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Midwest Roofing Contractors Association

JUL 2020

TECHNICAL & RESEARCH
FINDINGS OF LOW RISE FOAM
ADHESIVE TEST PROGRAM

WEATHERING THE STORM:
LIGHTNING PROTECTION FOR
BUILDINGS WITH METAL ROOFS

IN THIS EDITION

- YCC YES...YOU CAN LEAD
- HOW TO START (OR GROW) A TRUE SERVICE DEPARTMENT PART 3 & 4
- ON DECK: JIM RAMSER

OSHA
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UPDATE



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MRCA CONFERENCE & EXPO RESCHEDULED FOR 2021



Fred Horner, MRCA President

During this time of uncertainty, I was in contact with Bob and staff evaluating what we needed to do to serve members and the impact it would have on MRCA operations. We developed an advisory committee and determined it would be in the best interest of our members to extend the terms of all 2020 committee, board members, and officers through 2021 to ensure stability and leadership of the organization and remain the contractors advocate.

After many hours of meetings between staff and board members, we decided to cancel the convention and expo scheduled for November 10-12, 2020 in Milwaukee, Wisconsin.

Due to current restrictions, the unknown circumstances of COVID-19 at that time, and the impact low attendance could have on the finances of the MRCA and vendors, we made the difficult decision to cancel.

The conference and expo have been rescheduled for November 9-11, 2021 in Milwaukee and we look forward to seeing everyone there.

Despite these difficult times, the MRCA will remain the contractors advocate.

Best wishes to all, and stay strong, safe and healthy!

Fred Horner

MRCA President

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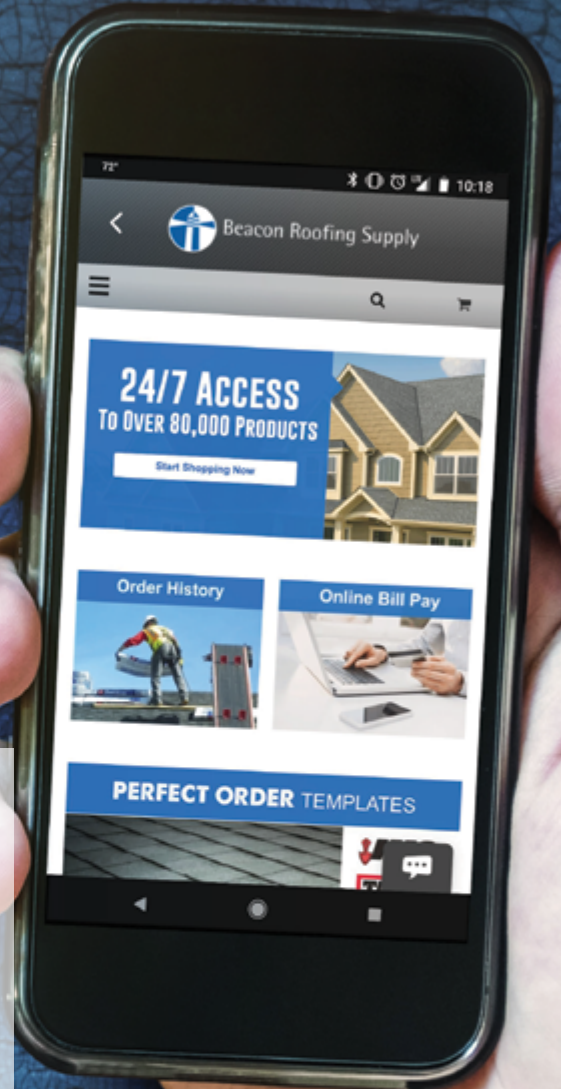
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Recently the MRCA Technical and Research Committee commissioned a research and testing program to investigate the effect on bond capacity of various low-rise foam adhesive ribbon spacings used to adhere together layers of polyisocyanurate roofing insulation boards.



Randy Adams
R. Adams Roofing, Inc.

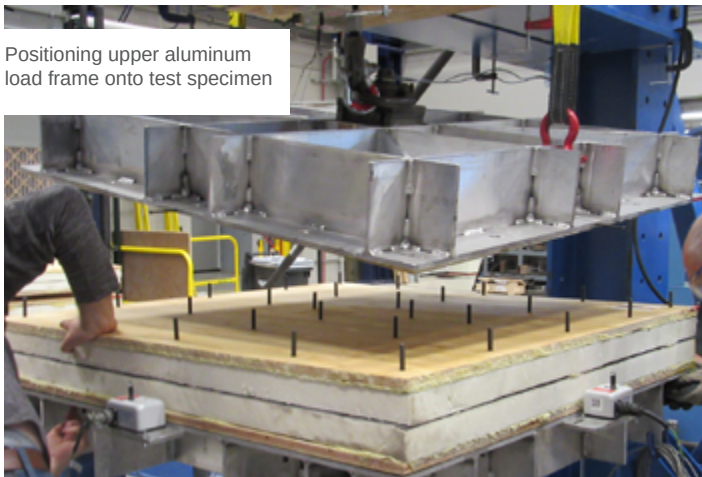


Richard Koziol
Wiss Janney, Elstner Associates, Inc

To guide the research the MRCA posed a specific question to be answered, “what impact does variation in foam ribbon spacing have on ultimate roof

uplift capacity?” The MRCA based this on a very common observation that the “Wand and cartridge installation method by workers is highly variable” and “Not able to produce “perfect” ribbon spacing by hand.” The program included evaluating both

polymer coated fiberglass and cellulosic felt-faced insulation board specimens. The MRCA engaged Wiss, Janney, Elstner, Associates of Northbrook, Illinois, to conduct research to answer this question, which was completed in October 2019. The research testing utilized a custom designed and fabricated aluminum test fixture secured to a robust steel reaction frame to uniformly apply direct tension loading to full size, 4-foot square adhered insulation specimens. Companion tensile load testing of smaller 12-inch square companion specimens and tests of cured foam material only, with no insulation in the specimen configuration, was also performed. The MRCA Technical and



Positioning upper aluminum load frame onto test specimen



View of stiffened aluminum test frame and secured insulation board test specimen

Research Committee agreed upon a scope of work for the testing. Key details and findings of the test program included:

- Evaluating the polyisocyanurate insulation adhesive bond strength at agreed upon spacings of 6, 12, and 18 inches.
- Sourcing tested materials from a single roofing materials manufacturer; which were provided by an MRCA member.
- Testing eighteen 4-foot square specimens; three each at the six, twelve, and eighteen-inch spacings with the two different insulation facer types.
- Fabricating test specimens by adhering 2-inch thick insulation boards to plywood backers that were fabricated with special fasteners that allowed their attachment to the reaction frame while also being removable. After allowing the adhesive between insulation boards and plywood backer to cure, the insulation board facers were then mated and adhered to each other at the pre-determined ribbon spacings.
- The average measured direct tension strengths for full size polymer coated glass fiber faced specimens were 674, 497, and 342 psf at ribbon spacings of 6, 12, and 18 in., respectively. Average measured direct tension strengths for cellulosic felt faced specimens for ribbon spacings were 614, 379, and 307 psf, for spacings of 6, 12, and 18 inches respectively. The test results were fairly uniform as the computed coefficient of variation was 7 percent and 13 percent for polymer coated glass fiber faced specimens and cellulosic felt faced specimens, respectively.

- Direct tension strength significantly increased as foam adhesive ribbon spacing decreased, for both the polymer coated glass fiber and cellulosic felt faced insulation specimens. This strong correlation confirms and helps to quantify industry knowledge and practice that higher adhered insulation board uplift resistance is achievable with closer foam adhesive spacings.

