruling came in response to a lawsuit filed by the U.S. Chamber of Commerce and other organizations challenging the rule. The district court's ruling forbids the FTC from enforcing the rule, which was scheduled to take effect nationwide Sept. 4. An FTC spokesperson said officials are reviewing the ruling and will consider appealing the decision.

NRCA member Curtis Construction participates in tax roundtable in North Carolina

NRCA member Curtis Construction, Kinston, N.C., participated in a congressional tax event hosted by Congressman Greg Murphy (R-N.C.) in Greenville, N.C. Kelly Casey of Curtis Construction provided testimony to the panel regarding the value of the 199A qualified business income deduction for pass-through businesses. This deduction is set to expire at the end of 2025 without congressional action. Murphy heard from individuals from a wide range of industries who emphasized what the deduction means for their businesses and how it has helped them invest in their communities. This was the third roundtable in a series led by the Main Street Employers Coalition to raise awareness regarding the importance of this provision, and NRCA is happy to have the opportunity to participate.

These six things should be on your company's website

Your company's website often is the first thing a potential customer sees, so it is crucial your website represents your company well.

The U.S. Chamber of Commerce shares the following six things you should always include on your company's website.

1. An informative homepage. The homepage is the first opportunity to tell website visitors what your company is about and why they should care. Your homepage should start with a compelling headline that speaks to your ideal customer and include a more general description of your company's offerings. High-quality graphics and a video that engages your visitors also can be helpful.
2. About page. This page often is the most visited page on any business website. People want to get a sense of your company's story and staff, so the page should include how your business started, your company's mission and short bios of team members. It also helps to explain the types of customers you serve and the benefits your business offers them.
3. A services or products page. This page should include descriptions of each product or service you offer and who they most benefit. Include pricing information and clearly explain how customers can make a purchase. If you sell physical products, include high-resolution photos of each one.
4. Testimonials. Testimonials from happy customers show how your products or services helped solve a problem for that customer. If possible, include a name and photo with each testimonial to create more social proof.
5. Contact page. Make it easy for current and potential customers to get in touch with your business. Your website needs a separate contact page with your company's address, phone number, email address, links to your social media profiles and business hours.
6. An invitation to join your email list. Email marketing is one of the most effective ways to communicate with potential customers and boost revenue. Be sure you give website visitors an opportunity to sign up for your email list. It also is important to create strong content from which your ideal customer will benefit.

Five ways to improve communication in Latino workforce training

In diverse workplaces, effective communication is the linchpin that fosters collaboration and drives productivity. When it comes to training Latino workers, addressing language barriers and communication challenges is crucial.

Check out the following strategies from WorkTango and Betterworks for improving communication skills in training programs to ensure all team members can bring their best to the workplace.

1. Strengthening the language bridge. One of the main challenges faced by Latino workers in training is the language barrier. Effective training programs must recognize and bridge this gap by incorporating language support. This could involve providing bilingual training materials, offering language classes or using interpreters during training sessions. In this way, companies empower Latino workers to grasp concepts more effectively and participate fully in discussions.
2. Consider cultural sensitivity training. Beyond language, cultural nuances play an important role in effective communication. Training programs should integrate cultural sensitivity components, educating all team members about the diverse backgrounds of the workforce. Understanding the cultural context allows for better communicationand ensures interactions are respectful and inclusive.
3. Have interactive learning approaches. Traditional training methods are not always the most effective in overcoming communication challenges. Interactive, hands-on learning approaches—such as role-playing exercises or group discussions—can provide a more engaging way for Latino workers to grasp and apply new concepts. These activities improve communication skills and create a collaborative learning environment.
4. Use audiovisual elements. Incorporating visual aids and multimedia elements can be instrumental in overcoming language barriers. Using graphics, videos and other visual tools makes training programs more accessible to speakers of different languages. This approach facilitates better understanding and caters to different learning styles, ensuring all participants can benefit from the training.
5. Seek continuous feedback. Communication is a two-way street, and establishing a continuous feedback loop is essential. Encourage Latino workers to share their views regarding the training process. By actively seeking feedback, companies can refine their training programs, making them more tailored to the specific needs of their workforce. Feedback could be gathered via regular check-in sessions, surveys, or online platforms or forums where participants can provide continuous feedback. Ensure feedback is acknowledged and integrated into future training when applicable to help reinforce a culture of continuous learning within your company.

NRCA's 138th Annual Convention and International Roofing Expo

Feb. 19-21, 2025 / San Antonio, TX

REGISTRATION COMING SOON!

How — and why — to add cybersecurity provisions to construction contracts

Written by Jen A. Miller, ConstructionDive
Lawyers talk about the ways that contractors can guard themselves against the legal risks of attacks, and what to do if a breach occurs.

This feature is a part of "The Dotted Line" series, which takes an in-depth look at the complex legal landscape of the construction industry. To view the entire series, click here.

As cybersecurity attacks on U.S.-based businesses ramp up, general contractors are not immune. In fact, they've quickly become a target.
Construction companies might not seem like an obvious potential cash cow for cybercriminals, but they have become vulnerable in part because, as other sectors such as finance and healthcare have hardened their security stances, construction has not kept up. It's easier for threat actors to go after less protected industries — the low-hanging fruit.
Construction companies might also be working on critical infrastructure projects, which could make them targets of political adversaries.
According to a 2023 survey from Dodge Construction Network in partnership with content security and management company Egnyte, 59% of AEC firms surveyed reported that they experienced a cybersecurity threat in a two-year period. General contractors were hit the hardest, with 70% experiencing a threat and 30% a ransomware attack in that same time span.
If contractors were locked out of their system by malware or ransomware, the effects could be devastating, especially on large commercial and infrastructure projects with budgets of hundreds of millions of dollars. According to the report, 77% of architects, engineers and contractors said they can't go more than five days without access to their documentation before their projects experience serious schedule impacts.
A breach could also do untold reputational damage for a general contractor and their clients, Johnson said. Then there's the legal risk if they and their subs don't have basic cybersecurity measures in place, and don't disclose an attack properly if it happens.
Here's what general contractors need to know about what they can do through legal, contract and insurance channels to protect themselves.

GC's vulnerable to attacks on subs

General contractors' liability for being hit by a cyberattack may not end with their own digital footprint. For example, if a subcontractor gets hacked, what happens next is largely dependent on the contract, said Philadelphia-based Mark McCreary, chair of Fox Rothschild's artificial intelligence practice and co-chair of its privacy and data security practice.
To help protect themselves from attacks on subs, general contractors should do due diligence on subcontractors to make sure they take cybersecurity seriously and it's not an afterthought. In subcontractor agreements, a general contractor should include "requirements regarding good data security practices, deletion of data upon completion of a project, confidentiality, indemnification from third party claims arising from a breach that is subject to no liability cap or a much higher limitation of liability and cyber insurance requirements.
That may be difficult with smaller subcontractors who often don't have the resources to do a full-scale cybersecurity review. But general contractors can also protect their data — and their client's data — by not passing it on, and limiting the information that subcontractors receive.
Contractors can do that by not sharing sensitive information outside the scope of what the subcontractor needs. For example, if the subcontractor doesn't need pricing information from another subcontractor, or contact information of the owner's employees, then the general contractor should make sure the part of their network that has such sensitive data is not shared with subs.

Insurance against attacks

There's also cybersecurity insurance to protect general contractors, insurance that can extend to subcontractors. It's generally covered but you want to make sure you're dealing with an insurance vendor who knows what they're talking about.
Contractors that lack the experience or knowledge on how to put basic security measures in place can also turn to potential cybersecurity insurance providers, who often partner with security professionals to help get clients into security shape.
General contractors can also have a policy underwritten that also covers subcontractors if the sub also has the same level of cybersecurity protections as the prime.
On the other hand, whether or not to require this as part of a risk assessment when choosing subcontractors for a job can also be overkill, she added. The reason has to do with the amount of data subs have online in the first place.

continued on page

Smaller subcontractors may not even have their own enterprise software system. In an industry that's known for using hammers and power tools instead of PCs, they often don't even do much work on the computer, which means that they don't maintain a lot of information online.

When attacks happen

Despite contractors' best efforts, attacks do happen. In that case, Johnson said the first person a general contractor should turn to is its cybersecurity insurance provider.

Most likely, the provider will supply the company with an attorney who can guide them through what they are legally required to disclose per the Securities and Exchange Commission, which released new public disclosure rules in 2023.

Following those requirements will help shield a general contractor from third-party litigation if any personal information is involved in a hack, she said.

Construction companies also won't be going out into the wild looking for help, she added, as cybersecurity insurance has become more common since the 2010s for the industry. This means that it's easier today for contractors to get insurance before a hack that will truly cover them. In the past, there were only a handful of cybersecurity insurers covering construction companies, to the point they didn't even know what questions to ask contractors on an application.

