The Only Magazine Dedicated to the Effects of Weather and Climate on Roofing

ROOFING ELEMENTS

METAL ROOFING MAGAZINE SPECIAL SECTION

www.roofingelementsmagazine.com
SPRING 2026 • Vol. 6, Issue 1

MANAGING WATER & ICE

HOW TO BEAT LOWBALL BIDS

CONTRACT ESSENTIALS
PROVISIONS FOR SUBCONTRACTING

TECHNICAL BULLETIN
INSTALLATION OF DRIP EDGE AT EAVES & RAKES

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ROOFING ELEMENTS MAGAZINE

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ON THE COVER:
Underlayment plays a critical role in keeping water from penetrating a roof system. Shown here: RoloShield installed on a steep-slope roof. Photo courtesy of Levi's Building Components.

EDITOR'S NOTE

BY KAREN KNAPSTEIN

THE BENEFITS OF SHARING

Roofing Elements Magazine is built on real-world experience, and some of our most valuable information comes directly from you: contractors and industry professionals who are willing to share what you've learned in the field. Whether it's a challenging reroof, a unique weather-related solution, or a standout completed project, your case studies help fellow professionals discover new ideas, products, and techniques that can improve their own installations. The entire industry benefits from you sharing your experiences and successes.

Contributing a project feature also gives your company an opportunity to showcase craftsmanship, problem-solving, and professionalism to a highly targeted audience. Our readers include contractors, owners, and industry leaders who are looking for practical insight they can apply in the real world.

Published case studies can strengthen credibility, increase visibility, and position your company as a trusted expert in the industry. Just as importantly, they help elevate roofing as a profession by sharing knowledge that benefits contractors across the market. If you're proud of a recent project or innovative solution, we encourage you to share it with us. Your next job could become the idea or inspiration another roofer has been searching for. What's more, it could even appear on the cover!

If you're so inclined and are ready to send in details and photos of a recently completed roof, feel free to email me the details or use our convenient online portal for roofing project submissions: https://roofingelementsmagazine.com/roofing-elements-project-submission-form/.

If you have any questions, please don't hesitate to reach out. I can be reached easily via telephone or email (715-952-1633 or karen@shieldwallmedia.com). I look forward to hearing from you. ●

By Andrew Wilson, Central States Inc.,
Chief Engineering & Innovation Officer

CERTIFICATIONS & REAL WORLD PERFORMANCE

A PLAIN-LANGUAGE GUIDE TO ROOFING TESTS, STANDARDS, AND WEATHER RESILIENCE

When homeowners or builders think about roof performance, one big question frequently comes up: *Do industry certifications actually mean a roof will perform better in the real world?* The short answer - *especially for metal roofing,* is yes, but with some important context.

To understand why, it helps to decode what roofing certifications really measure, how they're tested, and how insurance and building science groups interpret those results.

WHY STANDARDS EXIST IN THE FIRST PLACE

Industry standards exist for a simple reason: protecting consumers. Roofing manufacturers must prove that their products meet industry agreed-upon levels of performance and resilience against wind, fire, impact, and other short and longterm exposures. Third party groups like UL, ASTM, FM Global, and others establish standard criteria and test products against those standards so consumers can have confidence that products meet an industry agreed-upon standard of performance.

BREAKING DOWN THE MAJOR TESTS (IN LANGUAGE WE ALL UNDERSTAND)

As builders and contractors in the industry, many professionals are familiar with the names of common industry standards and certifications but understanding what each of those certifications mean and how products earn the rating is less common. Below is a simplified guide to the tests most commonly referenced in roofing certifications.

1. UL 2218 -Impact Resistance

What it tests: A steel ball is repeatedly

dropped from a height, striking the same roofing surface multiple times. Materials are then inspected for cracking or punctures. The larger the steel ball and the higher the height the ball is dropped from, the higher the impact rating, with 1 being the least impact resistant and 4 being the most impact resistant.

Why it matters: UL 2218 has become the industry standard certification for impact ratings, even being written into building codes in some areas, requiring all new roof installations to bear the Class 4 rating. The test and rating are typically thought of as a measure of the roof's hail resistance, but test standards are clear that the rating is for impacts, not specifically hail as the shape, speed, and density of hail stones impact roofs in unique ways that do not directly correlate to a falling steel ball. Hail causes more than **$1.5 billion in annual U.S. roof damage**, and larger hail is becoming more common. Metal typically earns Class 4 because its rigid substrate and coatings absorb and disperse energy better than fiberglass asphalt materials.

2. ASTM E1592 / UL 580 - Wind Uplift

What it tests: Both tests simulate wind pressure trying to pull a roof off a structure, the UL test is for general roof assemblies and the ASTM test is specific to metal roof and wall systems. In both tests, a full roof assembly is mounted in a pressure chamber and air pressure is applied from below in increasing gusts until the system fails or reaches a specific load. The results show the maximum uplift pressure the roof system can withstand and help determine whether it meets building code and design requirements for wind resistance.

Why it matters: Tornadoes and hurricanes can generate **wind gusts exceeding 200 mph**. Well-designed metal roof systems are commonly engineered to withstand 120–150 mph winds (typical hurricane design ranges). High-performance, tested systems can handle 150–180+ mph winds when properly installed. Some standing seam metal roofs, tested to standards like UL 580 or ASTM E1592, are rated for wind uplift pressures equivalent to Category 4–5 hurricane conditions.