Continued on page 8

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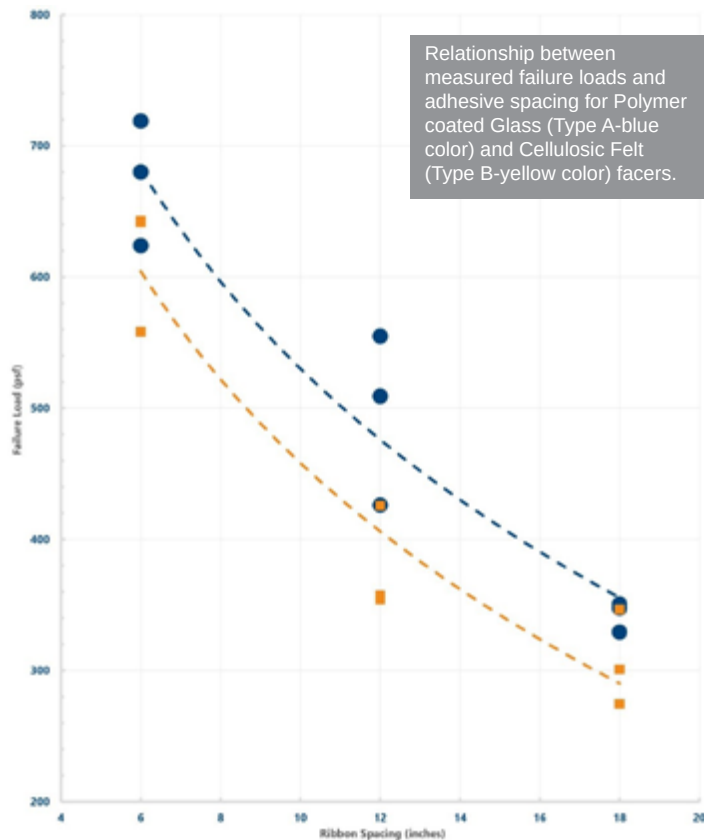
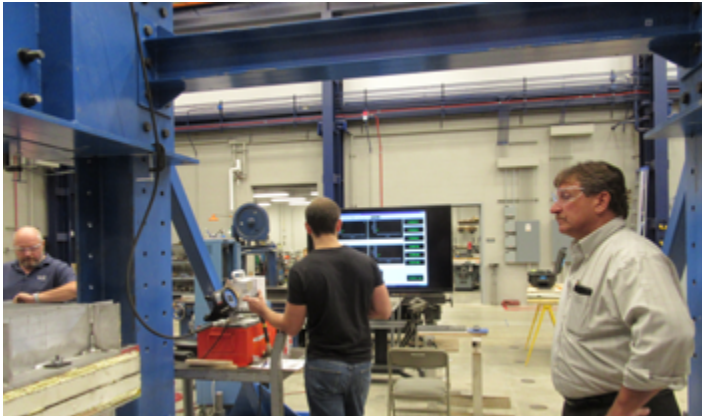
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- Polyisocyanurate insulation boards with polymer coated glass fiber facers exhibited approximately 9 to 24 percent higher strengths compared to organic-faced specimens at equal adhesive spacings using the same adhesive type.
- Failure of the specimens primarily occurred as separations and/or delaminations of the insulation board facer(s) to the foam body core along the lines of the adhesive ribbons, with secondary failures within the body of the insulation noted in some instances, notably at the specimens with closer adhesive ribbon

spacings.

- Testing of 1-foot by 1-foot adhered insulation companion specimens each, with single adhesive ribbon, revealed that polymer coated glass fiber faced specimens were 28 percent stronger than those with cellulosic felt facers, with average strengths of 673 psf and 485 psf, respectively. Testing of companion specimens fabricated with full coverage of adhesive over the entire 1 ft square surface had substantially higher strengths of 833 and 896 psf. These comparative test results confirm that when greater amounts of adhesive is present over a given area, larger portions of the facer/insulation interfacial zone are mobilized to transfer loads between adhered boards.
- Tensile bond strengths from 1-foot by 1-foot companion tests, in general, were higher and not well correlated with the results for full-size, 4-foot square specimens with 12-inch adhesive spacings. Testing using larger (4-foot square) specimens is considered more representative of real-world installations compared to smaller (1 or 2 foot square) specimens size due to the larger included surface area.
- The tensile bond strength of the foam adhesive only, without the insulation as an assembly component, was tested using 2-inch diameter aluminum “pucks” attached to threaded rods and pulled apart in a SATEC test machine. Two types of tests were completed in this configuration; testing with a minimal gap between the aluminum pucks, and testing that included a 1/8 inch gap between pucks. The 1/8 inch spacing was achieved by placing the pucks in a custom fabricated jig that controlled the spacing.
- Testing of the 2-inch diameter pucks with 1/8-inch-thick foam adhesive indicated substantial tensile strength gains between test ages of two days to five days. Average measured strengths were 1,355 psf at two days and 3,361 psf at five days. As expected with two-part polyurethane-based adhesive, chemical cure and associated strength development continues well after initial setting, depending on environment conditions at time of dispensing and thereafter.

Continued on page 10

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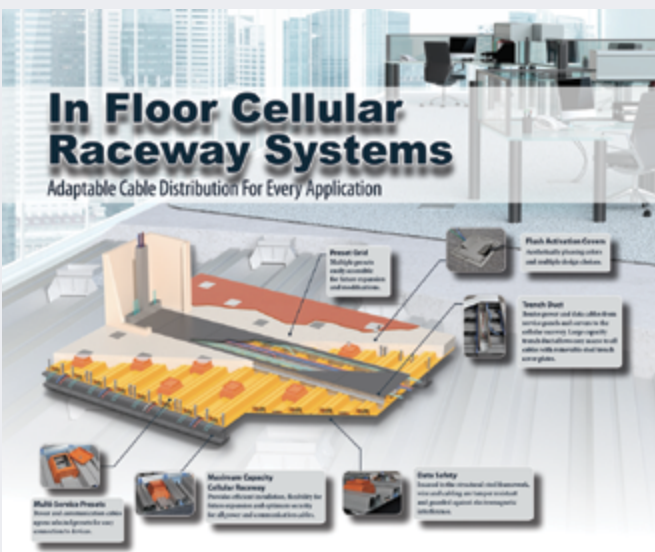
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- Testing of adhesive tensile strength utilizing pucks less than 1/16-inch-thick adhesive, although limited in quantity tested, indicated substantial increases in tensile strength compared to those specimens made with 1/8 in. thick adhesive. While this behavior is not necessarily unexpected, it supports the practice of restraining normal foam expansion by appropriate ballasting to minimize adhesive thicknesses (and also producing wider contact zones of the adhesive ribbons) to increase bond strength in real-world installations.

Test Program Summary

The test data revealed that measured direct tension strength increased as adhesive foam ribbon spacing decreased, for both the polymer coated glass fiber and cellulosic felt faced insulation specimens. Measured strength values at each spacing are plotted in the [Figure on page 8](#). There is a proportional relationship between foam adhesive ribbon spacing and uplift strengths are shown as colored dashed lines in the Figure, as represented for each of the nine data points for each facer type.

You can find the full report of the Low Rise Foam Adhesive Research Project at www.mrca.org in the Members Only Section under Exclusive Member Downloads.



Have a technical question or an idea for a research project? Contact Bob Pope, MRCA Executive Director, at 800-497-6722 or bpope@mrca.org.