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Ransomware Preparedness

Published by Florida Roofing Magazine, July 2024

Ransomware attacks – attacks on your computer and network infrastructure in which vital data are held hostage – are continually evolving and organizations must be proactive to defend against them effectively. This checklist will aid your organization in identifying vulnerabilities and ensuring adequate preparedness to detect, defend and recover from ransomware attacks. It emphasizes conducting a proactive ransomware impact analysis to bolster your organization's defenses.

Understanding Ransomware

Continually update your knowledge about the latest ransomware threats and trends.

- Define and educate about ransomware.
- Ensure all employees understand what ransomware is and the associated risks.
- Stay informed.

Anatomy of a Ransomware Attack

Educate employees about how attacks occur to enhance their ability to detect potential threats.

- Understand the attack path.
- Understand common vectors, initial infection, compromise and encryption processes.
- Educate employees about the attack path.

Proactive Prevention and Impact Analysis

- Conduct consistent and thorough assessments of your security infrastructure.
- Continually educate employees about the latest cybersecurity best practices.
- Regularly update all systems and software to minimize vulnerabilities.
- Proactively identify and address potential exposure points in your security controls.
- Test how effective your security controls are against common types of ransomware attacks.
- Create a comprehensive incident response plan and ensure all team members are familiar with their roles.

Cyberattack Prevention

- Utilize multi-factor authentication to add an extra layer of security beyond passwords.
- Conduct regular backups of critical data and test the restoration process.
- Employ robust endpoint protection to detect and mitigate threats swiftly.
- Limit the potential damage of a ransomware attack by segregating your network.

Post-Attack Recovery

- Develop a clear and efficient recovery plan to minimize downtime and data loss.
- Post-attack, analyze the incident and update protocols to bolster future defense mechanisms.

Use this checklist as point of discussion with your in-house or third party IT provider. They should be able to explain the technical aspects and inform you if your organization is currently doing all it can to prevent, mitigate and recover from ransomware attacks.

Photos from

2024 CAROLINAS roofing expo & annual meeting

JUNE 26-29

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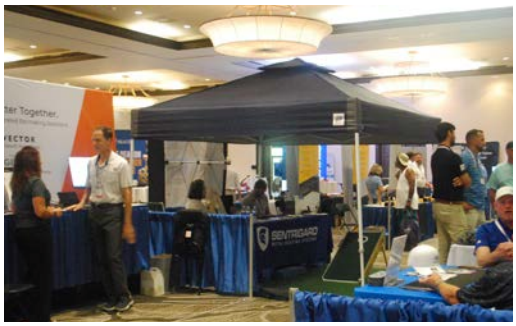

CRSMCA RECOGNIZES 2024 GORDON M. WATERS DISTRINGUISHED SERVICE AWARD
Kirk Dunn, Dunn & Abee, Inc.

Kirk Dunn was born the second son of Elmer and Betty Dunn, and he grew up in Falls Church, Virginia until he was 14 years old.

Kirk was a big swimmer growing up and even participated in the junior Olympics, swimming against Germany and Sweden. He held swimming records for over 40 years without anyone breaking them in backstroke and freestyle. He is always competing!

Kirk played tennis in his early adult years and was ranked in the ALTA tennis association in Atlanta. When he was a freshman in college he called his dad, Elmer, to tell him he just wanted to go to work. He told his father, "I am wasting your money and my time". So he left college and starting working for American Associated Co. of Atlanta Ga., which is where his father worked.

Kirk hit the road selling Garlock equipment. 46 years later, he is still doing the same. Kirk drives 70,000 plus miles a year working his territory. He worked with American Associated for 16 years.

In 1994, he and his buddy, Gwyn Abee, joined together to start Dunn & Abee, Inc. They will celebrate 30 years together this September.

Kirk has supported the CRSMCA and rarely missed the Carolinas Mid-Winter Roofing Expo event. He truly loves what he does and some of his customers are his best friends.

Kirk is married to his wife, Susan, for 18 years and between the two of them they have 4 kids (Taylor, Whitney, Caroline & Savannah). He is a grandfather to 4 grandchildren (Julian, Ariana, Willy and Alina).

Congratulations to Kirk Dunn being presented the 2024 Gordon M. Waters Distinguished Service award at the Carolinas Roofing Expo & Annual Meeting in Myrtle Beach, South Carolina.

HISTORY OF GORDON M. WATERS

Gordon McDavid Waters was born in 1910 and lived in Rocky Mount, NC. Gordon was head of Water Brothers founded in 1921. They installed roofing and sheet metal work but did not handle furnaces. Gordon was interested in improving his equipment, had put in a spot welder, and was also adding to his hoisting equipment, he was looking around and thought of power shear and power rollers. It was a pleasure to associate with roofers like Gordon Waters.

In June 1943, a group of Carolina roofers and sheet metal workers gathered in Charlotte to organize the CRSMCA, including J.A. Piper, Vardry Ramseur, and Ralph Barker. Gordon was a new member and attendee but was elected to the office of President of the CRSMCA.

The CRSMCA Board members felt that he was doing a great job and was elected as an officer and eventually served as president. Gordon was later selected to represent the CRSMCA at the United Roofing Contractors Association Chicago convention (now known as the National Roofing Contractors Association). Gordon continued to receive recognition for his commitment and dedication to the industry and was elected to serve on the Board of Directors of the national association in 1947 was elected as Vice President of URCA.

In 1964, the CRSMCA Board developed the Gordon M Water Distinguished Service Award in honor of Mr. Waters for his service and commitment to the roofing industry and in 1965, at the 22nd Annual Meeting and Summer Convention, Gordon became the first recipient of this award.

For almost 60 years, CRSMCA has been passed this award to over 50 well-deserving individuals who have served CRSMCA, the roofing industry and their respective communities. This award signifies CRSMCA's highest honor.

Samuel Pichardo, Rike Roofing Services

Sammy, started working at Rike Roofing Services in 1999 and will be celebrating 25 years! Twenty-five years is no small feat… as Rike Roofing Services is humbled to take the opportunity to thank Sammy for all his hard work and dedication.

Sammy has been an incredible asset to our company, Rike Roofing Service, Inc. How did he get here? In 1999, Sammy was working in Texas, as a laborer, and received a phone call from his cousin in North Carolina informing him about a job opportunity in Charlotte with RRS. Twenty-five years later, Sammy has worked his way up to become one of the best foremen at RRS. Early on in his career he only trained with a few manufacturers, but since then he has become proficient in multiple manufacturers. When asked what he loves the most about roofing, his answer is the people. Frank Leonard, the former owner and hiring manager, taught Sammy a lot about roofing and more importantly how to be a good person by treating others how you want to be treated. Sammy treasured it when Frank would gather the team in daily prayer before the workday started. In roofing, Sammy appreciates the fact that every day is different in which he is faced with various challenges. He has seen the industry change over the years from materials and technology to process change. One of the things he enjoys is working with Modified Bitumen and Liquid Roof Systems. Sammy's favorite project thus far was located on Lake Jocassee in South Carolina at a Duke Power facility. He and his crew spent 4 months on the project and connected well as a team. When he is not spending time with his wife Smirna and his four children Joari (22), Joseph (18), Ronnie (14), and Belinda (11), you can find him playing soccer and baseball where he excels at both.

For over ten years I've had the pleasure of working with Sammy. There is not enough I can say about his dedication to his work, his outstanding safety record, and his personal integrity. Sammy is a valuable team player and a great leader, who goes above and beyond to deliver and meets his goal. He takes pride in his jobs which are completed with high-quality workmanship. No one cares about their output like Sammy does and has helped take our company to a new level of service. ~Julie Hughes

I met Sammy Pichardo in 2013 after purchasing RRS. At the time, the company had 13 employees and only installed 2 ply Modified Bitumen Roof Systems. Sammy Pichardo was one of two roofing foremen at the company, and he demonstrated a great repour with all RRS employees, clients, and manufacturer tech reps.

Sammy Pichardo's constant willingness to learn and grow has been very beneficial to the growth and success of RRS. As the company has grown Sammy has shined even brighter as RRS started installing different types of roof systems. He is always front and center with each new roof system being taught.

His hands-on learning helped him gain experience with manufacturing reps who conduct training sessions in our area. Since then, Sammy has helped with all in-house training on each new roof system installation. Subsequently several roofing manufacturers conduct regional training events annually at RRS facilities for their new employees, tech reps, and salesmen. Sammy continues to be requested from the manufacturers to help teach and train their employees on their products. Sammy is requested on projects from clients and the manufacturers due to his attention to safety, details, and quality. Sammy's leadership on projects is seamless, and his efficiency on projects seems effortless. Sammy makes his work look easy.

Sammy Pichardo is a great leader and teacher but that does not come close to the kind of man he is. Sammy loves first and foremost God, family, and people. Sammy has one of the bigger hearts in the world, whether it's donating his time to co-workers, kids on soccer and baseball fields, the Ronald McDonald House, and hospitals. Sammy truly gives his time but his love for his family is unmatched. All you must do is bring up his wife, 4 children, parents, and siblings and you will see a man light up. They bring him much joy and when he speaks all you see is his beautiful smile. I'm truly blessed to call Sammy Pichardo my friend and co-worker.