Fastener design, panel strength, and installation quality greatly affect performance which are areas where metal roofs excel because of interlocking designs and screwfastened systems.

3. UL 790 / ASTM E108 - Fire Resistance

What it tests: These equivalent tests are used to evaluate fire resistance of roof coverings when exposed to external fire sources like wind-blown embers or nearby flames. The tests measure how the roof covering performs under three main fire-exposure scenarios:

- **Intermittent Flame Test** – Simulates flames repeatedly contacting the roof surface, like from burning debris.
- **Spread of Flame Test** – Evaluates how far and how fast flames travel across the roof surface.
- **Burning Brand Test** – Places a burning material (brand) on the roof to see if it ignites or penetrates the assembly.

Roof materials and systems earn ratings based on how long they can resist the fire's spread or penetration Class **A roof**, the highest rating, resists fire spread for up to four hours. Metal roofing is naturally noncombustible and regularly earns Class A ratings.

Why it matters: More than **4.8 million U.S. homes** are in high-risk wildfire zones. Metal's natural resistance to ignition provides meaningful protection.

4. FM Global 4471 - Commercial Wind, Fire, and Impact Performance

What it tests: This comprehensive test standard evaluates a complete roof system (deck, insulation, fasteners, and roof covering) for its performance against fire, wind uplift, and impact resistance under insurance-industry standards.

- Wind uplift resistance – The assembly is subjected to increasing air pressure to simulate strong winds trying to lift the roof off the building.
- Fire resistance – The roof is exposed

to external fire sources to evaluate flame spread and fire penetration.
- Hail resistance – The roof covering is impacted with steel balls and examined for cracks or perforations.

Based on performance, roof systems receive specific FM approvals and ratings, such as:
- Wind uplift ratings (e.g., 1-60, 1-90, 1-120)
- Hail resistance ratings (e.g., Moderate or Severe Hail)

Why it matters: FM 4471 approval indicates the roof system has been tested as a **complete assembly** and can provide a high level of protection against severe weather and fire, helping reduce property loss and insurance risk. FM Global is an insurance engineering authority. Their "FM APPROVED" mark is trusted by commercial builders and often required for coverage. Tests are rigorous, including ongoing audits - not just a onetime lab qualification.

DO THESE CERTIFICATIONS PREDICT REAL WORLD RESILIENCE?

Understanding how each of these industry certifications are conducted leads to the question: do these very controlled tests actually translate to real-world performance? The answer: it depends.

For some materials and some tests, the connection between test performance and real-world performance is strongly correlated. For others, not as much. And understanding exactly how the tests are conducted and what they are testing can also help set better expectations for consumers about performance expectations. For example, a roof can achieve a Class 4 impact rating in a testing facility, and successfully not puncture or crack during a hailstorm, but still suffer granule loss that will eventually lead to premature shingle aging or have significant cosmetic damage from the hail.

Similarly, roof assemblies may test well for extremely high wind speeds, but in real-world scenarios, failure often occurs based on the underlying structure. And fire-resistant certifications don't equate to fireproof materials. Most materials will eventually succumb to fire if exposed for long enough.

But, unlike many other roof materials, the simple, innate qualities of metal are more likely to deliver real-world performance that is consistent with the test results, giving consumers confidence in the material.

METAL ROOFING AS THE HERO OF REAL WORLD PERFORMANCE

Across almost every major test category—hail, wind, fire, water infiltration—**metal roofing consistently scores among the highest performers**. And unlike materials that degrade over time, metal maintains much of its tested performance decades into its lifespan.

Central States, along with other manufacturers in the industry, contributes to these outcomes by meeting rigorous standards, earning certifications like FM Global 4471, and participating in advanced testing. But the real story is broader:

Metal roofing as a category stands out as one of the most storm-resilient, long-lasting, and safety-enhancing roofing solutions available today. ●

Andrew Wilson *serves as Chief Engineering & Innovation Officer for Central States Inc., overseeing product development, testing and certifications, engineering and the Project Management Office. He has served in a variety of leadership roles in the past, including supply chain and operations. He brings decades of experience working in manufacturing businesses, specializing in continuous improvement and quality management. Andrew serves on committees for several major industry associations, including the Metal Construction Alliance and the Cool Roof Rating Council.*

TECH BULLETIN

INSTALLATION OF DRIP EDGE AT EAVES AND RAKES

By The Asphalt Roofing Manufacturers Association (ARMA)

Editor's Note: *The Asphalt Roofing Manufacturers Association (ARMA) has prepared many technical reports to aid roofers in the proper installation of various asphalt roofing systems. ARMA [https://www.asphaltroofing.org/] has granted Roofing Elements Magazine permission to publish this report for the benefit of roofers.*

Installation of drip edge at the eaves, gables, and rakes is a common way to help mitigate the potential rotting of wood materials that can result from water getting underneath the edge of the shingles. This can happen if water flows back onto a roof deck or fascia. Drip edges provide efficient water shedding at a shingled roof's eave, gable, and rake. The use of a drip edge also enhances the finished roof's appearance, providing a clean, straight edge for all shingle courses.