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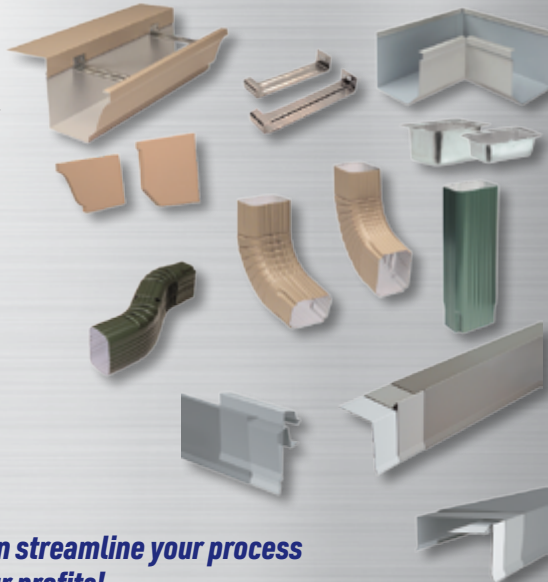
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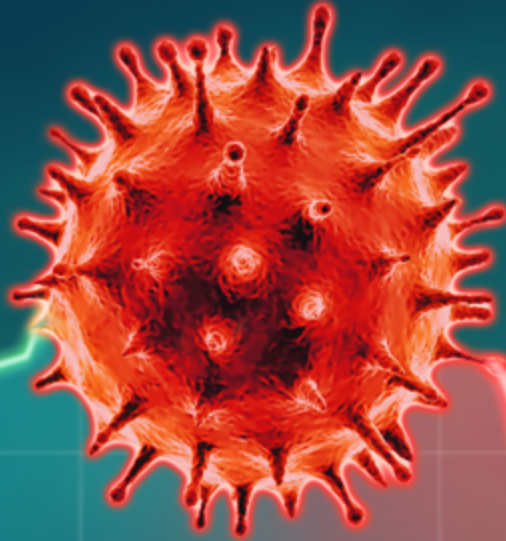
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OSHA[®] UPDATE



OSHA RAISES THE BAR FOR INVESTIGATING THE WORK-RELATEDNESS OF COVID-19 CASES



Gary Auman, MRCA Legal Counsel

On May 19, 2020 OSHA once again revised its guidance to employers concerning enforcement of the recordkeeping requirements found in 29 CFR §1904, as they pertain to the recording of COVID-19 cases.

From the start of the COVID-19 outbreak in the United States, OSHA has stated that COVID-19 is a recordable illness and must be recorded on an employer's 300 log, if the following three criteria are met:

1. The employee has a confirmed case of COVID-19, as defined by the CDC (meaning that the employee has had at least one respiratory specimen that tested positive for SARS-CoV-2).
2. The case is work-related as defined by 29 CFR §1904.5; and
3. The illness results in death, days away from work,

restricted work or transfer to another job, medical treatment beyond first aid, loss of consciousness, or the illness is a significant injury or illness diagnosed by a physician or other licensed health care professional.

While the first and third criteria are relatively easy to verify, determining the work-relatedness of COVID-19 is particularly difficult for employers when there is known community spread of the virus. In [previous guidance](#), OSHA recognized this difficulty and stated that it would not require employers to determine the work-relatedness of a COVID-19 case (and would not enforce 29 CFR §1904) unless¹:

1. There was objective evidence that a case of COVID-19 may be work related (for example, a number of cases developing among workers who work closely together without an alternative explanation); and
2. This objective evidence was reasonably available to the employer (including information given to the

employer by employees, as well as information an employer learned regarding its employees' health and safety in the ordinary course of managing its business and employees).

In practice, this meant that an employer was not required to undertake an extensive inquiry into the potential work-relatedness of an employee's COVID-19 and could rely upon objective information that was reasonably available to it. Unless the causal link between COVID-19 and the workplace became known to the employer through the normal course of operating the business, the employer was not expected to record the case.

However, OSHA has announced that it will now enforce 29 CFR §1904 with respect to employers across all industries, and has issued [new guidance that raises the bar for employers investigating the work-relatedness of COVID-19 cases.](#)

Effective May 26, 2020, employers must make a "reasonable determination" as to the work-relatedness of employee COVID-19 cases. Now, employers must take affirmative steps to question employees with confirmed cases of COVID-19, rather than simply relying upon information that the employer could learn through the regular course of managing the business. To make a "reasonable determination," employers should "(1) Ask the employee how he believes he contracted the COVID-19 illness; (2) while respecting the employee's privacy, discuss with the employee his work and out-of-work activities that may have led to the COVID-19 illness; and (3) review the employee's work environment for potential SARS-CoV-2 exposure," keeping in mind any other workers in the same environment who have contracted COVID-19. OSHA cautions that employers, and particularly smaller employers, "should not be expected to undertake extensive medical inquiries, given employee privacy concerns and most employers' lack of expertise in this area." So the "reasonable determination" is modified by the ability of the employer to obtain information while pursuing the steps enumerated in this paragraph in light of the caution regarding employee privacy concerns and the recognition that most employers do not have expertise in these areas.

In addition to questioning employees, OSHA will continue to look at information that was reasonably available to the employer at the time the work-

relatedness determination was made. But, OSHA announced that it will also look at information that the employer learned later (after the work-relatedness determination was made) to assess whether the employer's determination was reasonable. This Monday-morning quarterbacking by OSHA places a burden on employers to revisit the "work-relatedness" determination of COVID-19 cases that were not recorded if subsequent information suggests that the case should have been recorded.

OSHA outlined the types of evidence that would weigh in favor of a COVID-19 case being work related, stating that cases are "likely work related" when several cases develop among workers who work closely together; if contracted shortly after a lengthy and close exposure to a customer or coworker who has the virus; or if the employee's job duties involve frequent and close exposure to the general public in a locality with ongoing community transmission, and if there is no alternative explanation other than workplace exposure. OSHA stated that it would also "Give due weight to any evidence of causation, pertaining to the employee illness, (sic) at issue provided by medical providers, public health authorities or the employee themselves."

On the other hand, OSHA acknowledges that an employee's COVID-19 illness is likely not work-related if the employee is the only worker in his work area to contract the virus; his job duties do not include frequent contact with the general public; or if the employee, outside of work, closely associates with someone who has COVID-19.

Last, OSHA clarified that employers must evaluate the work-relatedness of each case using a "more likely than not" standard. OSHA stated, "If, after the reasonable and good faith inquiry described above, the employer cannot determine whether it is more likely than not that exposure in the workplace played a causal role with respect to the particular case of COVID-19, the illness is not recordable." In other words, a mere possibility that the exposure occurred in the workplace does not make a case recordable.

It remains to be seen whether this new guidance ends up being a distinction without a difference, as many employers are already investigating employee COVID-19 cases to protect their other employees and comply with various state government directives. But, in the event OSHA pays a visit, employers should

Continued on page 16



be prepared to prove they have made a “reasonable determination” as to the work-relatedness of employee COVID-19 cases. When an employer questions an employee with a known case of COVID-19, the questions and responses should be documented by the employer, dated, and stored in a location where the employee’s health information will be protected. If an employer decides that a particular case is not work related, it should document any and all reasons supporting that determination. In addition, employers who typically rely upon their workers’ compensation insurance carriers to investigate worker claims, should not strictly rely on the insurance company’s investigation to determine the work-relatedness of the virus. To comply with OSHA’s directive, employers should undertake an independent investigation (which may have to be more extensive than their workers’ compensation insurance carrier’s investigation) of each claim and arrive at their own conclusions about the work-relatedness of COVID-19 cases. If the employer is in one of the few states that prohibit private workers’ compensation insurance the bulk of the investigation on work relatedness will fall on the employer’s shoulders. OSHA has made it clear that it is the responsibility of the employer to make the reasonable determination and,

therefore the employer will have to defend itself in the case of recordability by demonstrating that it did act reasonably in making its determination.