~Allen Hughes, owner Rike Roofing Services

CRSMCA RECOGNIZES MOST VALUABLE EMPLOYEES

Brooke Tummino, Monarch Roofing

Brooke has worked over three years at Monarch Roofing and has showed exceptional skill mastery estimating low sloped roofs, a critical and specialized skill in the roofing industry. Her proficiency in this area ensures accurate and competitive bids, which is essential for securing projects and maintaining profitability. Brooke's involvement in all things commercial at Monarch demonstrates her broad understanding and capability in handling diverse aspects of the business. Her ability to oversee and contribute to multiple facets of commercial projects showcases her versatility and reliability. Being the first and last person to speak to customers, Brooke has honed exceptional customer service skills. Her ability to make positive first and lasting impressions significantly enhances customer satisfaction and loyalty, contributing to repeat business and strong referrals.Brooke is recognized as an incredible team player, always willing to help whenever needed. Her collaborative spirit and readiness to support her colleagues foster a positive and productive work environment, which is crucial for team success and morale. Brooke's proactive approach and leadership in her role indicate her potential for further growth within the company. Her willingness to take initiative and handle responsibilities efficiently makes her an asset to Monarch Roofing.

Brooke gives everything, every day and is always willing to learn. She has the most positive and compassionate attitude. She keeps morals going in our department, handles our training with our new estimator and pays attention to details. She is also courteous and follows up on everything! ~Trip Howland, Monarch Roofing


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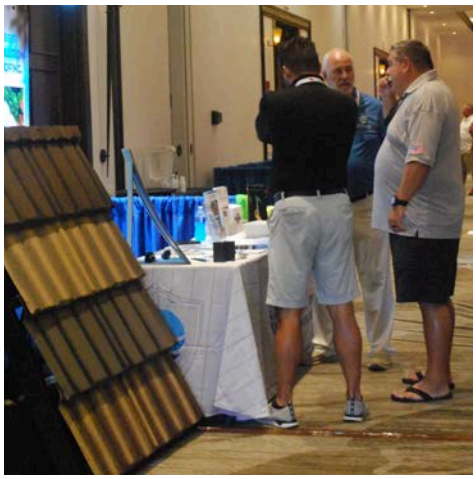


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PVs and Their Impact on Roofing Assemblies

Written by Brian Neely, AIA, CDT, BECXP and Jeffrey Ziske. PE. CDT
Published by Roofing Magazine, July/August 2023

As demand for renewable energy is increasing, photovoltaic (PV) arrays (also referred to as solar panels) are being considered for installation on roof areas more frequently. Proper planning can greatly reduce the potential for roof leaks, voided roof warranties, structural damage, and unnecessary expenses.

Prior to installing PVs, facility owners and managers need to determine if their roofs are good candidates for PV panels. For existing buildings, it is important to review the roof system and perform a structural analysis of the existing building prior to considering new rooftop PV panels. If you have a new building or are planning to build a new building, the 2015-2021 International Building Codes require roofs to be solar-ready. Even if solar is not installed when the building is constructed, the building will need to be designed to accommodate solar in the future. The new codes require that a structure's roof system not only has to handle the live load, dead load, and snow loads, it also needs to have the built-in capacity to handle a solar/electrical distribution system as well.

You've Decided to Install Rooftop PV Panels: Now What?

Once you have decided to install PV panels on your roof, it is important to consider the age of your roof. A new building with a one- or two-year-old roof may require input from the roofing manufacturer who holds the warranty. A building with a roof that is between five and seven years old may need further evaluation to determine if the roof is in good enough condition to install a PV system on top of it. With older buildings, the roof needs to be evaluated to determine if the current roof will last for the lifespan of the PV panels. Needing roof repairs/replacement halfway through a PV system lifespan can be problematic and potentially costly in both construction costs and lost PV energy revenue.

Evaluate the Existing Roof System: Repair or Replace?

For older roof systems, it is important to perform a full roof evaluation to determine the condition and then a cost-benefit analysis of repair vs. replacement. A current rule of thumb that some roof manufacturers use is that roof systems five years or older should be replaced prior to installing a PV system so that the lifespan of the roof better aligns with the PV system life span. This can vary depending on the roofing materials and manufacturers. The following methods are just a few of the options out there that can help establish a roof's current condition:

• Infrared thermography (IR survey) detects the infrared energy emitted from an object to identify its temperature, which can indicate potential moisture and/or wet insulation within the roof system.

• Electric field vector mapping (EFVM) uses electric potential gradients, a voltmeter and electrical probes to detect roof membrane punctures and moisture intrusion. The IR may determine if there is wet insulation, but the EFVM will reveal where those pinholes are so the roof can be repaired before installing a PV system.

• Destructive test cuts can be used to identify system configurations and to confirm the findings in the infrared survey and EFVM.

Evaluate the Structure

While new buildings are required to have planned capacity for PV systems built into the design; for existing buildings, it is important to determine if the roof deck and structural framing have the reserve capacity to handle the loads from a PV system. Although many panel manufacturers note that their systems weigh 5-6 pounds per square foot, the weight of the ballasts and actual point loading of the installed configurations can exceed these values and need to be considered. A full structural code review and structural analysis should be completed by a licensed structural engineer to review the wind loading, dead loading, seismic loading, and snow drifting design parameters for the PV system and how these affect the building's structure. The available reserve structural capacity of the existing structure may dictate the type and mounting system for the proposed rooftop PV.

Designing a Roof For PV

Roofing materials that are noncombustible or self-extinguishing are preferred due to the increased fire risk under a PV system that comes with electric components. The fire ratings of both the roof system/roof cover and the PV system should be carefully considered when determining both the PV system and roof system to be

installed. Membrane color is also an important consideration. Reflective roof membranes can help with the PV efficiency, as it helps to reflect light back up into the panels. White membranes are preferred under the PV system since black membranes heat up more in the sun, which reduces their efficiency and increases potential fire risk. Roof manufacturers may have specific requirements for minimum membrane thicknesses, walkway pad/slip sheet requirements, and other design items if a PV system is to be installed on the roof.

Adhered roof systems are more desirable for ballasted PV systems, as mechanically-attached single-ply membranes will have billowing effects that can displace the PV panel system and damage the roof below, as well as electrical conduits and connections. High-compression strength insulation (minimum 20–25 PSI) and non-combustible cover boards are preferable, as these provide better resistance for the additional weight that ballasted PV systems put on the roof. For any systems that are sitting on the roof, proper slip sheets and walkway protection pads are essential, especially under racks and along maintenance access routes. For fixed PV systems, attachment points need to provide enough height for proper roof flashings (8 inch minimum) and curb mounted systems need to be properly oriented to limit disruption to roof drainage.

Additional Design Parameters include:

• **Fall protection and access:** It can be tempting to extend PV layouts right to the roof's edge to take full advantage of the roof area, but it is imperative to have safe access to not only the roof and PV systems but also to the mechanical units and firefighting operations. Ballasted rails work well for fall protection along roof edges. Structurally attached rail systems can be used if it is necessary to extend your PV system out further to the edge of the roof, but they may need additional structural upgrades and roof penetrations to handle the loading.

• **Electrical equipment design coordination:** PV systems require electrical components and conduits to be run across the roof and into the building. It is important to properly design these components and roof/wall penetrations to be watertight with consideration for future roof replacements and wall work. All roof penetrations should provide a minimum 8-inch flashing height above the roof (more is better if it can be done reasonably). All wall penetrations above roof systems should be placed a minimum 8 inches above the roof-to-wall flashing to accommodate future raising of these flashings. Additionally, electrical wiring and conduits should be properly routed around all rooftop PV panels and across roofs to avoid chafing/damage to wiring, which could increase the chances of electrical fires. Conduits will need to have proper expansion joints throughout the system to account for movement of the PV system, especially with ballasted PV systems.

Selecting the Right PV System and Attachment for the Building

Once the PV panel type and ownership type are identified and the roof is found to be acceptable for PV installation, the layout and anchorage of the PV panels needs to be selected. Each PV system and attachment type has their own advantages and disadvantages to consider when determining the best system for your roof.

• **Low-sloped roof curb systems:** This system consists of panels attached directly to the structure through elevated curbs installed on the roof. Low-slope roof curb systems can be installed at steeper angles than ballasted systems. The greater angle allows the panels to capture and produce more energy, making them more efficient than ballasted systems. Due to the panels being lifted off the roof, it is possible for owners to perform roof repairs and maintenance below these systems. The addition of roof curbs can disrupt the drainage paths of the roof, so it is important to make sure curb layout aligns with the drainage slope of the roof system. The higher angle and attachment to the structure may also pose additional wind loads and snow drifts on the structure so it needs to be properly accounted for in the structural and attachment design. Additional framing may also be required to support curbs, which can increase overall costs for the installation.