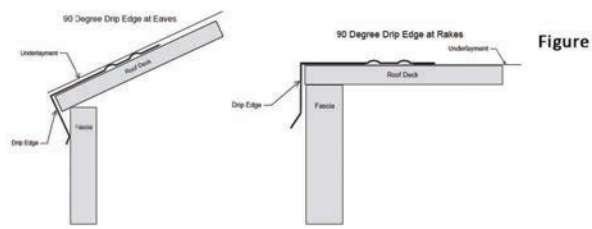

Figure 1

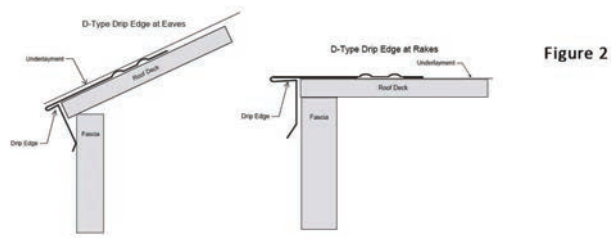

Figure 2

The drip edge should be made of a corrosion-resistant material that extends a minimum of 2" (51 mm) onto the roof sheathing and extends downward at least ¼" (6mm) below the roof sheathing. Though many drip edge profiles are available, it is important to use a product that does not hinder water from running off the roof. Drip edges should have an outward bent flange at the lowest edge (occasionally referred to as a "kickout") to ensure water is directed away from running directly onto supporting wood materials.

As a general guideline, apply the drip edge underneath the underlayment along the eaves and over the underlayment on the rakes. (NOTE – When self-adhering underlayments are used at the eave, some shingle manufacturers and/or local building codes may permit the drip edge to be applied over the underlayment at the eave. In such cases, protection of the deck from water back-up due to ice dams forming below the eave (e.g. in the gutter), an initial 12" (300 mm) strip of self-adhering underlayment is installed before the drip edge installation. The lower edge of the strip should align with the expected lower edge of the drip edge, then adhered over the edge of the roof deck, and up the roof eave. After drip edge installation/fastening over this strip, the initial course of self-adhering underlayment is installed to overlap the drip edge as per usual practice. The net result is the drip edge is 'sandwiched' between two plies of underlayment at the eave, thereby providing protection from melted snow/ice from below and/or above the eave. Consult the manufacturer's installation instructions). Fasten the drip edge to the deck with roofing nails at 8-10" (203-254 mm) on the center – do not nail into the vertical portion of any drip edge. A drip edge is strongly recommended on all shingled roofs and may be required by local building codes. If no drip edge is used, then all eave and rake shingle overhangs should extend 3/8" - 1" (10-25 mm). Refer to the shingle manufacturer's installation requirements for specific installation guidelines.

The simplest drip edge shape is a 90-degree bent material (Figure 1), occasionally known as an L-shape. When using products with this profile, extending the starter course and field courses of shingles 1/4" – 3/4" (6-19 mm) beyond the drip edge at all eaves and rakes is recommended.

Other drip edge profiles, sometimes referred to as T- or D-shapes (Figure 2), incorporate a portion that extends outward from the roof edge before returning to match the roof structure. When using these products, shingles at the rake edge may be trimmed flush with the drip edge, while shingles at the eaves may extend up to 3/4" (19 mm) or may be trimmed flush with the drip edge.

See ARMA's Residential Asphalt Roofing Manual – Design and Application Methods for additional information. The manual is available for purchase on the ARMA website at www.asphaltroofing.org.

WARNING: Because it is dangerous to walk, climb or work on a roof, ARMA recommends that only trained professionals engage in such activity. If you choose to do so, exercise extreme care, comply with all government safety regulations, and follow all safety work practices, precautions and procedures, including but not limited to manufacturer's instructions, labels, and warnings. ●

BY TRENT COTNEY,
ADAMS & REESE, LLP

CONTRACT ESSENTIALS

TEN PROVISIONS EVERY PRIME ROOFING CONTRACTOR MUST INCLUDE IN A SUBCONTRACT

This article is provided for general educational and informational purposes only. It does not constitute legal advice and should not be relied upon as legal advice for any specific factual situation.


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In today's roofing environment marked by labor volatility, heightened insurance scrutiny, aggressive plaintiff tactics, and increased regulatory oversight, a prime roofing contractor cannot afford to treat its subcontract as a formality. When properly drafted, it prevents the prime from becoming the de facto insurer of its subcontractor's mistakes. From the perspective of the prime contractor, there are several non-negotiable provisions that must be clearly defined and consistently enforced.

First, scope of work must be precise and incorporated by reference to the prime contract. Vague scope language is an invitation for change order disputes and finger-pointing. The subcontract should expressly bind the subcontractor to the same plans, specifications, addenda, manufacturer requirements, and contract documents that govern the prime. A "flow-down" clause is critical. It ensures the subcontractor assumes toward the prime the same obligations the prime assumes toward the owner. Without this, the prime can be contractually responsible upstream while lacking enforcement leverage downstream.

Second, indemnification and defense language must be carefully drafted to comply with applicable anti-indemnity statutes while still providing meaningful protection. The clause should require the subcontractor to defend, indemnify, and hold harmless the prime contractor and owner for claims arising out of the subcontractor's work, to the fullest extent permitted by law. Defense obligations should be immediate upon tender, not contingent upon a final determination of fault. Roofing claims are often expensive to litigate. A properly structured indemnity provision shifts both liability and litigation cost risk to the responsible party.