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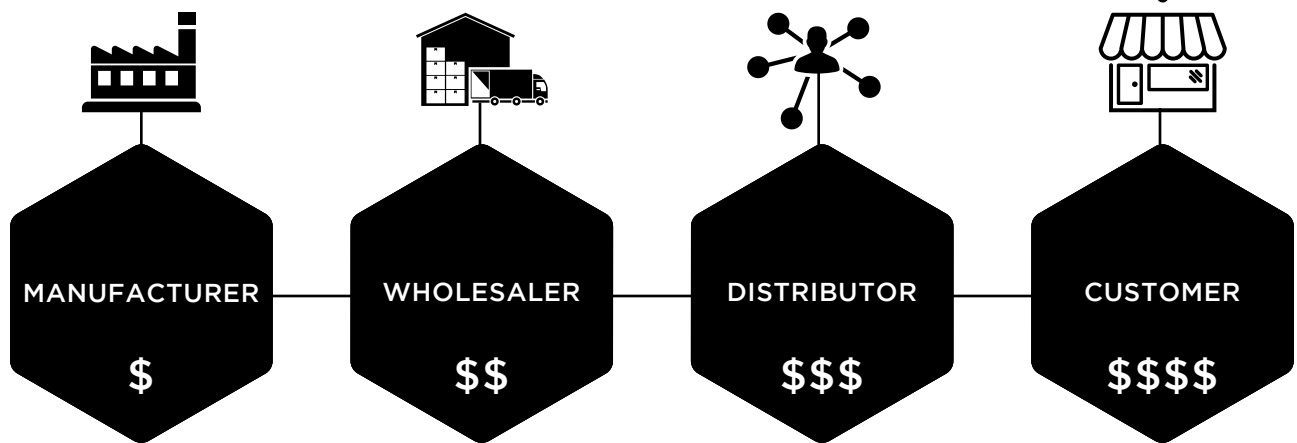
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DR. DUPUIS, RENE M

WE WILL MISS HIS SHARP WIT, AND THE 'FOOTPRINT' HE LEFT BEHIND SUPPORTING AND PROMOTING OUR INDUSTRY.

The MRCA is saddened to share the following obituary of Dr. Rene DuPuis. For several decades, Rene was a valued member of our Technical & Research Committee. He was first a great friend and advocate working on behalf of the roofing industry and provided counsel to the MRCA and its leadership for many years.

WAUNAKEE - Rene M. Dupuis, age 77, passed away on Saturday, May 23, 2020 at Agrace Hospice Care with his family at his side. He was born on June 25, 1942, in Wausau, Wis., the son of LaVern and Gertrude (Moss) Dupuis.

Rene was raised on a farm near Mosinee, Wis. He graduated from Mosinee High School in 1960 and then proudly served his country with the US Navy, participating in the Cuban Missile Crisis Blockade. In 1964 he married his high school sweetheart, Rita Mijal. Rene and Rita moved to Madison, Wisconsin where Rene would obtain his engineering education at the University of Wisconsin – Madison; a Bachelor of Science in Agricultural Engineering (1967), Bachelor of Science in Civil Engineering (1968), a Master of Science in Civil Engineering (1969) and a Ph.D. in Civil Engineering (1973). After teaching Engineering for a short period at State University of New York, Rene moved into private engineering practice. He and close friends from the University of Wisconsin Engineering Program founded Structural Research Inc (SRI) in Middleton, Wis. in 1978.

Rene would use his problem-solving skills and sharp mind to carve a path in the roofing industry. Quickly he became a well-known designer and researcher worldwide, in every sense an expert in his field. From his first industry presentation in 1978, until days before his passing Rene developed a love and commitment to the roofing industry he served; providing research, education and expertise to thousands with over 100 published works and many hundreds more technical presentations. Further, many of his closest friends came from this industry to which he devoted his life and career. He will be remembered as a consummate gentleman and professional. Always extending a courtesy to even

the newest and youngest in the roofing community as equally as to those seminal in the roofing industry.

Beyond work, Rene was a family man raising three children in Middleton, Wis. He was proud of his daughter who followed in his footsteps as a teacher, and of his two sons whom he mentored as they obtained their engineering degrees. He was a soccer coach for his children and served his community for ten years on the Middleton City Council as the alderman for his district in the 1980s. An avid pilot, for many years he enjoyed flying himself to various places for his engineering work. Rene kept his lawn in golf course condition at all times, and his garage was filled with all the machines and gadgets he believed were required to do that properly.

Later years would find Rene and Rita as traveling companions to the common and uncommon corners of the world, enjoying life. Rene became a doting grandfather in 2004 and life was never quite the same for him. He had a new purpose, to teach and watch over his grandchildren with as much, or more, love and intensity than he had his children. He will be missed by all that knew him, and all that loved him.

Rene is survived by his daughter, Michelle Dupuis; his two sons, Justin (Marji) Dupuis and Mathew (Pam) Dupuis; two grandchildren, Zachary Dupuis and Alexandra Dupuis; brother, Andre (Jackie) Dupuis; and sister, Yvonne Dupuis; and numerous nieces, nephews, great nieces, and great nephews. He was preceded in death by his parents, and his wife Rita in Oct. 2019.

Memorials may be made to The Rene M Dupuis Scholarship in Civil Engineering at the University of Wisconsin-Madison Department of Civil Engineering: www.supportuw.org/giveto/dupuis scholarship. Online condolences may be made at www.gundersonfh.com.



HOW TO START (OR GROW) A TRUE SERVICE DEPARTMENT



By Greg Hayne, Roof Management

Part 3 – “10 Easy Steps” ...NOT!

When contractors approach us to talk about how to grow their service departments we usually start by reviewing with them the information we presented in Parts 1 and 2 of

this article series, because if you don't get that right, most of the other stuff won't work either. But just how do you grow your department?

Think of it this way, everybody starts with just 1 truck. (Actually, everybody starts with no trucks, but until you have a dedicated service truck you really don't have a department). With one truck you can't afford a full-blown service staff. So, what can you do?

First, the roles we talked about in Part 2 of this article series (the Service Superintendent and the Service Coordinator) are going to need to be adopted by someone already in the company. Perhaps your receptionist catches the calls, your accountant handles the billing and your production superintendent handles the scheduling and technical support for the repair crew(s).

Then you can work through the following three steps:

- Step 1: Understand, that everything starts with a

sale. I am not suggesting that you have to go out and hire a service sales person, but somebody in your organization is going to have to fill that role as part of what they do or your growth will be at a crawl at best and more likely you won't grow at all. Go sell something!

- Step 2: Figure out who is going to go install what you sold! If you are a viable commercial roofing contractor who has been around for a few years, you have people that have the necessary skills to do the work. Have them go do it!
- Step 3: Go sell more work! Rinse and repeat.

If Steps 1-3 are working well, then at some point it will make sense to bring somebody in more formally to manage your growing service department. And, based on Part 2, who should that be? My point in all of this is for you to begin to clearly understand that building a service department requires “selling” services, being customer focused and staffing organically. What works for you will not work for your competitor down the street and vice versa. There is no magic bullet. (Well, actually there kind of is a magic bullet, and it was explained very clearly in paragraphs 4 and 5 of Part 1.)

So, what we have done in these first three parts is try to address the common missteps we see and also help you understand the dynamics of what to expect. Next part we are going to address a very important question. “Just what is great service?”

Part 4 – Just What Is “Great Service?”

In the first three parts of this series of articles we have been talking about some of the mistakes we see contractors make when they are trying to grow their service departments, mistakes that hold them back. We are going to shift a bit now and talk about what “Great Service” actually looks like.

There are no great service departments in this country who are not outstanding communicators. There are no service departments in this country who are great at communicating and also not great service departments. Service is all about communication. We have already discussed the need for talented, customer-oriented employees to be in the key roles within your service department. These individuals need to be responsive and empathetic. “Service” is about doing what is in the best interest of your customer, not what is most convenient, efficient, or easy for you. This is a mindset that is the opposite of what you normally bring to doing production work. Think about that! The skills and talents you have that make you really good at production work will be liabilities and limitations in the service department.

Let me give you a true story of how a contractor did something that was convenient, efficient, and easy for him and got him fired. A few years ago, in my role as roofing consultant, we had a client that had 5 shopping centers within this contractor’s geographic service area. We reported a leak right before Christmas and heard nothing. We left voice mails, sent emails, nothing. By a fluke, we discovered that the contractor had decided to give everybody a week off for the holidays. Nobody was “on call.” There was no notification. They just took a week off! So, we found somebody else to take care of the leak and they became our new contractor for repairs for all five shopping centers. If they had notified us the week before that this was going to happen, it would have saved my client (and me) a bunch of hassle. Let me be clear, it wasn’t only their decision to take a week off that got them fired, it was because they did not understand the value of communicating that decision to us. That they also did not have in

place any kind of emergency leak response plan also indicated that they put their company’s convenience ahead of serving their customers.