• **Low-sloped roof post systems:** Low-slope roof post systems consist of dunnage above the roof with posts that go down into the roof and attach to the building's structure. This system is similar to low-slope roof curb systems in that it can be installed at steeper angles than ballasted systems but doesn't affect the drainage like curb systems due to the smaller post penetrations. The dunnage can also be raised high enough to accommodate future roof replacement and repairs not possible with lower roof mounted or ballasted systems. The additional roof penetrations can be problematic as more penetrations through a roof that require flashings can lead to a higher potential for leaks at these flashings. Low-slope roof post systems may also require additional structural design for the steel dunnage and support, and there is potential for additional wind loads and snow drifts because the panels have greater, raised angles. The post system option also directly connects the panel loading to the structural frame system and bypasses an underperforming roof deck.

• **Low-sloped roof ballasted systems:** Ballasted rack systems are some of the most common systems used on low-sloped roofs, as they are relatively inexpensive because they rely on the existing roof system and deck for support. The panels are installed on a rack that is placed onto the roof surface and typically ballasted with concrete blocks. This system is easy to install, especially on an existing roof system, and has little-to-no roof penetrations for the framing and attachment of the panels. The ballast on this system does make this system heavier when compared to a curb or post system. The ballasted panels are not attached to the structure; therefore, they must be kept at a lower angle to avoid being displaced by wind, making the panels less efficient. Due to having direct contact with the roof system, it is important to coordinate their installation with the roof manufacturer and provide a slip sheet or walkway pad to protect the primary roof membrane.

• **Low-sloped roof–roof manufacturer integrated systems:** Manufacturers are developing more integrated systems where the roof system and panel system attachment are integrated into the roof system. The brackets are welded directly to the membrane in combination with attachment to the roof system. The single-source warranty with this option can be appealing to building owners.

• **Steep-sloped roof systems:** Steep-sloped roofing PV panels typically consist of rails that are either attached with clamps to the standing seam limiting roof penetrations or are attached through brackets that integrate directly into the shingle system. The panels are installed parallel to the roof surface, which may increase differential wind loading and the potential snow/ice buildup, requiring further analysis on a project-by-project basis. The PV panels may also complicate or obstruct access to the roof for maintenance and repair. Shingle roof systems, although easy to attach, require additional roof penetration, which can cause roof issues if incorrectly installed. Shingle roof systems are not recommended for retrofit applications because they could compromise the existing shingle roof during the installation. Since the PV panels have a smoother surface than shingles, there is increased potential for snow/ice sliding off the roof.

• **Steep-sloped roof integrated systems:** Emerging technologies include solar shingle and/or solar roofs where the roofing

components themselves are the PV panels. These PV systems come in a variety of different shingle looks and offer aesthetic benefit as the PV systems are integrated into the cladding and appear similar to a normal roof as opposed to the traditional PV panel systems that are installed above or on the roofs. These systems are all relatively newer technology and have not yet been time tested.

Construction Coordination for Rooftop PV Systems

Proper coordination between the trades will help the project proceed as seamlessly as possible. The PV installer, roofer, electrician, facility personnel, roof manufacturer, designer, and Owner's representative all need to understand the various steps, whether it is a PV removal on an existing roof replacement or a PV installation on a new building/roof. Not preparing the roof for PV panels can lead to unexpected costs years later should the PV panels need to be removed to accommodate roof repairs or replacement. A solar contractor will be required to remove and replace the units. Additional costs may be incurred to safely and properly store the removed panels. If you do not own the PV panels outright, there may be costs for damages or the loss of revenue that solar provider or investors will demand when their system is offline during the roof replacement. Solar contracts and agreements should be carefully reviewed as roofs and PV systems may have different life expectancies.

Financing Options – How Do I Pay for It?

There are a few options that building owners can consider when deciding how to finance a PV system. Solar leases/power purchase agreements (PPA) and solar loans/net metering are the two most prevalent options.

1. Solar leases/power purchase agreements (PPA) are arrangements where a third-party developer purchases, installs, maintains, and operates a PV system on your roof. The building owner benefits from free installation and a consistent price of electricity generated by their building, which is typically below market value. A PPA's typical life span is about 20 years. PPAs can also include funding for roof replacements in the agreement.
2. Solar loans/net metering require building owners to purchase, install, and maintain the PV panels themselves. Building owners typically finance this purchase through a loan. The electricity that is generated by the PV panels is owned by the building owner and powers the building at no cost. If there is any excess power, it is sold back into the grid (net metering). Some states have different requirements for net metering, so those vary depending on the jurisdiction.

Don't Forget the Maintenance!

PPA agreements often include maintenance of the PV system. Since the developer wants to maximize their investment, they do not want the PV panels covered in snow. They may come out and clean the roof, but foot traffic and access can damage the roof system. The owner/facility manager needs to make sure that maintenance crews are not dropping equipment or damaging the roof in the process. Additional follow-up during the maintenance of the PV system with a roof contractor or maintenance system is important to maintain the life of the roof. Annual maintenance visits to the warrantied system should be completed. Similar to snow removal, it is important to make sure that no damage results from maintenance traffic to the systems. If the building owner owns the panels, they may need to perform some of that maintenance themselves, whether it be snow removal or panel cleaning. Single-ply roof systems can be quite slippery, especially with ice and snow, so make certain to have the appropriate walkways or access paths as well for maintenance of both the roof and PV system.

About the authors: *Brian Neely, AIA, CDT, BECxP is vice president/senior associate and Jeffrey Ziske, P.E., CDT, is a project engineer with Gale Associates, Inc., a 100-person consulting firm of building enclosure experts, engineers, and architects specializing in the repair, renovation and adaptive reuse of existing buildings, sites and infrastructures. The company's is headquartered in Rockland, Massachusetts. For more information, visit galeassociates.org.*

Rail-less Solar Mounting for Metal Roofs

Written by Rob Haddock, Published by Metal Architecture, July 2023

The metal roof is the ideal host for mounting solar photovoltaics (PV) as it is the only roof type with a service life that exceeds the service life of a solar PV system. Most alternative roofing systems will expire long before the life of the PV system, leading to costly disassembly of the solar array, re-roofing and re-assembly.

Mounting Solar PV on Metal Roofing

Conventional rails have traditionally been the choice for attaching solar modules to all roof types. But familiar concepts don't necessarily deliver the best outcomes, and the advantages of rail-less, direct-attach solar mounting to metal roofs are moving the industry norm in a new direction.

Reduces Costs

Rail-less solutions leverage a metal roof's existing construction allowing the standing seams of the roof to be utilized as inherent (and cost-free) "rails" for mounting solar PV via reliable mechanical attachments, thereby eliminating the need for a traditional rail system.

Rail-less components are much lighter than railed systems and direct attachment of solar modules to a metal roof can be accomplished with fewer components and lightweight materials. So, the weight of mounting components is reduced by up to 85% and the cost of hard goods by up to 35%.

Because every clamping point on a PV module attaches directly to the roof, rail-less racking results in a 25% better load distribution across the roof and zero penetrations, which preserves both the integrity of the roof and the manufacturer's warranty.

Simplifies Logistics

Rail-less makes shipping, storage and transport simple and much less expensive. Shipping long lengths of rail to a project site, storing and transporting them up to a rooftop is costly and frequently a logistical nightmare.

Since rail-less solar mounting systems are 15% the weight and 90% less volume than rail-based solar racking, shipping costs can be 60% lower than rail-based systems, with fewer logistical hassles. With rail-less, off-site storage is seldom needed, and costly cranes and forklifts to move racking hardware to the site and up to the roof are often eliminated.

Eases Installation

With fewer components than traditional systems, rail-less solutions make it simple and easy to get all the components into place, which is especially beneficial when working on a steep slope. Installers can easily mount around obstacles, removing the awkward field-cutting of rails. Plus, impromptu changes in module layout are possible if needed.

Labor Savings

The key to labor savings (30 to 50%) is twofold: the elimination of time traditionally needed to measure, locate, and install rails, and the simplicity of rail-less attachment: requiring 65-75% fewer components to manage and install. Rail-less is designed so roof clamps can be quickly aligned and installed to modules "on-the-fly" without needing to measure or snap lines, using the module as a spacing jig to locate and install attachments.

Protects the Investment

The value of metal roofing lies in its durability–in most cases lasting up to 70 years. Any roofing attachment needs to ensure that this durability and long-life cycle remain intact. The low profile offered by a rail-less system provides an aesthetically pleasing appearance with its sleek visual appeal and safeguards the array's performance and roof integrity.

Rob Haddock is the CEO and founder of Colorado Springs, Colo.-based S-5! Together with his sons, they co-invented the PVKIT rail-less direct-attach solar solution, providing a simple, secure method to "lay & play" PV modules with tested, engineered, cost-saving, attachment. To learn more, visit www.S-5.com.