Insurance requirements should be detailed and enforceable. The subcontractor must carry, at a minimum, commercial general liability coverage and workers' compensation with limits consistent with the prime contract. The prime and owner should be named as additional insureds on a primary and non-contributory basis for ongoing and completed operations. Waivers of subrogation should be included where permissible. Certificates of insurance alone are insufficient; the agreement should require actual policy endorsements and allow the prime to withhold payment if insurance lapses. In

an era of tightening insurance markets and roofing exclusions, this provision is a financial firewall.

Payment provisions require discipline. The subcontract should contain a clear pay-if-paid clause, depending on jurisdictional enforceability. It should also include retainage terms consistent with the prime contract. Conditions precedent to payment such as lien waivers, certified payroll (if applicable), proof of insurance, safety documentation, and compliance certifications must be explicit. Without enforceable payment conditions, the prime may be forced to fund subcontractor work before being paid upstream, creating unnecessary cash-flow exposure.

Safety and regulatory compliance provisions are equally essential. The subcontractor should assume sole responsibility for the means and methods of its work, including fall protection, OSHA compliance, and site-specific safety plans. The agreement should state that the subcontractor is an independent contractor responsible for its employees, equipment, and supervision. This language is critical in defending against multi-employer worksite allegations and employment misclassification claims. Immigration compliance representations, I-9 obligations, and E-Verify participation (where required) should also be included to protect against workforce enforcement risk.

Change order procedures must be formalized. The subcontract should prohibit extra work without written authorization and require detailed documentation for any claim for additional compensation or time. Roofing disputes frequently arise when field personnel authorize changes informally. The written agreement must override those practices. Notice provisions should be strict and mirror upstream notice requirements so that the prime preserves its ability to pass through claims to the owner.

Default and termination provisions should provide leverage. The subcontract must allow the prime to terminate for cause if the subcontractor fails to perform, violates safety requirements, becomes insolvent, or fails to maintain insurance. It should also include a termination for convenience clause, permitting the prime to remove a subcontractor when necessary to protect the project. Cure periods should be reasonable but firm. In volatile labor markets, the ability to replace underperforming crews quickly can be the difference between profit and loss.

Warranty language deserves careful drafting. The subcontractor should warrant its work for at least the same duration required under the prime contract and manufacturer warranties. The subcontract should require prompt corrective work at the subcontractor's expense and allow the prime to back-charge costs if the subcontractor fails to act. Roofing warranties are often the first target in post-completion disputes, and ambiguity in this section invites unnecessary exposure.

Dispute resolution provisions should align with the prime contract. If the prime is bound to arbitration or a specific venue, the subcontract must match that framework to avoid parallel proceedings. Joinder rights should be included so the prime can require subcontractors to participate in the same forum as the owner dispute. Fragmented litigation increases defense costs and weakens strategic positioning.

Finally, documentation and record-keeping requirements should not be overlooked. The subcontractor should be required to maintain daily reports, safety logs, inspection documentation, and photographic evidence of completed work. In the roofing industry, documentation often determines outcome. A well-drafted subcontract transforms documentation from an afterthought into a contractual obligation.

When thoughtfully drafted and consistently enforced, a subcontract allocates responsibility where it belongs and strengthens the negotiating position in the event of a dispute. In a market defined by tightening insurance, labor uncertainty, and aggressive litigation, disciplined subcontract drafting is an operational necessity. ●

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BY LINDA SCHMID

MANAGING WATER AND ICE

HOW UNDERLAYMENTS, SNOW RETENTION, AND SEALANTS WORK TOGETHER

Water has always been one of roofing's primary adversaries, but ice and snow, specifically freezing and thawing, complicate the equation in ways that are not always intuitive. A roof that sheds rain effectively can still fail when water freezes, backs up, or is released all at once. For professional roofers the challenge is not just selecting quality individual components but understanding how those components interact under real-world conditions.

Self-adhering underlayments, snow guards or snow-retention bars, and sealants each play distinct roles in managing water and ice. Installed independently, they address specific vulnerabilities. Installed as part of a coordinated system, they provide layered protection that anticipates how snow melt water, snow, and ice behave throughout a winter season. Understanding that system-level interaction is what separates short-term performance from long-term reliability.

Beyond material selection and system design, professional roofers are responsible for ensuring assemblies meet applicable building codes and local requirements. Ice barrier placement, snow retention, ventilation, and drainage details are often governed by code, particularly in regions prone to snow and freeze–thaw cycling. These requirements establish minimum performance thresholds, but they also influence how components are combined in practice. Understanding both the code intent and the real-world behavior of water and ice allows roofers to move beyond compliance toward durable, well-integrated systems.

A self-adhering underlayment. PHOTO COURTESY OF CERTAINTEED.

THE NATURE OF WATER AND ICE ON A ROOF

Roofs are engineered to shed water by gravity, but ice disrupts that fundamental activity. When snow accumulates, melts unevenly, refreezes, or releases suddenly, water is no longer moving predictably downslope. It can migrate laterally, move upslope, or sit in place for extended periods. These conditions can effectively call into play details of the roofing system that usually are not required to accomplish much.

Professional roofers tend to think in terms of failure modes rather than products. Ice dams, sliding snow, freeze-thaw cycling, wind-driven rain, and thermal movement all represent moments when the roof covering is no longer acting alone. Water and ice-handling components exist for mitigation and management of those moments.

RESOURCES

- Ace Clamp, www.aceclamp.com
- Dripstop, www.dripstop.com
- Dynamic Fastener, www.dynamicfastener.com
- FloTrace, www.flotraceusa.com
- Levi's Building Components, www.levisbuildingcomponents.com
- MFM Building Products, www.mfmbp.com
- Owens Corning, www.owenscorning.com
- Certainteed, www.certainteed.com

VENTILATION

Proper ventilation can be difficult to achieve. The theory is that cold air enters through eave vents and exits the ridge vents, minimizing trapped hot air that can precipitate a freeze-thaw cycle. However, ridge vents can become covered in snow, thereby losing the ability to properly ventilate. This is where attic insulation can help minimize heat loss into attic spaces.

Condensation control is applied on the left side; no condensation control is applied on the right. PHOTO COURTESY OF DRIPSTOP.

SELF-ADHERING UNDERLAYMENTS

Self-adhering ice-and-water membranes are often misunderstood as a primary waterproofing layer. In practice, their value lies in what happens when the roof covering cannot do its job temporarily.

These membranes bond directly to the deck and seal around fasteners and penetrations. When meltwater backs up behind an ice dam or is driven upslope by wind, the membrane becomes the last line of defense protecting the structure below. For most roofers, the key questions are not whether to use self-adhering underlayment, but where and how much.

At eaves, valleys, rakes, dormers, chimneys, and transitions, water flow is complex even in mild conditions. Under ice loading, those areas are where problems surface first. Self-adhering membranes buy time, allowing water to sit or move slowly without immediately reaching the deck.

Overuse, however, can introduce its own issues. Fully adhered membranes across an entire roof can trap moisture in assemblies not designed for it, complicate tear-offs, and increase costs. Experienced roofers evaluate climate, roof geometry, ventilation, and covering type before deciding how extensively to deploy these membranes. Many find that it is best practice in high snow load regions to install ice and water shield membranes a minimum of 10 feet above a roof edge since ice dams do not always develop at the edge.

IB3 Storm Stopper underlayment. PHOTO COURTESY OF MFM BUILDING PRODUCTS.

METAL ROOFING CONSIDERATIONS

On non-metal roofs, self-adhering underlayments are typically viewed as localized protection. They supplement the water-shedding capacity of shingles, tile, or shakes at known weak points.

On metal roofs, underlayment selection is more nuanced. Metal panels expand and contract significantly with temperature changes, and some systems rely on the underlayment to serve as both a water barrier and a slip layer. Compatibility with panel movement, adhesive stability at temperature extremes, and interaction with panel coatings all matter.

In some metal roof assemblies, condensation control products such as factory-applied absorption products can reduce reliance on traditional underlayments by managing moisture at the panel level. These products absorb and temporarily hold condensation that forms on the underside of metal panels, releasing it gradually as conditions allow. These types of products help protect valuables inside the building from getting wet or destroyed as a result of rot, mildew, and mold. While condensation control does not waterproof the roof, it can change how moisture behaves within the roof system and should be considered when evaluating underlayment needs, ventilation, and overall moisture strategy.

Zigzag pattern of heat trace cables below the snow fence at the eaves. PHOTO COURTESY OF FLO-TRACE

SNOW GUARDS AND SNOW-RETENTION SYSTEMS

Snow retention controls how snow moves on the roof and, more importantly, how it comes off the roof. On smooth surfaces, especially metal roofs, snowpack can release suddenly in large sheets, damaging property, endangering people, and stressing roof components.

Snow guards and snow bars introduce friction and segmentation. Instead of one catastrophic release, snow sheds gradually or remains in place long enough to melt. For roofers, the decision to include snow retention is driven by safety, liability, and roof geometry as much as by climate.

The most important factors in snow retention systems are how they are designed as well as how they are installed. Poor placement can concentrate loads, create ice buildup at eaves, or redirect meltwater into vulnerable areas. Properly designed systems distribute snow load across the structure and work in harmony with drainage paths.

THE DOWNSTREAM EFFECTS OF SNOW RETENTION

When snow is retained, meltwater spends more time on the roof. That extended exposure increases reliance on underlayment and detailing. This is where system thinking becomes essential.

Retained snow often melts from the bottom up due to heat loss from the building. Water flows downslope until it reaches a cold eave, where it can refreeze and form ice dams. Snow retention can slow release but cannot eliminate this process. The roof must be prepared to manage it.

This raises practical questions:

- Is the underlayment designed to handle prolonged water exposure?
- Are eave details robust enough to tolerate freeze-thaw cycling?
- Has ventilation been considered as part of the overall strategy?

Snow retention is not a standalone solution. It shifts the behavior of snow and water, which must be accounted for elsewhere in the assembly.

ATTACHMENT METHODS AND THEIR IMPLICATIONS

Snow retention systems are attached using a range of methods, including mechanical fasteners, clamps, and adhesives. Each has implications for waterproofing, movement, and long-term performance.

Mechanically fastened systems introduce penetrations that must be sealed reliably for decades. Clamp-on systems avoid penetrations but rely on panel geometry and coating compatibility. Adhesive systems eliminate fasteners but place significant demands on sealant performance under load and temperature extremes.

Roofers evaluate these methods not only for initial performance, but for inspectability and repairability. A system that cannot be serviced without disturbing the roof covering introduces long-term risk.

SEALANTS

Sealants rarely get headline attention, but they are often the difference between a roof that performs and one that leaks. They are not designed to manage bulk water, but to close the small, critical pathways water exploits when movement, pressure, or ice is involved.

Roofers must be concerned about compatibility. A sealant that performs well on metal may fail on a membrane. One that adheres initially may degrade under UV exposure or lose elasticity in cold temperatures. Thermal movement, especially on metal roofs, places constant stress on sealant joints.

Sealants perform best when used to reinforce sound detailing rather than compensate for poor design. They are most effective as part of a layered approach, supporting mechanical attachments, flashing details, and membrane transitions.

SEALANTS IN ICE AND WATER MANAGEMENT SYSTEMS

When snow retention is added, sealants often play a supporting role at attachment points. These locations experience not only water exposure but mechanical stress from snow load and thermal movement. Sealant selection must account for all three.

Similarly, transitions between self-adhering underlayments and other materials rely on sealants to maintain

continuity. Failure at these interfaces can undermine the protection the membrane is intended to provide.

It is prudent to be cautious about relying on a single product to do too much. Sealants are expected to seal, not to replace flashing, membranes, or structural design.

SELF-REGULATING HEAT TRACE CABLE

The effectiveness of self-regulating heat trace cable is often overlooked or misunderstood. A principal strategy of all roof ice management systems is the ability to create proper melt paths to enable snow melt water from a roof to reach the ground. When snowmelt water (as a result of ambient temperatures, heat loss from a structure through the attic or exhaust vents) has the chance to re-freeze before it reaches the ground, this is a guaranteed recipe for roof ice problems developing on the roof, in the gutters, and in downspouts.

Self-regulating heat cable can resolve that problem anywhere on a roof where melting snow has the chance to re-freeze, principally roof edges and gutters and downspouts. For example, high on the roof dormers, snow melts and drips down. Where that snowmelt water lands, a heat trace cable can prevent that snow melt water from re-freezing. The path that gravity pulls that water down is precisely where self-regulating heat trace cable needs to be installed, although layout should also consider manufacturer guidelines, roof design, and local code requirements. The water eventually travels to the edge of the roof.

At the roof edge, if there are no conditions below that require controlled drainage, water may be allowed to shed directly to grade if permitted by code. However, where pedestrian areas, landscaping, or building components are present, gutters and downspouts are often necessary to direct water safely away from the structure.

Self-regulating heat trace cable installed in gutter troughs and threaded through downspouts creates a proper snow melt water path. The heated gutters will also prevent icicles.

Roof edges are typically where ice dams form. To prevent ice dams from developing on roof edges, install self-regulating heat cable in a zigzag pattern between a snow fence/bar and the roof edge. The snow fence/bar enables the heat trace cable to do its job (preventing ice dams) by keeping the roof area between the snow retention system and roof edge free of migrating snowpack and re-freezing snow melt water.

HOW THE COMPONENTS WORK TOGETHER

Viewed as a system, water and ice management relies on redundancy. Each component assumes that another may be temporarily overwhelmed.

Snow retention slows and controls snow movement, reducing sudden release and damage. That controlled behavior increases the duration of meltwater exposure. Self-adhering underlayments protect the deck during that extended exposure, particularly where water backs up or refreezes. Sealants close the gaps created by penetrations, attachments, and movement, preventing localized leaks from becoming systemic failures. Heat trace cable melts the snow and ice and sends it on its planned path off of the roof.

In metal roof systems where panel-applied condensation control products are used, moisture generated beneath the panels can be managed before it becomes bulk water. When properly coordinated with ventilation, underlayment placement, snow retention design, and sealant detailing, these products can reduce the moisture load the rest of the system must handle, improving overall resilience during freeze–thaw cycles.

Clarity on performance limits is important for every component. Installation temperature range and service temperature range of the underlayment along with long-term adhesion properties must be taken into consideration. When snow retention is added to the system, changing the course of snow and meltwater, underlayment performance becomes even more critical. Durability of sealants must be considered and ventilation must be adequate. If one element is missing or mismatched, the others are forced to perform beyond their intended role. Most premature failures trace back to that imbalance.

COMMON PITFALLS

Experienced contractors watch for recurring mistakes that undermine otherwise good installations such as treating snow retention as a cosmetic add-on rather than a structural and water-management decision. Overreliance on ice-and-water membrane to compensate for poor drainage or ventilation is another common mistake.

Using incompatible sealants, ignoring thermal movement, or mixing products without considering long-term interaction also contribute to failures. These issues often do not appear immediately, which is why they are so damaging to reputations and warranties.

A SYSTEM MINDSET FOR MODERN ROOFING

As roofers approach water and ice management as risk management rather than product selection, the focus shifts from how a component works in isolation to how it performs as part of an assembly exposed to weather, movement, and time.

When roofers understand how self-adhering underlayments, snow retention systems, and sealants function individually and together, they can design roofs that anticipate the unpredictable behavior of water and ice and remain resilient under the worst conditions.

System-level understanding is what turns accessories into assets and protects both the roof and the professional standing behind it. ●

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SALES STRATEGY

ROOFING CONTRACTORS CAN BEAT LOWBALL BIDS AND SCAMMERS WITHOUT RACING TO THE BOTTOM

Every roofer across the country knows that one of the most pressing issues in our industry is the prevalence of lowball bids and scammers. Disreputable "roofers" artificially lower prices to win jobs, then do shoddy work or, in some cases, don't do the work at all. These lowball bidders and scammers are a black eye on our industry's reputation, as affected consumers grow to distrust roofing contractors.

> You have to show why your work is good, not why the cheaper bid is bad.

Fixing this issue remains a top concern for roofing contractors, along with the state of the economy, the cost of materials, and the cost of labor. Lowball bids put reputable contractors in a position where they can't compete on cost, which in turn hurts the customer because the work can't be done without cutting corners. Every honest person in the industry is put in a bad position, with the only beneficiary being the lowball bidder. However, reputable roofing contractors can take a proactive approach and win a customer's business without stooping to their level. Here are a few tips to beat lowball bids and scammers without devaluing your own work and reputation.

DON'T BADMOUTH LOW-BALL BIDS

Every roofer knows when they are being lowballed. You know what prices are realistic and which are not. However, the customer does not have the same knowledge and is often more than willing to hire the lowest bidder. The first instinct of many roofing contractors is to tell the homeowner they are being scammed or that it is impossible to do a job at that price point. Don't do this. You can be 100 percent correct, but you can't argue and badmouth the lowball bid. When it gets to that point, you have already lost. You are trying to save the customer from a bad deal, but to them, you just look like a sore loser. You have to show why your work is good, not why the cheaper bid is bad.

EDUCATE BY SELLING A PROCESS OVER SELLING A ROOF

Lowball bidders thrive when they can avoid the details. This means writing contracts that are vague and using only simple sentences. The contract might state, "I agree to tear off and replace shingles," a phrase that can mean wildly different things to different roofers.

Using this vague language allows a shady roofer to get the client to agree to a job without explaining the process. When the conversation is just about selling a roof, it is difficult for a reputable roofer to beat out a lower bid. However, if you are selling a process, you can demonstrate your value without undermining it.

Details matter to people, and your estimate process and the details you include in your contract are a great opportunity to educate potential customers about what an ethical process looks like.

A detailed scope explains your entire process, from tear-off and disposal to how landscaping is protected, the underlayment you are using, and what happens at valleys, chimneys, walls, and penetrations. It explains the entire process in detail from start to finish. Details make cheap bids harder to sell because they give the customer something to compare "cheap" to.

Showing the customer a detailed contract educates them about what to look for. This means that when a low-ball bidder writes a simple contract that says, "You will pay me $7,000 to do your roof," the customer will know something is up.

SHOW CUSTOMERS HOW TO VET YOU

The best way to help customers avoid lowball bids and scams is to give them the tools to vet the roofers they are considering hiring. Again, you never want to try to argue a customer out of a lower bid; however, you can give them the ability to spot a shady contractor by teaching them how to vet your own roofing company.

During the estimation process, you can show the customer your online reviews, examples of your company handling negative reviews, and your license information on your State's regulatory body for contractors. This helps you build trust with the customer by showing your history of good service and the absence of marks on your license. Importantly, it also shows them how to identify the most common signs of a shady contractor. Sketchy reviews, no license, or a history of negative marks on your license are strong signs of a shady contractor. Give the customer the tools to vet future contractors by teaching them to vet your roofing company.

TEACH THEM TO COMPARE WARRANTIES

Warranties are an important part of any roofing job, and showing the warranties your roofing company offers is a great way to reassure a client that they are working with an honest roofer. You don't just want to show them your personal warranty; you also want to show them the manufacturer's warranties.

Showing the customer a detailed contract educates them about what to look for.

Manufacturers often provide a list of certified and verified contractors they trust to install their products. Showing a customer that your company is on one of those lists is a great way to demonstrate that you do high-quality work while also giving them a tool to vet their next contractor. As a manufacturer-certified contractor, you may also be able to offer an extended or upgraded warranty, providing the customer with another layer of protection. Teaching the customer how to vet manufacturer warranties is a great way to help them spot scammers or low-ball bidders who often don't have them.

PROOF OVER PROMISE

Scams and lowball bids flourish in confusing environments, which is why you need to build trust with the customer more quickly than a scam competitor can sow confusion. This means showing up with a clear, consistent order of events. Inspection, findings, options, written scope of work, start and completion schedule, and finally, warranty details. Avoiding confusion means offering proof of work, not just a promise. Show customers real photos of your work, and show them your insurance certificates, licensing, manufacturer certifications, and bonding. Give them actual references they can contact. If you use subcontractors, say so and explain your quality control process. Let them speak to your supervisors and have them explain the accountability process for your team. These are all steps a scammer won't take. Be the example of an honest roofer they can take from every interaction from here on out. Doing this will ensure lowball bidders and scammers don't have a leg up.

The best way for roofers to beat lowball bidders and scammers trying to ruin our industry is to educate prospective clients through example. You have to do more than simply tell them the lowest bid is too good to be true. Teach homeowners about the red flags by highlighting your process as a green flag. Sell that process, not just a simple roof repair or replacement. When you do this, you position yourself as more than a bidder, but a roofing advisor. Customers will appreciate this clarity and search for roofers like yourself.

You don't beat lowball bids by telling customers how bad they are. You beat them by showing customers how great you are. You beat them by making your process visible and the risk understandable. Cheap roofs are sold with cheap promises. Great roofs are sold with proof and clarity. ●

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PHOTO COURTESY OF CERTAINTEED.

ROOF RESTORATION

HISTORIC VENUE GETS NEW LEASE ON LIFE

In a Northwestern college town, an historic venue plays a contemporary role in helping a community—and the arts—to thrive. But when wear and weather necessitate a new roof, a practical, affordable, immediate solution became critical.

THE WORLD OF WOW

You'd be excused for thinking the WOW Hall derives its name solely from the vibrant concerts and community events presented there. The Eugene, Oregon venue's moniker actually refers to an 1880 fraternity: the Woodmen of the World. Their mission: relieve distress, cast a sheltering arm about the defenseless, and encourage broad charitable views. The Eugene chapter offered health benefits and life insurance, while also providing charitable and recreational activities for people of all ages.

The WOW Hall was built in 1932. Through the years its uses changed until it was scheduled for demotion in 1975. Concerned citizens stepped in, and a nonstop WOWATHON with local bands and performers raised money to save it. Today the nonprofit Community Center for the Performing Arts (CCPA) serves as the steward of the iconic building.

"The WOW Hall is a community cultural anchor that is also an economic generator," states executive director Deb Maher. "We are not only revitalizing our building, but we are also a big part of rejuvenating downtown. The economic impact ripples throughout the metro area. We attract students from the University of Oregon, local music fans, long-time WOW Hall devotees, culturally diverse community members, and even out-of-towners."

CELEBRATING A HALF CENTURY

In preparation for the WOW Hall's 50th anniversary in 2025, Deb and her team committed to repairing and refurbishing the historic building—not an inexpensive undertaking. The non-profit, all-ages venue is supported by the business community, grants, memberships, and income generated by ticket and concession sales. How to cut costs without sacrificing quality?

The roof over their heads topped a list of concerns. Would an entirely brand-new roof be attainable, or even advisable, given budget considerations?

Enter Terry Wheeler, CertainTeed's Commercial Territory Manager, with an alternative fix that satisfied physical and financial needs. "Terry met with our board," recalls Deb, "and provided detailed information about silicon roofing products and the process."

Terry's suggestion: rather than tear the roof off and replace it, let Portland's Elements Roofing—a CertainTeed credentialed Gold Star contractor—reclaim and restore the roof, fixing it with a highly durable and more affordable SMARTCOAT system with Ben Crofut, Elements Roofing CEO, personally overseeing the work. "Many nonprofits do not have the budget nor the structural ability for a new roof system," notes Ben. "SMARTCOAT is a silicone product unique in its ability to offer restoration options for historic buildings such as this."

Ben's experience and empathy was music to the WOW board's ears. "He gets us! He has a special appreciation for live music and historic preservation," says Deb. "The combination of Elements Roofing with their special attention to detail and the high-quality CertainTeed product made this the perfect choice."

A SENSIBLE, SUSTAINABLE SOLUTION

SMARTCOAT silicone and acrylic coatings are direct-bond optimized formulations, eliminating the need for primer on most roofing substrates. The coatings are complemented by roof wash, high elasticity mastics for flashing details, and walkway accessories. This roof restoration system is an economical and sustainable solution to extend the life of existing roofs for decades. "Our roof is a key part of this renovation, and we are pleased with the CertainTeed silicone products and their 20-year warranty," emphasizes Deb.

The system itself is composed of a short sequence of steps. First, the roof is cleaned with a highly versatile industrial cleaner and degreaser. Then, if needed, a universal primer can be applied to optimize adhesion or inhibit rust on metal roofs; an oil-restrictive "bleed blocker" can also be applied to asphaltic roof surfaces to prevent oil exudate from migrating into and staining the coating. This was necessary for the WOW project.

Sealing is then achieved with either acrylic or silicone mastic to secure seams, fasteners, penetrations, and any splits, tears, or deficiencies in the roof's surface. Lastly, the roof coating is applied, creating a monolithic protective layer and highly reflective surface to reduce energy loads and stress from building movement.

PHOTO COURTESY OF CERTAINTEED.

RAISE THE ROOF (MUSICALLY)

"The Wow Hall was a perfect candidate for a flat roof restoration using CertainTeed's SMARTCOAT 450 silicone product line," says Ben. "This was certainly one of the more rewarding projects Elements Roofing has been involved in. We are so proud to have helped this dedicated staff to usher the WOW Hall into new decades of supporting the arts in Oregon."

"We are grateful to all who have made this roof restoration possible," adds Deb. "We depend on the support of the business community, our members, our ticket buyers, and foundations. Now, people will continue to experience their favorite artists in an up close-and-personal way, in a beautiful, intimate setting." Here's to raising that roof for the next 50 years… ●

Request editorial topic coverage by reaching out to Karen Knapstein at karen@shieldwallmedia.com.