Let me give you a couple of simple communication steps that will make a huge difference and you can start implementing them today. (By the way, this applies to everybody in your company, including you).

1. When you get an email, reply to it immediately. If you have time to read it, you have time to reply. “Got it.” “Will get back to you about this by the end of the day.” “You will have it by the end of the week.” Nothing elaborate, just let your customer know they were heard.
2. Return all phone calls by the end of the day, before you leave the office. Even if it means leaving a voice mail. “Hi, just wanted to let you know I got your message and we are on it.” “Hi, sorry I missed you. I did get your message and will try and reach you again tomorrow morning.”

Both of these practices are the essence of good communication and will actually save you time in the long run by letting the person who reached out to you know that you did get their message. Silence causes confusion. “Did he get my message?” “I wonder if he is on vacation and I need to call somebody else?” “I might as well call another company too, because...”

Next month we will discuss another key communication best practice that isn’t so obvious, but is equally important.

Greg Hayne is owner of the Hayne Coaching Group. Greg helps contractors find and implement better, smarter, more innovative ways to work. His proven Creating Great Service training, support and implementation program helps commercial roofers grow their service departments. His ESE Peer Groups bring non-competing roofers together multiple times a year to share best practices, solve common problems and tip the competitive landscape in their favor in a big way! Greg is also an EOS implementer, helping select contractors get the most from their EOS/Traction experience.



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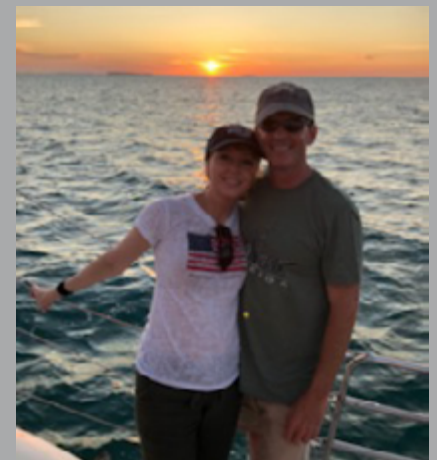
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7 THINGS ABOUT JIM RAMSER OF HIGHLAND ROOFING, LOUISVILLE KY

Please note: This interview occurred at the MRCA Board and Committee meetings in January before the effects of COVID-19 were widely impacting the US. We decided to run the interview as a pleasant reminder of what life looked like just a few months ago. On behalf of MRCA, and Jim, our thoughts are with our nation as we begin to navigate the future. Stay safe and healthy everyone.

- *Behind Jim Ramser's charm and mellifluous southern drawl, lay the heart of a roofer. At the age of fifteen Jim began his career in roofing, but really, Jim has roofing in his blood. Highland Roofing, continuously owned by Ramsers, has served Louisville, KY since 1890. Jim is part of the fourth generation of the now fifth generation company. He started out in the sheet metal shop with 'typical shop duties' and worked with built-up roofing crews at eighteen, he made estimator/project manager at twenty-four, Vice-President by forty and was made President of the company about two years ago.*
- *Jim earned his Master's in Mechanical Engineering at the University of Louisville's Speed Scientific School. "It was the worst six years of my life," laughed Jim, "but I always had an interest in the technical side and have been able to use that knowledge at Highland to solve problems as they arise."*
- *A father of three, Jim is very proud of his kids. Aaron works in the business, Maddy recently graduated with a Chemistry degree at Georgetown College, and Chris is still attending college in Louisville.*
- *Music is the refuge in Jim's life. He plays drums for a rock cover band called The Killer Lips. A group of four, The Killer Lips provide their own spin on popular songs from an array of eras and genres. They perform a variety of venues including weddings, private parties and at bars, and play about 50 shows a year. If you want to check out Jim's drum skills go visit their website at killerlips.com!*
- *Jim and his girlfriend, Miranda, travel together as much as possible and have recently visited many exciting places like Napa Valley, Martha's Vineyard, and Key West. They are planning a trip to Europe to visit Ireland, England, and Paris. "Miranda's father was in the Air Force, so she was actually born in England. This trip will have a special significance for us."*
- *"There is no price tag on the value of the relationships I've made through MRCA. There are a lot of smart people in the roofing industry and I have been fortunate to know many of them. I have been able to take back and practice within our company many things I have learned through my relationships and involvement with MRCA." MRCA owes a lot to Jim as well. He has participated in every MRCA committee, served through the officer ranks and then as MRCA president in 2012, and in 22 years, has never missed a conference. Thank you, Jim, for your substantial and consistent support of MRCA.*



Yes, You Can...Lead!



By Greg Hayne, Roof Management

Incredibly, I find many contactors totally inept when it comes to leadership. Talk about equipment... Great! Discuss direct costs...Got It! Perform job layout... "In my sleep, pal!" But lead today's worker? The move to the "back of the class."

Look, you can lead. "Yes, you can!" Certainly, there are many challenges for today's roofing contractor and we must move positively ahead as it relates to leading our workers.

Let me briefly share three key ingredients to more effective leadership.

#1 Establish Your Own Clear Leadership Vision

Coaching construction leaders over the past twenty-years has displayed many examples of how "not to do" this leadership thing. In every situation that I observed great leadership being effectively demonstrated, there was always a contractor or field leader who had a clear viewpoint of his (or her) leadership presence.

More importantly, their vision was also observed, received, and embraced by those following. If you want to take your next step in leadership then you would be wise to begin by clearly establishing your vision and then living it daily.

#2 Get Rid of "Me"

One of the realities of leadership is discovering that just as you have "made it" to the leadership ranks, you must now realize that "it is not about me anymore!" Boy, this discovery is quite sobering for anyone who has worked hard to become the senior leader.

The best leaders in construction recognize that acquiring the leadership role, whether through promotion or purchase, that you must quickly and consistently lead via taking your personal pride, wants, and benefits out of the picture first and refocus greatly upon those whom will reward your leadership with performance success. Therefore, getting "rid of me" must be replaced with giving more to others in your time, availability, support, expectations, boundaries, and wisdom.

#3 Set the Expectations & Objectives

For the "Thoroughbred" employee all you need to do is to share your expectations about how you want to

see work performed and the clear and measureable objectives for a project or task. For the more "challenged" workers you will need to camp out a bit on what are your expectations for their performance and behavior and for your company's reputation for quality, safety, and organization. Likewise, you will need to develop measureable goals that can be monitored and integrated into daily and weekly conversations and meetings to help keep the entire workforce focused and on the right path.

#4 Practice the ACTS of Leadership

This simply acronym stands for Accountability, Consistency, Teachability, and Strategic. Briefly, being an effective leader begins with you being accountable to doing your job each day. Consistency recognizes that you must practice good leadership, show respect to others, be thorough in decision making, etc. over and over and over again...thus consistency!

To be "teachable" is to always be in a mode to learn. When your followers see you learning, and enjoying new lessons, then you may inspire your followers to also want to grow and learn. Finally, leaders must be more strategic in their decision-making, their scheduling, and their planning. Most laborers in construction are quite short term in their view and tactical in their approach. Whatever is the easiest to do is what many workers will choose.... leaders must be strategic and capable of making the best, even though it may be the toughest decision to make.

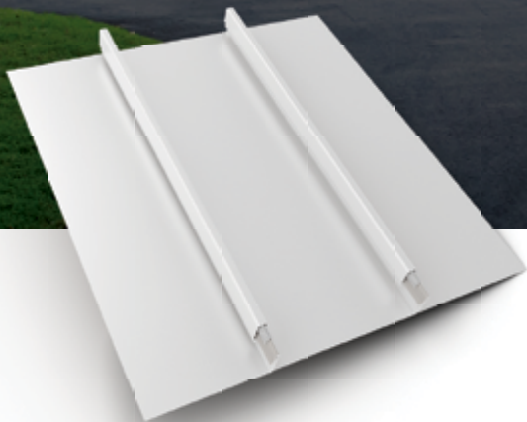
There are countless other leadership techniques that exist, however, without establishing the leadership efforts presented here in your daily walk you will be leading as if walking on thin ice. Deepen your foundation and core as a leader by possessing a clear vision for your leadership, taking yourself out and refocusing on your followers' needs, project clear expectations and objectives, and... practice the ACTS of a leader!