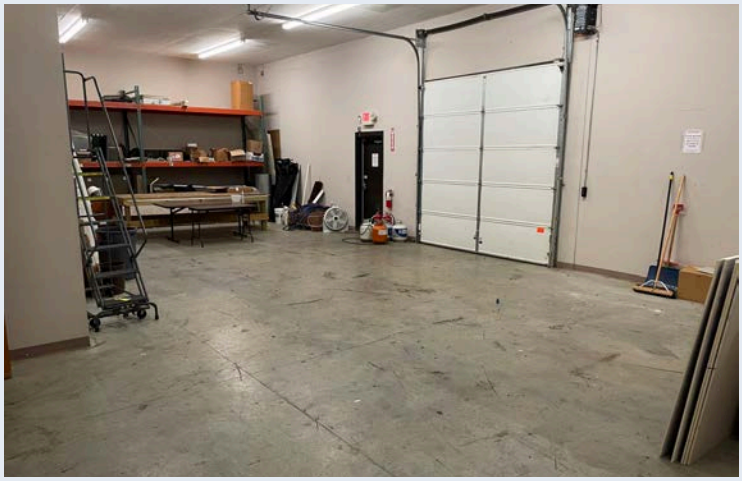
Looking for Training Space in the Charlotte Area?

The CRSMCA headquarters features a conference room and a warehouse demonstration area...perfect for your next training event!

The conference room holds up to 40 people classroom style or set less for an employee or board meeting. The conference room hosts a screen for your projection needs and Wi-Fi.

The warehouse demonstration area is perfect for your set up of products and/or mock-up for the training event. The area is ventilated and can provide shelter in rain or cold weather.

Available for you is your CRSMCA support staff; available to accept shipments and assist with promotional exposure. ***Reserve your space: contact the CRSMCA office at 704.556.1228 or cbsims@crsmca.org.***



A Turf War

Written by Mark S. Graham, NRCA Vice President of Technical Services

Code compliance and installation responsibility for BIPV systems present some challenges

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

IRC 2021

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

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

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

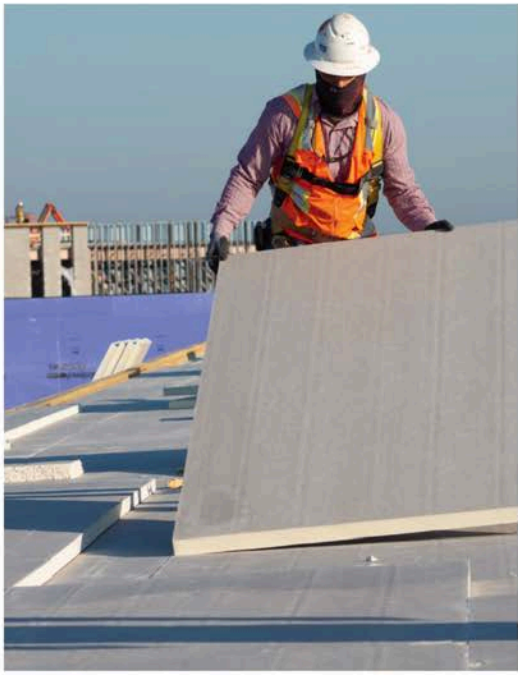
IRC 2021's Section R324-Solar Energy Systems provides general requirements applicable to solar energy systems. Section R324.3-Photovoltaic Systems indicates the electrical portion of PV systems needs to be designed and installed in accordance with the 2000 edition of NFPA 70, "National Electrical Code.®" PV panels and modules, including BIPV, are required to be listed and labeled in accordance with UL 1703, "Standard for Flat-Plate Photovoltaic Modules and Panels," or both UL 61730-1, "Photovoltaic (PV) Module Safety Qualification—Part 1: Requirements for Construction," and UL 61730-2, "Photovoltaic (PV) Module Safety Qualification—Part 2: Requirements for Testing."

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

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

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

IRC 2021's Section R905.15-Building-integrated Photovoltaic (BIPV) Roof Panels Applied Directly to the Roof Deck addresses rooftop BIVP



other than PV shingles. Roof deck, deck slope, underlayment, attachment and installation requirements are similar to those of PV shingles. The code requires BIPV products other than PV shingles to be designed and installed for wind uplift to resist component and cladding loads.

NFPA 70

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

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

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

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

Closing thoughts

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

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

The issue of whether electrical or roofing contractors should be responsible for rooftop BIPV installation is debatable. Some suggest the electrical code requires the work to be conducted by licensed electricians. NFPA 70's Article 690.4(C) and IRC's requirements clearly do not specify who should install such systems. The code indicates installers should be skilled, knowledgeable and have safety training to recognize and avoid hazards. This type of instruction should be provided by rooftop BIPV manufacturers in their installation instructions and installer training.

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

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

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

4 ways supplier diversity helps you win in construction

Written by Stephanie Sherwood, ConstructionDive

Stephanie Sherwood is a supplier diversity program manager for West Chester, Pennsylvania-based Weston Solutions. Opinions are the author's own.

Engaging with underrepresented subs and distributors can give you a business edge and strengthen the depth of your procurement channels, according to a small business liaison officer.

Maximize opportunities: Supplier diversity is a smart business tactic for construction firms seeking government contracts. Federal, state and local governments have established programs and policies to promote the use of businesses owned by underrepresented groups, including socially and economically disadvantaged individuals, women, minorities, veterans and persons with disabilities. Construction firms that demonstrate a commitment to maximizing supplier diversity in the projects they execute are not only complying with government initiatives but are increasing their chances of securing lucrative government contracts and follow-on projects.

I**ncreased pivoting capabilities:** Diverse subcontractors and suppliers are known for their agility and adaptability. Many niche providers can react swiftly to market shifts and business fluctuations, providing construction firms with enhanced flexibility and resiliency. This agility can be particularly beneficial in an industry where projects often face unexpected challenges and changes, particularly as government budgets are allocated and client priorities evolve.

Be economically and socially responsible: By engaging with diverse subcontractors and suppliers, construction firms stimulate economic growth in underrepresented communities and, ultimately, strengthen and support stability in the overall economy. Supplier diversity can level the playing field, ensure regulatory compliance and safeguard your company from potential legal issues related to discrimination and unfair business practices.

Boost employee morale: Actively seeking out and partnering with diverse subcontractors and suppliers sends a clear message: Our firm values diversity not only within its workforce but throughout its operations and supply chain. This, in turn, instills pride among our employees, knowing that they are part of an organization that champions diversity and inclusivity. By embracing supplier diversity, construction firms can unlock a wealth of benefits in addition to cost efficiencies — from increased innovation and agility to social responsibility and a highly-engaged workforce.

Eco-Friendly Roofing

Benefits, drawbacks and what you and your customers need to know

Written by Josh White, Hoosier Contractors, LLC
Published by Professional Roofing, July/August 2021

Sustainable and environmentally friendly operations have become essential aspects for businesses across the globe, and consumers are expecting their favorite brands and companies to operate sustainably. For the roofing industry, customers are looking for contractors who exemplify these actions through eco-friendly roofing that benefits the environment.

From using metal, clay or recycled asphalt shingles to installing living green roof systems, customers are seeking more opportunities to help the environment and investing in these methods. We have seen this across North America as green roof system installations have increased about 15% since 2013, according to The New York Times. As more people become aware of the reduced carbon footprints of green roofing materials, this trend will continue for residential and commercial roofing.

However, it is important to emphasize though building green and installing eco-friendly roof systems provide numerous benefits to the environment and building occupants, there are some drawbacks that must be considered. Following are some advantages and disadvantages of eco-friendly roofing you can discuss with customers before committing to these types of projects.

Environmental benefits

You can protect and enhance ecosystems and biodiversity in a variety of ways by using sustainable roofing products and green building methods such as the LEED® rating system developed by the U.S. Green Building Council.

The sustainable principles of the LEED system include erosion and sediment controls, soil stabilization and pollution-prevention measures to ensure pollutants are discharged correctly and safely. According to USGBC, structures using the LEED system consume 25% less energy and 11% less water than their nongreen counterparts in addition to diverting more than 80 million tons of waste from landfills.

Eco-friendly roofing options such as metal are 100% recyclable, and these roof systems can accommodate up to 40% recycled steel compared with asphalt shingles. Based on a widely cited September 1999 report by the Vermont Agency of Natural Resources, nearly 11 million tons of asphalt roofing shingle waste are produced in the U.S. each year.

For green roof systems, the Environmental Protection Agency found in a 2018 case study the 700,000 square feet of green roofs installed in Kansas City, Mo., between 1999 and 2000 would help avoid plaguing the external environment of 384 pounds of nitrogen oxide, 734 pounds of sulfur dioxide and 269 tons of carbon dioxide in 2020. These are just some of the many examples of how sustainable building and roofing can have a profound effect on our environment.

Health benefits

For roofing, the eco-friendly materials used to build a green roof can enhance the air quality of buildings as well as increase thermal and acoustical qualities, resulting in HVAC systems not having to work as hard to maintain desired temperatures. As a result, residents experience a higher level of comfort and health.

Along with benefiting the external environment, occupants of eco-friendly structures realize an improved quality of life—a major factor why many people request green roof systems for their structures.

Economic benefits

The economic benefits green building produces will take some time to outweigh initial costs. However, in the long term, the return on investment will be reflected well on utility bills with significantly reduced energy consumption. Eco-friendly structures under the LEED system use around 20% to 30% less energy and water than standard spaces, according to USGBC, with some reporting up to 60% in energy savings. Additionally, building owners who build green under the LEED system have seen a 10% increase in asset value while also decreasing operational costs by almost 20%.

According to a cost-benefit analysis conducted by the U.S. General Services Administration published in June, those who install green roof systems on their structures can see more than a 200% return on investment with about 50 years of endurance combined with savings on energy, water, heating and cooling, repairment fees and more. More specifically, according to EPA, green roofs produce $14 more in benefits per square foot than conventional roofs, and cool roofs produce about $2 more per square foot.

For homeowners who install eco-friendly roof systems, they will see the value of their homes greatly increase over time, which can be vital in the housing market we're currently experiencing and a significant benefit for your customers.

Most green building materials also are higher quality, resulting in more durability and providing a more sustainable design, construction and operational practice. This results in a win-win situation for homeowners who may be looking to sell their homes along with ones looking to enhance their homes for the long haul.

Costs

The benefits of eco-friendly roofing may sound great to your customers. However, there are some disadvantages you need to discuss with them. With most contracting projects, we look for the way to spend the least amount of money while still aiming to get the best possible quality. The costs involved with eco-friendly roofing can deter contractors and customers from recognizing the long-term benefits.

The initial cost of going eco-friendly with a roof system typically is the biggest disadvantage. For those who opt for green roof systems, the initial costs are higher than conventional roof systems. According to GSA, the costs range from $10.30 to $12.50 per square foot more for multicourse extensive green roofs or $16.20 to $19.70 per square foot for semi-intensive green roofs. Green roof systems also require more frequent and extensive maintenance compared with traditional roof systems, resulting in annual maintenance costs between 21 cents to 30 cents per square foot more than conventional roofing materials.

Even if your client simply wants an eco-friendly material (clay, metal, slate, recycled shingles, etc.), the costs of these materials are more than conventional roofing materials. If you and your customers are looking to operate and complete jobs on a low budget, the costs of eco-friendly materials may be difficult to overcome.

Material availability

Something that factors into the high initial cost of eco-friendly roof systems is the lack of availability of materials needed to build a green roof system and structure. Sustainable roofing materials can be difficult to obtain or, in some cases, unavailable for contractors for various reasons.

As with any scarce item, costs for these specific items are comparably higher than standard building materials. For example, slate roofing material takes a lot of time to mine, process and transport, costing more per square foot, furthering the cost dilemma.

Geography can play a role, as well. Metropolitan and urban roofing projects have access to materials while those in rural communities may have a tougher time locating these items, causing project delays.

The market for green and eco-friendly building materials continues to become more competitive as a result of growing requests from homeowners, building owners and property owners. This means the necessary materials eventually will become widely available, ultimately decreasing their costs in the future.

Similar to the initial cost dilemma, if you and your clients can withstand the hurdles associated with obtaining sustainable roofing resources, the long-term goal of a quality and efficient sustainable roof system will be attained.

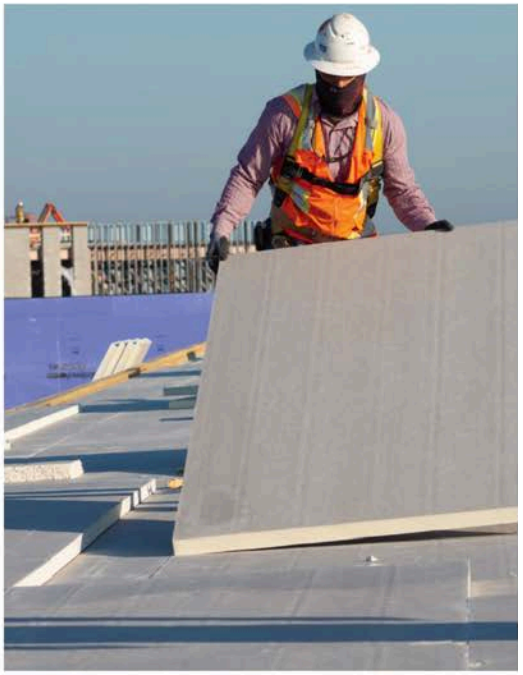
Time

Sustainable roofing can have a longer timeline because of the nature of the job, which is important to stress to your customers up front so they know the potential for project delays. The complexity of eco-friendly roofing projects and material scarcity are the usual culprits in any sort of delays.

What's more, these also can cost your clients (and you) more money. If there is worry about the initial costs at the beginning of this type of project, any added costs for potential delays won't be welcome.

It's an investment

It's imperative for contractors who install eco-friendly roof systems and the customers who ask for them to discuss and contemplate the pros and cons of this method of roofing. Although the short-term optics may not seem worthwhile, the long-term advantages sustainable building brings can make it a profitable investment for those looking to help the environment while also enhancing the quality of their homes or buildings.



Green Roofs - The Embodiment of Sustainability in the Roofing Industry

Written by Chris Kann, Product Manager, Roof Garden & Paver Systems, NVELOP, Carlisle Construction Manager
Published by Florida Roofing, August 2021

The architectural community has ramped up its focus on sustainability to help reduce the environmental impact of their building designs. Unfortunately, the overuse and often incorrect use of the word "sustainable" by building product manufacturers has caused the term to fall victim to greenwashing, losing its original meaning. Many building products that claim to be sustainable may only possess one of the many attributes that sustainable building products should, causing well-intentioned architects and specifiers to be misled while perpetuating poor environmental building designs. Sustainable building products should provide environmental, social and economic benefits while also protecting public and environmental health over their entire lifecycle. The big challenge for commercial, lowslope roofing manufacturers is creating new roofing products that check all the sustainability boxes while maintaining or improving existing performance. This is mostly due to the chemicals and raw materials that are required to achieve the weathering and performance characteristics of a roofing system. Substitute those proven and time-tested raw materials and additives with more sustainable products and you will have a more environmentally friendly and sustainable product, but at what cost? Sometimes that comes with a negative impact on performance, resulting in a roof system that needs to be replaced more often, negating their purpose altogether.

Through all the environmental and sustainability challenges that we face in the commercial roofing and building envelope industry, we can't lose sight of the ultimate goal: designing and implementing products and systems that provide the maximum sustainability benefits while maintaining or improving performance. This means taking a holistic approach to product selection and building design. It means considering the life cycle of the products within the design, their impact on the other products being used, the environmental benefits and the resiliency of the system.

When it comes to low-slope roofing, there is no better roofing option that checks all the sustainability boxes than a green roof. Green roof's go by many aliases including roof gardens, vegetated roofs, living roofs, eco roofs, etc. They are defined as a vegetated green space on top of a man-made structure installed above, below or at grade. In North America, the green roofing market has continued to grow over the last 20 years due to their many recognized environmental, social and economic benefits. The benefits of green roofs have been so well recognized that many cities and municipalities throughout North America either have mandates or incentive programs in place that promote the use of green roofs.

Out of all the green roof benefits, the main driving factor for many of the green roof mandates and incentive programs is their ability to retain and detain stormwater. This is especially beneficial in cities, where there is often a lack of natural green space, instead being covered by impervious manmade structures and materials. During heavy rainfall events, which have increased in frequency across North America in recent years, stormwater runoff from impervious surfaces such as roofs can overrun a city's stormwater system. This can lead to flooding, overworked wastewater treatment facilities and an overrun of sewer systems resulting in the release of untreated water into local rivers and streams. Green roofs act like a sponge on top of the roof, combining multiple products such as moisture retention mats, engineered growth media and vegetation designed to retain as much water as possible. Nonetheless, during heavy rainfall events, even the most well-designed green roofs can be overrun with water and runoff will occur. However, this runoff will be delayed, likely occurring after peak runoff from the other surrounding impervious surfaces. This delayed runoff is a result of a green roofs ability to retain and detain water. Retention and detention of rainwater is what makes green roofs ideal for stormwater management.

Studies have shown that investing in green roofs to manage stormwater is much more cost effective than building up gray infrastructure such as additional sewer systems while, at the same time, providing a multitude of additional environmental and building performance benefits.

A green roofs' ability to retain and detain stormwater is only the first of many environmental, social and economic benefits that it provides. By design, green roofs are covered in vegetation to make use of the absorbed stormwater and to provide aesthetics.

Naturally, like all other vegetation, green roof plants help to sequester carbon dioxide while at the same time producing oxygen. This is obviously very important everywhere but is especially important in cities where there is dense human population producing CO2 and little natural vegetation to offset it.