Yes, You Can Lead...Now Lead!

Brad is President of Pinnacle Development Group, a consulting company specializing in the construction industry. Sign up for Brad's weekly column at www.thecontractorsbestfriend.com.



Memorable Metal



"The metal roof really makes this house unforgettable. If it didn't have the metal roof, the design wouldn't have the same impact. The roof is one of the elements that catches people's eyes. The metal roof makes this house very memorable."

-Brandon Ingram, Architect, C. Brandon Ingram Design

Tallahassee Residence Installing contractor: Tallahassee Roofing Architect: C. Brandon Ingram Design
General contractor: Barton Construction Material distributor: ABC Supply Photo: jeffherrphoto.com

Snap-Clad
Metal Roofing System
Mill finish

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RICHARD RAMPY BIRKMAN

OUR THOUGHTS ARE WITH RICK'S FAMILY

It is with great sadness that MRCA announces the passing of Rick Birkman of Texas Roofing Company on May 14th. Rick had served and was very active on the MRCA Technical and Research Committee. He also served on the MRCA Board of Directors.

Richard Rampy Birkman was born on Aug. 6, 1957 in Lubbock, Texas to Edgar Samuel Birkman and Donna Mizell Rampy Birkman. He went to Heaven on May 14, 2020, holding the hand of his wife and daughter and listening to "Amazing Grace." Rick lived in Lubbock until second grade, when he and his family moved to California due to his father's career. He graduated from high school in Sacramento, California in 1975 and soon thereafter moved back to Texas, where he began his lifelong career in the roofing industry. He started by working for his uncle's roofing company in El Paso as a laborer and continued moving up in the industry from then on, ultimately serving as president and CEO of his own company. Along the way, he married his wife of over 30 years, Lisa Ann Lackey Birkman, and was the proud father of four children: Virginia, Randy, Elizabeth and Ricki. In 1993, he bought Texas Roofing Company of Lubbock from his great uncle, Woodrow Rampy.



In 1995, along with Lisa and his longtime friend, Gary Mears, he opened Texas Roofing Company of Austin, which is still going strong to this day. He always strived to improve the industry by serving in various capacities including being President of the Roofing Contractors of Texas plus a board member of the Midwest Roofing Contractors Association and the National Roofing Contractors Association. He was honored to receive the highest accolade, the Blackwell Award, for his commitment to improvements in roofing industry. Rick loved his family and spent many years attending his children's extracurricular activities. Music was also one of his passions. He could play the guitar, drums, and other instruments well, plus he was a great singer. He used these talents as a faithful member of the St. Philip's United Methodist Praise Band, called Holy Mackerel, for over twenty years. He also loved the game

of golf. He especially loved playing golf with his many friends at Cimarron Hills Country Club. He also was a long-time volunteer at the Masters Golf Tournament in Augusta, Georgia. Rick was also a dog lover. He and his family adopted and fostered numerous dogs over the years, but his favorite was his little mini-dachshund, Ruby.

He was a staunch conservative, and to assist his wife in her political career, he served as Williamson County Republican Party Precinct 160 Chairman for 14 years, never losing an election. For the last three and a half years, he bravely battled the horrible disease of cancer, fighting until the end. One of his last wishes was to visit the island of Maui, and he was able to go there with Lisa in mid-March and enjoy a lovely week of beautiful vistas and whale watching. He will be sorely missed by his wife, children, family members and many friends. Both of his parents have passed away. He is survived by his wife, Lisa; his children: Virginia Birkman Thomas and her husband, Bryan, Randolph Charles Birkman, Elizabeth Anne Birkman Shires and her husband, Ethan, and Ricki Samantha Birkman. He is also survived by his sister, Samantha Birkman-Nance and his brother, Randolph Birkman, as well as his nephew, Zachary Nance and his nieces, Alexandria Nance and Ruth-Ann Toups, plus many more extended family members and friends.

In lieu of flowers, Rick requested donations to the Williamson County Animal Shelter (www.wilcopets.org) or St. Philip's United Methodist Church (www.stphilipsumc.org). Rick also asked that his ashes be spread over his favorite golf course in Pebble Beach, California by some of his golfing buddies while they enjoy a round of golf. A memorial service will be held at St. Philip's UMC in Round Rock as soon as the current restrictions for large gatherings are lifted.

Seth Abraham Appointed to TAUC's Board of Directors

We are pleased to announce that MRCA Member, Seth Abraham of Kalkreuth Roofing and Sheet Metal, has recently been appointed to TAUC's Board of Directors.

Seth is the Director of Human Resources and Safety for Kalkreuth Roofing and Sheet Metal (KRSM), one of the nation's largest unionized roofing contractors which specializes in large industrial and commercial facilities. He serves in the same capacity for Kalkreuth's sister company East Coast Metal Systems which manufactures and fabricates metal composite panels. As Director, Seth oversees labor relations, safety strategy/culture, and risk management for Kalkreuth and ECMS, totaling over 600 employees in the office and field.

Seth was born and raised in Wheeling, WV. He then attended West Virginia University where he graduated with a Bachelor of Science degree in Information Technology and a Master of Science degree in Industrial and Labor Relations. Seth is certified as a Senior Professional in Human Resources (SPHR) and as a Society for Human Resources Management

Senior Certified Professional (SHRM-SCP). He currently serves on the Board of Directors for the Upper Ohio Valley Society for Human Resources and as a Health & Welfare Trustee for SMART Local #33.

"I'm excited to be given the opportunity to serve on the Board of Directors at TAUC and help make a difference for Kalkreuth and the union construction industry. TAUC, and its many members, provides so many resources and potential opportunities for Kalkreuth. It's also a big step in helping us reach an even greater national presence" says Abraham.



Seth Abraham of Kalkreuth Roofing and Sheet Metal (KRSM)

NRCA Elects Executive Officers for 2020 - 2021

Rod Petrick, president of Ridgeworth Roofing Co. Inc., Frankfort, Ill., has been elected NRCA chairman of the Board. Rod is also a Past President of MRCA and served many years on the MRCA Board. We commend Rod for his service to the industry and wish Rod a successful term as Chairman of NRCA.



NRCA Chairman Rod Petrick

We also want to recognize the following individuals were elected as officers and directors of NRCA. They are as follows:

Kyle Thomas, Vice President of Thomas Roofing, Mobile, Ala., - Chairman of the Board-Elect

Bryan Karel, Vice President of Operations, Garlock-French Corp., Minneapolis - Vice Chairmen

Sherri Miles, Vice president of J.D. Miles & Sons Inc., Chesapeake, Va. - Vice Chairmen

Lisa Sprick, President of Sprick Roofing Co. Inc., Corvallis,

Ore., - Vice Chairmen

Additionally, the following were elected as new NRCA directors:

- Cheryl Chapman, General Manager of Empire Roofing Inc., Fort Worth, Texas
- Jennifer Ford-Smith, Director of Sales for Johns Manville, Denver
- Scott D. Gipson, Vice President and General Manager of FiberTite Roofing Systems, Wooster, Ohio
- Kevin Gwaltney, President of Diamond Roofing, Dodge City, Kan.
- Tammy Hall, Director of Marketing/Service Manager for CFS Roofing Services LLC, Fort Myers, Fla.
- Paige Harvill, President of Nations Roof Gulf Coast LLC, Mobile, Ala.
- Peter Horch, Owner/CEO of Horch Roofing, Warren, Maine
- Josh Kelly, Vice President of product development and innovation for OMG Roofing Products, Agawam, Mass.
- Ken Kelly, President of Kelly Roofing, Bonita Springs, Fla.
- Daniel Kennedy, Commercial Division Manager for Don Kennedy Roofing Co. Inc., Nashville, Tenn.
- C.J. Martin, President/CEO of Showalter Roofing Service Inc., Naperville, Ill.
- Geoff Mitchell, CEO of Mid-South Roof Systems, Forest Park, Ga.
- Jack Moore, President/CEO of West Roofing Systems Inc., LaGrange, Ohio
- Curtis Sutton, President of Rackley Roofing Co. Inc., Carthage, Tenn.