The use of vegetation on green roofs helps to increase biodiversity, providing habitats for bees as well as other beneficial insects and wildlife such as birds, butterflies, beetles and fungi. Green roofs can also provide a welcoming, useable amenity space for building occupants to enjoy the outdoors. This is especially beneficial for healthcare, nursing and assisted living facilities where green roofs can be used as healing gardens, helping to reduce anxiety and increase patient recovery times by providing access to fresh air, daylight, vegetation and wildlife.

Green roof vegetation also helps to cool the surrounding area, which is especially beneficial in city and urban environments where there is a need to reduce temperatures to a more natural, rural environment. The reduction in the surrounding temperatures is a result of the vegetation's evaporative cooling, called evapotranspiration. This natural cooling process is like our human perspiration, where we take in water and sweat it out. Vegetation's evaporative cooling is so efficient that it has been shown to reduce city-wide ambient temperatures by up to 5ºF, minimizing the urban heat island effect. Although this may sound like a small number, this is a huge reduction in temperatures achieved in the most sustainable way; by adding nature back to our manmade built environments.

By providing a natural cooling effect, green roofs are a much better option than standard "cool" roofing materials designed to reflect heat away. A green roof averages 30-40ºF cooler than conventional flat roofs, resulting in reduced cooling loads for both the building it is installed on as well as the surrounding buildings.

In addition to the cooling effect of the vegetation itself, green roofs help to reduce the cooling load on the building through its thermal mass. And, although there isn't an exact insulative R-value you can put on a green roof due to water retention, the thermal mass of a green roof helps to protect the building below from extreme temperatures and provides thermal inertia.

Despite all these benefits, a green roof is only as good as the roof system installed below it. It is imperative that all green roof systems be installed over a well-designed, installed and inspected roof system.

That means creating a robust roof system able to withstand the

added weight of the overburden components by utilizing coverboards as well as fully adhered and thicker membranes with seam enhancements.

Once the roof is topped with a green roof, it will be protected from damaging UV exposure, temperature fluctuations and physical abuse caused by hail, wildlife and building occupants or trades people. This physical protection adds resiliency to the building, extending the life of the roofing system beyond the standard 20-30 years typically expected of them and reducing the number of reroofs required over the lifetime of the building. Theoretically, a roof system protected from the elements by a green roof could last forever, as long as the flashings and other exposed elements were maintained and repaired when necessary. In fact, many roofing systems in Germany installed under green roofs have lasted more than 50 years. The prolonged life of the roof system is a sustainability benefit of green roofs that is often overlooked. However, it directly contributes to a reduction in landfill waste created by the relatively frequent reroofing required of exposed membrane systems.

When it comes to sustainable building design, a holistic approach must be taken to choose products and systems that provide the maximum sustainability benefits while maintaining or improving performance. When it comes to low-slope roofing, there is no better sustainable roofing option than a green roof. They provide environmental, social and economic benefits such as a reduction in stormwater runoff, oxygen production, reduction in solar heat gain and increased biodiversity that our built environments so desperately need. They provide physical protection against damaging UV light, temperature fluctuations and physical damage, helping to create a more resilient, less wasteful and more environmentally friendly building.

About the Author: *Chris Kann has been employed at Carlisle Construction Materials since 2010. He graduated from Pennsylvania College of Technology in 2008, where he earned a Bachelor's degree in the Science of Plastics and Polymer Engineering Technology. During his time in college, Chris worked as an intern with Carlisle Construction Materials in the R&D and analytical lab where he performed many tasks related to the testing and quality assurance of building envelope materials. Chris's full-time employment at Carlisle came as the Roof Garden Specialist and then Building Envelope Designer, both of which focused on assisting architects, specifiers and representatives on the design and implementation of energy conscious building designs. Currently, Chris manages multiple product lines including Roof Gardens, Paver Systems and CCM's single-source building envelope program called NVELOP. Additionally, Chris is responsible for managing Carlisle's Architectural Services, which focuses on outreach and continuing education of the architectural community.*

Go Green (but carefully)

Greenwashing is becoming more prevalent and leading to lawsuits

Written by Trent Cotney, Adams and Reese LLP
Published by Professional Roofing, July/August 2024
Editor's note: This article is for general educational purposes only and does not constitute legal advice.

During the past several years, the construction industry has experienced a significant shift toward sustainability driven by consumer demands related to environmentalism and resource conservation. This shift especially is evident in the roofing industry where innovative materials and practices are being adopted to meet demand. However, unsubstantiated claims about sustainability can harm companies' reputations and, ultimately, lead to costly lawsuits; this practice is known as greenwashing and should be avoided.

Eco-friendly roofing

The roofing industry has long relied on traditional materials, such as asphalt shingles, that have not historically been considered environmentally friendly. However, the industry has begun embracing sustainability and been motivated by a growing awareness of the environmental effects of traditional roofing materials, including their effects on increased temperatures, energy consumption and waste. Regulations and cultural pressure also have precipitated this shift. For example, New York City has set new emissions standards for buildings larger than 25,000 square feet. Property owners must meet those requirements in the coming years or face fines. In addition, California has enacted emissions standards for buildings that are 50,000 to 100,000 square feet. California also requires the benchmark of zero net energy for all new commercial construction projects by 2030. Zero net energy means a building must consume energy that is less than or equal to the amount of renewable energy generated on-site.

To accommodate these changes, manufacturers have designed environmentally friendly construction materials to minimize environmental effects while still offering energy efficiency, durability and appealing aesthetics.

Some of the most prevalent roofing examples include the following:

- Solar roofing integrates photovoltaic cells into roofing materials, enabling buildings to generate electricity from sunlight. Solar roofing materials reduce the need to use nonrenewable sources and lower greenhouse gas emissions.
- Vegetative roofs are popular in urban areas. Covered in vegetation, the roofs absorb rainwater, reduce runoff and provide insulation, which can result in energy savings.
- Cool roofs are specifically designed to reflect sunlight and absorb less heat than those made from traditional materials. They can decrease the need for air conditioning, leading to lower carbon emissions and energy use.
- Recycled roofing materials are made from materials such as recycled rubber, metal and plastic. This option diverts waste from landfills and reduces the need to produce new material, which aids in waste reduction and resource conservation.

Greenwashing

As the demand for sustainability grows, so does the risk of greenwashing, which occurs when businesses make exaggerated or misleading claims

about the environmental advantages of their products and services. Environmentalist Jay Westerveld first used the term in the mid-1980s when referencing hotels' "save a towel" campaigns, which urged customers to use fewer towels to help protect the environment. It was revealed the only tangible result of the effort was lower laundry costs.

In the years since, automakers, clothing manufacturers, oil companies and others have inadvertently or purposefully engaged in greenwashing. Consumers in nearly every industry are demanding more sustainably produced offerings, and big businesses are responding. But instead of adopting climate-friendly practices, they might merely be using messaging that implies their products are sustainable to appease their customers. Terms such as "natural" or "earth-friendly" may seem innocent enough, but if there is no data to support those labels, customers can lose trust in the companies that tout them.

As environmental regulations become stricter, the roofing industry is feeling the pressure to meet aggressive benchmarks. As such, architects, owners and contractors often make material and design choices based on environmental factors. In turn, manufacturers and contractors may advertise their offerings with vague terms such as "green," "carbon friendly," "carbon neutral" or "environmentally friendly."

Most greenwashing lawsuits involve companies using these terms with minimal meaningful data to back them up. Litigation also may focus on companies falsely certifying their products or failing to be transparent in communicating the environmental impacts of their products.

When the term greenwashing was first coined, most lawsuits were spearheaded by government regulators or environmentalists focusing on oil and gas companies. Now, consumers are filing claims alleging items they are buying are not as eco-friendly as the companies claimed. In addition, state governments are getting involved. For example, New York Attorney General Letitia James recently announced her office would be suing JBS, the world's biggest meat company, for misleading its customers about its environmental commitments.

How to prevent greenwashing

Nearly every industry has been affected by greenwashing claims; however, to date, construction and roofing have not been targeted. Nevertheless, you would be wise to take steps to avoid future lawsuits. Consider these guidelines:

- Use data: Steer clear of using vague and unsubstantiated claims that your materials are "green" or "earth-friendly." Instead, explain how your materials measure up based on an industry-relevant baseline. Present verifiable, measurable terms.
- Be wary of carbon offsets: Many companies meet environmental goals by purchasing carbon offsets. However, there have been claims of poor accounting and other suspicious practices that have led to greenwashing lawsuits. Carefully consider whether this approach could be detrimental to your company.
- Explain scope: If you claim a product has low or zero emissions, consider the full life cycle of its manufacturing. This includes who provided component parts, how the product was produced and how it is disposed. You can be accused of greenwashing if you imply the full life cycle when you intend only one part of it. Be specific when you make such claims.
- Be honest: Avoid the temptation to say anything to keep customers happy. If a clever label implies materials are sustainable but they actually are not, you may be setting your company up for failure. Your customers will come to distrust you, and your reputation will suffer. Although manufacturers provide statements and representations regarding sustainability and green initiatives, if you actively make similar statements during the sales process, especially related to performance, you and the manufacturer may be liable for misrepresentation.