WEATHERING THE STORM

Lightning Protection for
Buildings with Metal Roofs

by jennifer a. morgan and michael chusid
published first in the Winter
2018 Building Enclosure

ABOVE: Guests staying at this resort hotel sleep soundly knowing that the metal roof and lightning protection systems keep them safe from destructive natural forces. Photo courtesy of Mr. Lightning.

Lightning is a powerful, destructive force of nature and will strike a building regardless of its type of roofing. Metal roofs do not attract lightning strikes; nor do metal roofs protect a building against lightning. The only way to protect a building is with a properly designed and installed lightning protection system (LPS).

Still, the type of roofing is one of several risk factors affecting the threat lightning poses to a structure, according to the National Fire Protection Association (NFPA) 780 – *Installation of Lightning Protection*. The recognized North American standard includes a Simplified Risk Assessment procedure to help designers determine if an LPS is recommended for a building. It recognizes that, when a lightning strike does occur, a building has less risk of being devastated by fire if it has a non-combustible metal roof.

The risk assessment calculations can now be performed using a free, online app (bit.ly/NFPA-780calculator) that enables designers to quickly and easily make better-informed decisions and demonstrate that they have met the standard of care expected of building industry professionals. Also see bit.ly/StandardOfCare.

Check out the expanded digital edition
www.BuildingEnclosureOnline.com

Lightning is a Grave Danger

Metal buildings are “resilient by design,” according to Metal Building Manufacturers Association (MBMA). The organization’s website cites metal’s sustainability, durability and resistance to earthquakes, severe winds and a host of dangerous natural phenomena. Perhaps we can forgive them for not mentioning lightning as one of those hazards; individual lightning strikes don’t get the headlines produced by large regional disasters.



Metal roofing becomes the work platform for installing air terminals and exposed conductors. The LPI has rigorous programs to train and certify lightning protection specialists. Photovoltaic systems and other rooftop equipment must be included in lightning protection system. Photo courtesy of Smokestack Lightning Inc.

Yet in a typical year:

- Lightning strikes the U.S. approximately 25 million times a year and kills or injures more people than does any other natural disaster, including hurricanes, tornadoes, earthquakes, blizzards, floods and volcanic eruptions.
- Lightning losses reach nearly a billion dollars according to the Insurance Information Institute.

And the situation is getting worse. Lightning events are predicted to increase due to changing weather patterns. The cost of lightning damage is also growing due, in part, to the proliferation of sensitive electronic devices that are vulnerable to lightning surges.

Lightning protection is not mandated under the national building codes, but is required in some local codes, by certain government agencies and by an increasing number of sophisticated building owners. In other cases, the NFPA risk assessment should be conducted by building designers or lightning protection specialists and the results discussed with building owners.

If the decision is made to use lightning protection, specify that the project complies with NFPA 780, UL 96A — *Installation Requirements for Lightning Protection Systems* and Lightning Protection Institute (LPI)-175 — *Standard of Practice for the Design - Installation - Inspection of Lightning Protection Systems*. The specific layout of the LPS can usually be delegated to an LPS installation specialty contractor employing a Master Installer/Designer or Master Installer certified by the LPI, see www.lightning.org. The designer will work with the project team to coordinate locations

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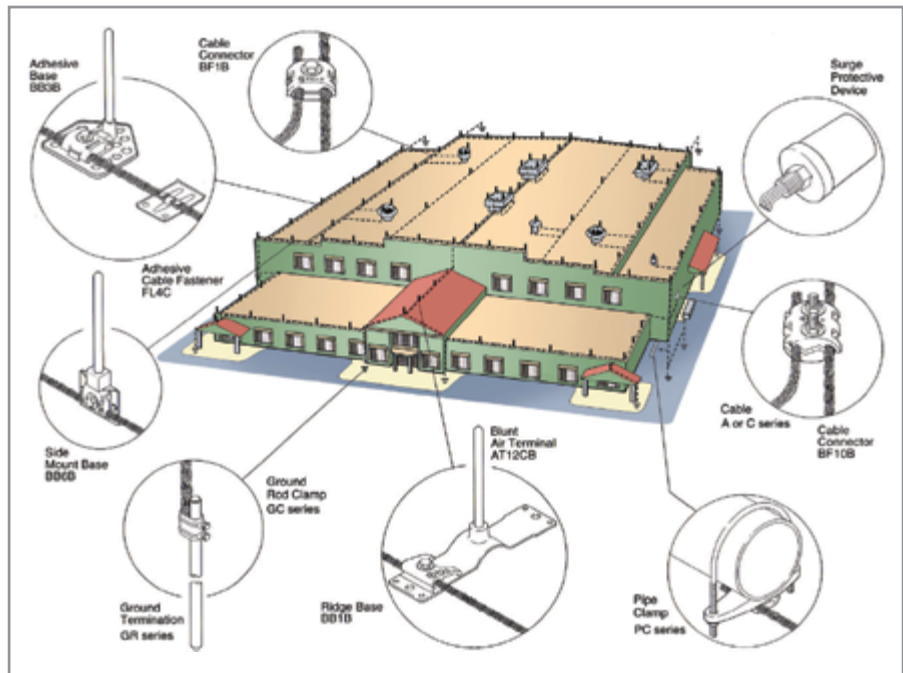
and installation schedule for penetrations through the building envelope and connections. The installer may have to be on the site early in construction to install ground electrodes and bond the LPS to rebar in foundations, and may be one of the last to leave at the end of the project when final connections are made and tested.

Third-party inspection services are available through UL, LLC and LPI-Inspection Program and should be part of the building commissioning process.

It Takes a System

A LPS requires a network of electrically conductive paths to safely transmit a lightning strike's 300 million volts from rooftop air terminals—colloquially called lightning rods—to ground electrodes.

Air terminals rise 10 inches or more above a building to intercept lightning before it reaches the structure. Lightning is modeled as a 300-foot diameter sphere being rolled over a building's envelope; anywhere the sphere touches the building is susceptible to becoming lightning's attachment point. Based on this, NFPA 780 requires air terminals at roof corners and at intervals not exceeding 20 feet along roof ridges and edges; a very wide roof requires additional air terminals 50 feet-on-center through the field of the roof. Air terminals are also



A lightning protection system creates a conductive path to channel lightning into the ground without damaging the building and its occupants and contents. Components must be UL-listed for lightning protection; products listed for electrical power systems are not up to the challenge of lightning's extreme current. Illustration courtesy of East Coast Lightning Equipment Inc.

required on rooftop of equipment that is not within the zone of protection of an air terminal mounted higher on the structure. The rolling sphere technique is demonstrated in an animation at bit.ly/rolling-sphere.

In most buildings, lightning's energy is conveyed from air terminals to the ground through large, multi-strand cables made from highly conductive grades of aluminum or copper; copper should not be used in contact with



Air terminals must be installed on rooftop equipment that is not within the zone of protection created by air terminals mounted at a higher elevation on the building. Photo courtesy of Labeled Lightning Protection Inc.



The air terminals on this ridge are supported from below the roof deck and sealed against weather intrusion. They are connected to each other and to ground by conductor cables inside the attic to maintain the design standards of this luxury resort development. Photo courtesy of Mr. Lightning.



Air terminals must be located at high points and where indicated by NFPA 780. Conductor cables that are exposed to view should be installed along the natural lines of a building to minimize their visual impact. Photo courtesy of Guardian Equipment Company.

galvanized steel, aluminum, or most other non-cupreous metal roofing or siding. The cables must interconnect air terminals and bond to metal elements on the roof.

A wide variety of air terminal bases and cable fasteners are available for installing LPS components on metal roofs. Screw-installed devices can sometimes be used on ridge caps, and adhesively-mounted devices are available that avoid drilling holes through the roof. On better-quality buildings and in high wind areas, devices that clamp onto a roof's standing seams should be considered. Ideally, the LPS is installed



Air terminals are installed on parapets, the highest locations on this roof. Flexible boot flashings are used to seal the through roof penetrations. Photo courtesy of Mr. Lightning.

during construction, with all conductors installed below the roof deck, so just the air terminals are exposed above the roof.

From the roof, NFPA requires paths to ground. Down conductor cables from roof to grade can be left exposed to minimize penetrations through the building envelope. The visual impact of exposed cables can be reduced by locating down conductors away from main entrances, behind downspouts, and along a building's edges or other architectural lines. Large radii are required wherever a cable bends, including at the junction of a roof and wall.

Alternatively, through-structure penetration devices can be used to bring conductors into the building interior; conventional flashings can be used to seal the penetrations. This reduces the visibility of conductors on the exterior of the building and helps protect them from damage and theft. More, this can reduce costs by allowing a building's structural steel framing (if present) to be used as down conductors. NFPA states: "The metal framework of a structure shall be permitted to be utilized as the main conductor



COVID-19 INFORMATION FOR ROOFING CONTRACTORS

MRCA recognizes this is a time of uncertainty, and we want to be your resource for addressing various issues you may be facing in managing your business through the crisis. Find up-to-date information at

www.mrca.org



of lightning protection system if it is equal to or greater than 3/16 inches (4.8 mm) in thickness and is electrically continuous, or made electrically continuous...”

Seeking the path of least resistance from sky to ground, lightning will arc or side-flash from conductors into electrical, plumbing, HVAC, structural members and other metallic systems if electrical potential is not equalized between all grounded systems. Similarly, LPS requires its own grounding system that must be bonded to other grounding systems, such as the ground for the building’s electrical power.

Air terminals are not highly visible from the ground. Aluminum air terminals can be as slim as 1/2 inches diameter, just 10 inches tall and set up to 24 inches in from roof edges. Light colored air terminals—either aluminum or plated copper—reflect and blend into the sky. Exposed cables on the roof should be located on the less visible face of a roof and against the ribs in metal roofing to minimize visibility.

Components of a lightning protection system must comply with UL 96 – *Standard for Lightning Protection Components* and be listed by UL. Components

listed for ordinary electrical service are not safe for lightning protection.

Finally, we must recognize that metal roofing has to protect a building against rain, wind, snow, sunlight and other meteorological conditions. When installed in conjunction with an LPS, metal roofing can also withstand lightning, one of nature’s most dangerous hazards.

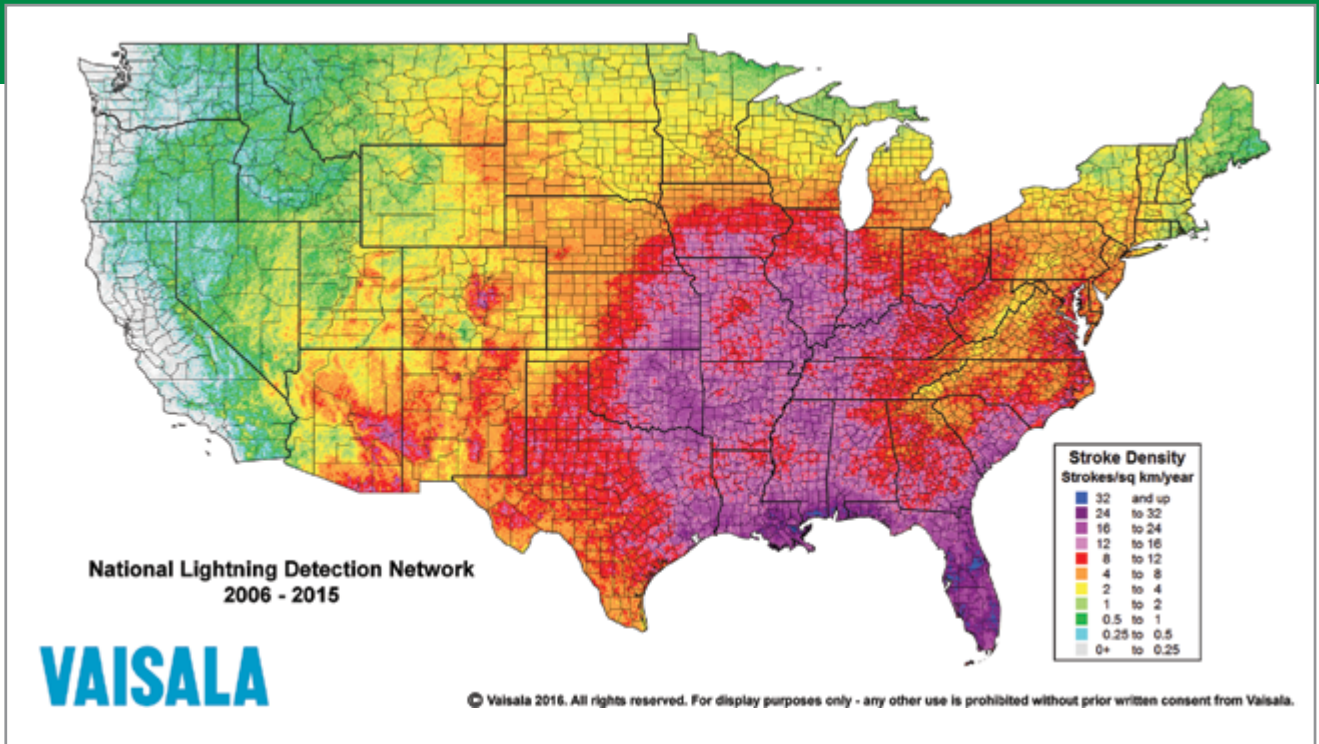
For more information about lightning protection, see bit.ly/LPSresources.

Note: Some of the photos used in this article have been enhanced to make lightning protection equipment more visible. In actual installations, the thin air terminals are often difficult to see from normal viewing distances. BE

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NFPA 780 SIMPLIFIED RISK ASSESSMENT CRITERIA



Every state is vulnerable to lightning (even Alaska and Hawaii, not shown on map). Low risk is not the same as no risk, and designers should conduct a lightning risk assessment for each structure. Graph courtesy of Vaisala.

Structure	Metal Roof	Nonmetallic Roof	Combustible Roof
Metal	0.5	1.0	0.5
Nonmetallic	1.0	1.0	1.0
Combustible	2.0	2.5	2.0

A lightning protection system is recommended if building's exposure to lightning exceeds tolerable risk as calculated based on the following:

Exposure Criteria:

- **Lightning Flash Density:** This is the average cloud to ground lightning flashes per-square kilometer per year as based on local meteorological data or the Average U.S. Lightning Flash Density Map from the National Lightning Detection Network. While density varies, every state in the Country is at risk.
- **Equivalent Collection Area:** This is essentially based on the footprint of a building adjusted by the height of the building. The larger and taller a building, the greater its exposure.

Tolerance Criteria:

- Value of building contents.
- Construction coefficient based on conductivity and combustibility of structure and roofing:
- Ease of evacuating building occupants.
- Continuity of service requirements and environmental consequences.

Regardless of the outcome of the risk assessment, protection should be given serious consideration if any of the following are factors:

- Large crowds.
- Continuity of critical services.
- High lightning flash frequency.
- Tall isolated structure.
- Explosive or flammable materials.
- Irreplaceable cultural heritage.
- Statutory, regulatory and insurance requirements.



Without a lightning protection system, the lightning attached to the building along the metal parapet. It then arced into the steel reinforcing in the wall, shattered the grout-filled masonry units, and created hazardous falling debris. The power continued to wreck havoc on its way to ground. Photo courtesy of Mr. Lightning.



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