To ensure your company is protected, evaluate the materials you install and be upfront about their benefits.

5 Common Causes of Ladder Incidents
Published by Professional Roofing

To stay safe on job sites, it is crucial contractors and workers know the common causes of ladder incidents and how to prevent them. ConstructioNext shares the following five most common causes of ladder incidents.

Missing the last step of the ladder when climbing down. During a recent American Ladder Institute webinar, Eric Blankinship, senior product manager for Werner, emphasized the need to be careful when climbing down a ladder—always face the ladder when climbing up or down and do not skip steps.

Overreaching while on the ladder. When working on a ladder, keep your center of gravity and body between the side rails. If you cannot easily reach the project area once you have climbed the ladder, climb down and move the ladder closer to the project space.

The ladder was not the right size for the job. One factor when determining the right ladder for the job is length. Blankinship recommended calculating the user's maximum reach height—which is about 4 feet higher than the height of the ladder—when selecting a ladder.

The ladder was not on firm, level ground. There should be no obstructions near the base and top of the ladder. The ladder's base should be safely secured to prevent movement, or you can use a ladder with nonslip feet or add outriggers or levelers to the bottom of an extension ladder to increase the footprint. When using an extension ladder outside, Blankinship emphasized ensuring you have used the toe picks correctly, confirming the ladder is sunk into solid ground and stepping on the bottom rung to verify it is secure before you climb the ladder.

Three points of contact were not used when climbing the ladder. It is crucial to always maintain contact with two hands and one foot or two feet and one hand when climbing up or down a ladder to ensure you remain balanced.

NRCA's safety resources are available at nrca.net/safety. Ladder safety resources also are available at laddersafetytraining.org, the American Ladder Institute's website.

Renting a Crane – What You Need to Know
Written by Brad Runnion, CRCA

Renting a crane is a great way to supplement your fleet while trying out new crane models, capacities, and whether or not it is financially viable to permanently add to your fleet. Here are a few considerations to make when planning for your next crane rental:

How Much Are You Lifting? Not all crane ratings are equal, so the advertised tonnage of a crane should only be a starting point when selecting a crane. Consider what type and dimension of loads you will be picking up and how much these loads typically weigh. Also, factor in any equipment that is necessary to make this lift, such as straps, slings, chains, spreader bars, or pallet forks, which will contribute to the total weight being lifted.

How Far Should the Boom Reach? Calculate the distance, both vertically and horizontally, that your crane will need to reach in order to accomplish the job. These two data points are necessary to find the crane capacity on the load chart, specific to the crane. It is important to also consider any obstacles or jobsite factors that might alter your calculations. Obstacles such as powerlines, traffic patterns, and building design as well as jobsite factors such as topography, ground stability and wind speed can impact where you are able to set-up the crane to achieve your necessary boom angle.

Does Your Operator Have All the Necessary Certifications? OSHA requires that crane operators in certain industries obtain a crane certification to in order to operate the type of crane that will be used.

Are You Carrying Anything on the Bed? Legal payload includes materials, tools, and passengers.

Where Will It Be Operated? If you will be taking your rental crane between states (interstate), you will need a crane with apportioned license plates. Let your rental coordinator know and they will select a unit with the necessary plates to keep you legal.

How Long Will You Need Your Rental Crane? Depending on the rental company, pricing may be tiered by length of time.

Does the Rental Company Offer a Rental Purchase Option? Renting can be a great way to try new equipment before you commit to buying it. If you are considering buying, ask your rental company if they offer a rental purchase option, wherein a portion of your rent payments will be applied to the purchase of that crane.

About the Author: *Brad Runnion is the Sales Manager for CRCA Member Firm Runnion Equipment Company which specializes in sales and service of National Crane BoomTrucks, Palfinger knucklebooms, and Princeton truck-mounted forklifts. Runnion Equipment also sells Elliott and Dur-A-Lift man lifts and bucket trucks, Stellar and Knapheide service cranes and mechanics trucks, and services all types and manufacturers of cranes. For more information, call 708-447-3169 or visit www.runnionequipment.com.*

SAFETY TALKS

Falls on the Same Level

Naturally, in a resource written for the roofing and sheet metal industries, a frequently recurring topic is fall prevention. However, in this Safety Talk, instead of talking about falls from an elevation, we are going to discuss falls on the same level.

We've probably all slipped or tripped and fell in the past, picked ourselves up, brushed off our clothes and went about our day, hoping that nobody saw us. With that personal experience in mind and the knowledge that falls from a roof, ladder or other elevated surfaces can be catastrophic, it makes sense to assume that falls from heights cost companies more than falls on the same level. But believe it or not, that is not the case. In a recent study injury of various causes, falls from an elevation had the third-highest total cost of disabling injuries. However, falls on the same level had the second-highest total cost.

Sometimes falls on the same level happen as a result of distractions or inattention (which is what we call distractions when we are unable to identify the source of distraction). However, other times falls on the same level are the result of physical hazards. The following are some of the common physical hazards?

The exact hazards that cause these incidents can vary greatly though depending on the workplace. Here are some

- Oily or wet walking surfaces
- Uneven terrain
- Cracks or chips in a walking surface
- Changes in elevation
- Objects on the floor
- Cords
- Improper or damaged footwear

One of the best things to do to prevent falls on the same level is simply to practice good housekeeping and organization of work areas. This simple step can eliminate many trip hazards.

Another thing that can be done to prevent falls on the same level is to be attentive. This means must avoid being distracted when walking through work areas. Looking at your phone or something else can cause you to miss hazards that can lead to a slip or trip.

Next, ensure that you have proper footwear for your work and that it is in good condition. Clean footwear of any mud or moisture when possible when coming from outside to inside and before walking across a roof.

For those of us who perform work indoors, another step to take is to ensure that there is proper lighting in work areas and that any changes in elevation are brightly marked.

Discuss with your Crew

What could cause a fall on the same level here?

What can be done on this jobsite to decrease the potential for a slip, trip or fall on the same level?

SAFETY TALK ATTENDEES:

CHARLAS DE SEGURIDAD

Cae al mismo nivel

Naturalmente, en un recurso escrito para las industrias de techos y láminas de metal, un tema recurrente con frecuencia es la prevención de caídas. Sin embargo, en esta charla de seguridad, en lugar de hablar de caídas desde una altura, vamos a hablar de caídas al mismo nivel.Probablemente todos nos hemos resbalado o tropezado y caído en el pasado, nos hemos levantado, nos hemos quitado la ropa y hemos seguido con nuestro día, esperando que nadie nos viera. Con esa experiencia personal en mente y el conocimiento de que las caídas desde un techo, escalera u otras superficies elevadas pueden ser catastróficas, tiene sentido asumir que las caídas desde alturas cuestan más a las empresas que las caídas al mismo nivel. Pero lo creas o no, ese no es el caso. En un estudio reciente, las lesiones por diversas causas, las caídas desde una elevación tuvieron el tercer costo total más alto de lesiones incapacitantes. Sin embargo, las caídas en el mismo nivel tuvieron el segundo costo total más alto.

A veces las caídas al mismo nivel ocurren como resultado de distracciones o falta de atención (que es lo que llamamos distracciones cuando no podemos identificar la fuente de la distracción). Sin embargo, otras veces las caídas al mismo nivel son el resultado de peligros físicos. Los siguientes son algunos de los peligros físicos comunes.Sin embargo, los peligros exactos que causan estos incidentes pueden variar mucho según el lugar de trabajo.

- Estos son algunos
- Superficies aceitosas o mojadas para caminar
- Terreno irregular
- Grietas o astillas en una superficie para caminar
- Cambios de elevación
- Objetos en el suelo
- Cuerdas
- Calzado inadecuado o dañado

Una de las mejores cosas que se pueden hacer para prevenir caídas al mismo nivel es simplemente practicar una buena limpieza y organización de las áreas de trabajo. Este simple paso puede eliminar muchos peligros de tropiezo.Otra cosa que se puede hacer para evitar caídas al mismo nivel es estar atento. Esto significa que debe evitar distraerse al caminar por las áreas de trabajo. Mirar su teléfono u otra cosa puede hacer que pase por alto peligros que pueden provocar un resbalón o tropiezo.A continuación, asegúrate de tener un calzado adecuado para tu trabajo y que esté en buen estado. Limpie el calzado de barro o humedad cuando sea posible cuando venga de afuera a adentro y antes de caminar sobre un techo.Para aquellos de nosotros que trabajamos en interiores, otro paso a tomar es asegurarse de que haya una iluminación adecuada en las áreas de trabajo y que cualquier cambio en la elevación esté marcado de manera brillante.

Habla con tu tripulación

¿Qué podría causar una caída al mismo nivel aquí?

¿Qué se puede hacer en este lugar de trabajo para disminuir la posibilidad de un resbalón, tropiezo o caída al mismo nivel?

ASISTENTES DE LA CHARLA DE SEGURIDAD: