

# METAL ROOFING

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**MAGAZINE**

FEB/MAR 2024  
Vol. 23 • No. 1

**STATE OF THE INDUSTRY**

Understanding Sealants

How Natural Metals React

**Re-Roofing With Metal**

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16



12

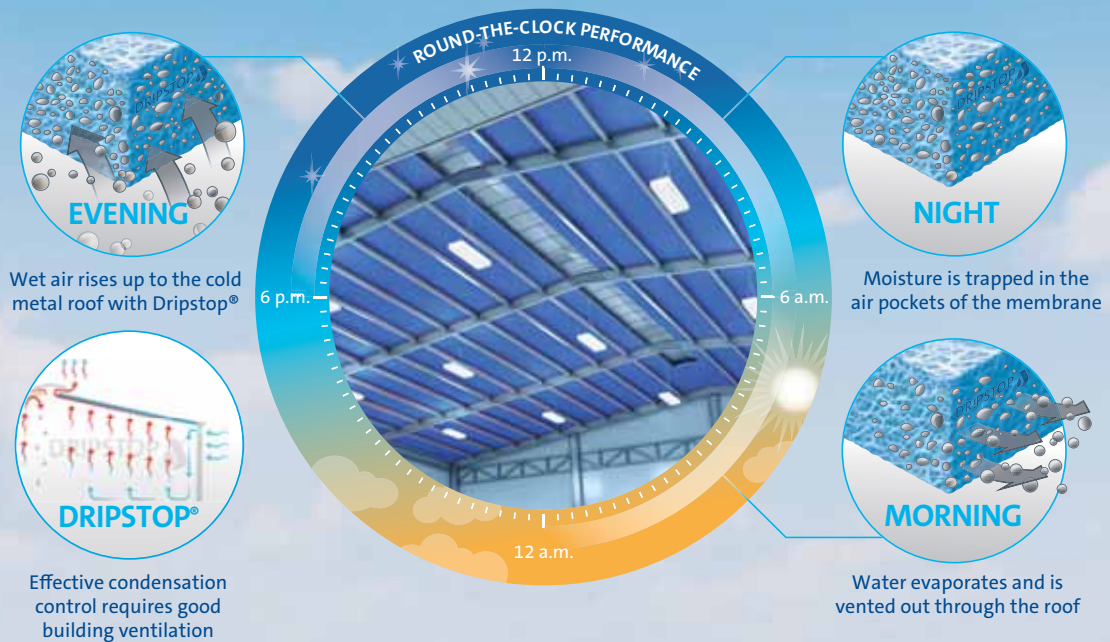


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# Show us your marvelous metal roofs

**W**elcome to the first edition of 2024! To start the year strong, we've curated some helpful and interesting articles for this edition.

Re-roofing in metal is a topic that can never have too much editorial coverage. As I recall, it was during a recent METALCON State of the Industry panel that one of the panelists said something to the effect of: "If you do re-roofing, you'll always be busy."

We lead off with a Product Feature about re-roofing written by our own Mark Robins. Mark spoke with several of the people who know the ins and outs of re-roofing and shares their insights.

We've also included a Case Study of the re-roofing of the Medalist Golf Club in south Florida, courtesy of Drexel Metals. The new metal roof was installed by

Southern Coast Enterprises Inc.

On top of that (no pun intended), a re-roofing Project of the Month from Roof Hugger illustrates how a new roof was put on the Metal Sales Manufacturing plant in Minnesota. A major benefit: There was no need to stop production within the building.

Since we're talking about projects: It's time to send in your outstanding metal roofing projects to be considered for the Metal Roofing IDEA Book.

New this year: We will provide all the companies that have a project published in the IDEA Book with a high-resolution graphic that can be used in marketing materials, on websites, on social media, etc. The graphics can be used whenever and wherever you choose to promote the fact that your work has been selected

and published in a professional roofing magazine that's distributed throughout North America.

Getting a project published in the Metal Roofing IDEA Book helps you help yourself by exhibiting to the industry what you can accomplish. In a nutshell, what we need are a few clear, high-resolution images, a list of materials used in the roofing project, and a brief description. Hint: The more complete and comprehensive the project information, the better the chance that it will be selected to be published. And, as always, it's free; it doesn't cost anything to send in a project or have it published. See page 44 for more details about what we're looking for.

**Don't wait to submit a project; the deadline is March 15! [MR](#)**

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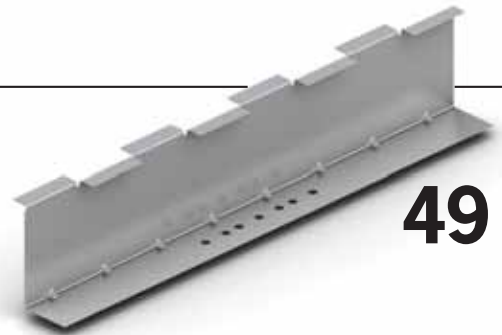
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### ON THE COVER:

AceClamp provides the foundations of PV installation with its A2T® Clamp on the T-Panel seam. Out front the AceClamp Color Snap® Snow Retention System protects persons and property on the ground from falling snow avalanches. PHOTO COURTESY OF ACE CLAMP.

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**Gary Reichert,**  
Publisher, Shield Wall Media

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# METAL ROOFING

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**Cornerstone Acquires Quebec-Based MAC Metal Architectural**

Cornerstone Building Brands, Inc., the largest manufacturer of exterior building products in North America, has acquired MAC Metal Architectural. Headquartered in Saint-Hubert, Quebec, MAC Metal serves the North American residential and commercial markets with high-end steel siding and roofing products. The company has approximately 100 employees dedicated to the business.

“The acquisition of MAC Metal Architectural expands our leading exteriors portfolio with value-added, residential-focused metal siding and roofing products that offer premium aesthetic design and durability solutions for our customers,” said Rose Lee, President and Chief Executive Officer of Cornerstone Building Brands. “This business increases our exposure to a fast-growing product segment that also leverages our existing manufacturing expertise.”

“Cornerstone Building Brands is the perfect fit for MAC Metal Architectural, to continue its expansion outside of Quebec while respecting our values of being customer-oriented in our day-to-day actions and attentive to our employees. We are very enthusiastic about being part of the Cornerstone Building Brands family,” said Éric Paré, CEO of MAC Metal.

**Ambassador Supply Names National Sales Manager, Acquires Ideal Steel**

Ambassador Supply has named Chad Urban as national sales manager for the PFC/Steel Vertical.

“We’re excited to announce Chad’s appointment as Ambassador



**Chad Urban, National Sales Manager, Ambassador Supply**

Supply’s national sales manager for the PFC/Steel Vertical,” said Ambassador Supply PFC/Steel Vertical President Doug Stephens. “With nearly 25 years of experience, we believe that Chad can



**Ideal Steel headquarters, Broussard, Louisiana.**

help us continue to drive growth for our company and our partners and develop a highly skilled and cohesive sales team. His extensive expertise will play a vital role in our ongoing mission to positively impact the communities we serve and deliver outstanding results.”

As national sales manager, Urban will grow the Ambassador Supply business by mentoring the sales team, implementing business development strategies, and cultivating and nurturing new and existing partnerships. Previous positions include business development and director of sales positions at various business-to-business companies.

“I’m thrilled to join the Ambassador Supply team,” said Urban. “The company’s commitment to excellence and growth aligns with my own values and aspirations. I look forward to working closely with our talented team to drive sales, build strong customer relationships, and achieve new heights of success for both Ambassador Supply and our valued customers.”

To further bolster its PFC/Steel Vertical, Ambassador Supply has acquired Ideal Steel, a regional manufacturer of components and pre-engineered steel buildings. Located in Broussard, Louisiana, the manufacturer has over 20 years of experience serving industrial, commercial, agricultural, and residential markets.

“We’re thrilled to welcome Ideal Steel to the Ambassador Supply team. With an alignment of visions strengthened by our shared values, we know this strategic partnership will make a positive impact on the market,” said Ambassador Supply CEO Brad Crawford.

Ideal Steel is focused on providing

customers with cost-effective, quality buildings in a timely manner. Founded in 2002 to offer ideal building solutions that meet and exceed industry standards and customer needs, Ideal Steel has become a leading manufacturer and supplier in the industry over the past 20 years.

“Working with Ambassador Supply will provide our company with new opportunities for collaboration and innovation, as well as an expanded market presence — all while continuing to provide our customers with the same high-quality service they know and trust,” said Ideal Steel President John Tolson IV. “We believe this is a great opportunity to grow our business and create a lasting impact in our industry and in our community.”

With the addition of Ideal Steel, the Ambassador Supply portfolio continues to expand through strategic investments in residential and commercial construction, lumber and building materials, manufacturing, distribution, and building technology.



**Mike Hemmesch**



**Scott Crane**

**Malco Products Announces New Leadership Roles**

Malco Products, one of the nation’s leading solution developers and manufacturers of a variety of high-quality tools for the HVAC and building construction trades, has announced several new leadership roles with the organization designed to support the company’s continued growth and to focus on critical areas of the business as part of its overall strategic plan.

Scott Crane has been promoted from Executive Vice President of Finance and Strategy to Chief Strategy Officer (CSO). The CSO is a key leadership position responsible for developing and executing the company’s strategic initiatives and

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investment strategies. Crane will play a critical role in guiding the organization's growth and ensuring its competitive advantage in the market.

Mike Hemmesch has been promoted from Director of Business Intelligence to Chief Financial Officer (CFO), following the retirement of current CFO Carla Hinnenkamp, who has been with Malco for 10 years. In this role, Hemmesch will oversee the finance, accounting and technology/MIS teams and manage all aspects of the company's financial and cash flow planning as well as guiding the company's future growth initiatives.

"As we look ahead to the growth plans we have outlined for Malco, we knew it was important to have the right people in the right seats to ensure that our teams are well-positioned for the future," said Rich Benninghoff, Malco's president and CEO. "Over the past several years, we've seen tremendous growth as we continue to offer innovative new products that serve our end users and have been very fortunate to have built a strong bench of talent within our organization. These organizational changes will allow us to further embrace our team's experience, focus on critical areas of the business and provide even better support for the Malco team."



*Oxford metal shingle. PHOTO COURTESY OF CLASSIC METAL ROOFING/ISAIAH INDUSTRIES*

**Isaiah Industries Partners with Lorin to Produce Oxford Shingles**

Lorin Industries, Inc., an industry leader in the innovation and production of coil anodized aluminum, has announced that its anodized aluminum is the foundation of Isaiah Industries'

(aka Classic Metal Roofing) Oxford Shingle. This partnership highlights the value of anodized aluminum in roofing applications, where the unique metal enables long-lasting and aesthetically superior solutions.

Isaiah Industries' award-winning Oxford Shingle\* is the first widely available and promoted anodized roofing product. Resilient and durable, with a clean contemporary look, anodized aluminum provides a perfect metal for roofing applications, which must withstand the wear and tear of weather while maintaining peak appearance. Hidden fasteners and a timeless finish further enhance this roofing solution's sleek, modern feel.

In this unique roofing product, a four-way interlocking design combines with the anodized finish to achieve excellent performance. The solution is also highly sustainable, as each lightweight panel is crafted from 100% recyclable material. The product is also available in a variety of colors and textures, including ColorIn® BlackMatt, ColorIn® Medium Bronze, ColorIn® Subtle Light Bronze, ClearMatt®, GoldMatt®, Copper Penny, and more.

\* Isaiah Industries' Oxford Shingle won the 2023 METALCON Top Products Award in the ROOFS category.



*S-5! ColorGuard snow retention. PHOTO COURTESY OF S-5!*

**S-5! Achieves New Standard for Testing & Certifying Snow Retention Devices**

Until recently, there has been no industry standard or mandate for the production and testing of snow retention devices — but now there is.

S-5! has announced it is the first and only company to receive an Evaluation Report (ER) from the International

Association of Plumbing and Mechanical Officials (IAPMO), certifying its snow retention systems' compliance with Evaluation Criteria (EC) 029-2018 for "Standing Seam Metal Roof-Mounted Rail-Type Snow Retention Systems."

In the absence of building code that covers snow retention, compliance with the IAPMO EC 029-2018 is "code equivalent" and may be utilized by specification to qualify proper design, testing and production.

An EC document from IAPMO is a consensus of professionals concerning the specifics of how a product or system is to be evaluated and how the results are interpreted and applied. The EC is analogous to the Acceptance Criteria (AC) document from the International Code Council-Evaluation Service (ICC-ES).

Evaluation Reports (ER) from IAPMO certifying compliance to an EC are widely accepted by jurisdictional code compliance agencies whereas other means of evaluation often are not. Of note is that the IAPMO EC 029-2018 is also harmonious with the Metal Construction Association's document on "Qualifying Snow Retention Systems for Metal Roofing."

"I am thrilled that there is finally an industry consensus standard for testing and certifying snow retention devices, and that S-5! has been approved to this new standard," said Rob Haddock, CEO and founder of S-5!



*Roof data from EagleView report. PHOTO COURTESY OF EAGLEVIEW*

**EagleView Launches EagleView Developer**

EagleView has announced the launch of EagleView Developer, a new portal providing a single point of access for the company's APIs and developer resources. The portal will help developers to more



# Resilient Durable Metal



Photo: hortonphotoinc.com

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-Michael Matula, project manager, Bignell Watkins Hasser Architects



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easily utilize EagleView's geospatial intelligence and analytics solutions. EagleView Developer was designed with the documentation, tools, and technology that would allow our growing number of partners to build their own applications and solutions, harnessing the power of EagleView's world-class library of aerial images. EagleView Developer provides a curated experience, with access to use cases, developer guides, a growing API catalog, security and authentication requirements, and a partner dashboard with access to environments for testing. Once connected into EagleView Developer, companies can power their business with property insights that help them make informed decisions and drive innovation. As the company builds upon its 25-year tradition of providing geospatial intelligence innovation and insights to the industry, it will continue to extend this platform capability.

"EagleView Developer is a powerful leap forward in the quality and breadth of geospatial intelligence available for solution developers," said Tripp Cox, CTO of EagleView. "With its ease of access and the range of assets supporting it, we envision EagleView Developer as the leading resource for those seeking to unleash powerful property insights within their platforms."

EagleView is a provider of accurate and insightful geospatial intelligence which can be leveraged by a range of industries. From roof pitch and eaves count to detailed structure and lot measurements to sun exposure and vegetation encroachment to solar exposure and building orientation to roof condition and other property risks, the possibilities for developers to generate productive analyses based on this deep set of geospatial data and analytics are nearly limitless.

### Hy-Brid Lifts Announces Director of Sales for SE US

Hy-Brid Lifts, an industry leader in aerial lift equipment, announces David Price as director of sales covering the southeast United States. Price's respon-

sibilities include providing customer support as well as continuing the growth and channel development of the Hy-Brid Lifts line of low-level scissor lifts.

"I am excited to join this team and look forward to the opportunity to work with our customers. Coming from the rental industry, I understand the importance of quality equipment and customer service backed by a solid service department," said Price. "After touring the production facility and meeting the Hy-Brid Lifts family, it's no surprise that this company is continuing to grow, and I look forward to being a part of that growth."

Price brings 12 years of industry experience to his new role, largely derived from his time in the rental equipment industry with United Rentals, Blueline Rentals and Equipmentshare. He spent a majority of his time in sales management with a strong emphasis on customer service and going above and beyond for every customer.

"The entire Hy-Brid Lifts team is excited to have David on board to serve the southeast United States. David has a wealth of sales and rental industry knowledge that will strengthen our ability to serve our customers," said Dave Wanta, Custom Equipment LLC vice president of sales. "David is a valuable addition to the team, and we look forward to the contributions that he will provide for our company's continued growth."

### Falls and Ladder Misuse Fill Three of OSHA's Top 10 Safety Violations

It's a streak no one should be happy about. For the 13th year in a row, fall protection (general requirements) is OSHA's No. 1 safety violation. Additionally, ladders came in third, and fall protection (training requirements) was eighth in the agency's annual list of its Top 10 violations. The list was revealed in October



**David Price, Director of Sales, Southeast United States, Hy-Brid Lifts**

at the National Safety Council Safety Congress & Expo in New Orleans and covers fiscal year 2023.

By the numbers, Fall Protection-General Requirements (1926.501) racked up 7,271 violations in that time, Ladders (1926.1053) had 2,978, and Fall Protection - Training Requirements (1926.503) had 2,112. Three violations in the Top 10 are related to falls and ladders, demonstrating how much work remains to be done in the realm of ladder safety and proper ladder usage.

The American Ladder Institute (ALI) is the only approved developer of safety standards for the U.S. ladder industry. Its signature safety initiative is National Ladder Safety Month, which is held in March. National Ladder Safety Month is the only program dedicated exclusively to promoting ladder safety at home and at work.



Each year, in addition to OSHA violations, tens of thousands of people are injured and hundreds die in accidents caused by improper ladder usage. ALI believes ladder accidents are preventable with thorough safety planning, training, and continuous innovation in product design. The more people, organizations, and businesses that get involved, the wider the message spreads, and the more people learn about proper ladder safety.

The goals of National Ladder Safety Month are to decrease the number of ladder-related injuries and fatalities, increase the number of ladder safety training certificates issued by ALI, increase the frequency that ladder safety training modules are viewed on [www.laddersafetytraining.org](http://www.laddersafetytraining.org), and lower the rankings of ladder-related safety citations on OSHA's yearly Top 10 list. **MR**

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# Traditional Values

## Raytec: Work Hard, But Don't Forget Why You're Working

By Linda Schmid

**R**aymond Zimmerman worked for his father making ferrules for Quaker State Metals until his father passed in 1968. Then Zimmerman took over, stepping up ferrule production. In 1973 he named the business Raytec and began learning how to run it, from accounting to marketing to product development...Raymond was ambitious; he wanted to produce other products besides ferrules.

Starting with what he knew, farming, he developed the Herdex, a manual record keeping system for dairy cows. Over the years, Zimmerman developed more and more agricultural products, but big growth came when Zimmerman saw a need for an improvement on the easier to install gutter hangers that other companies had introduced to the industry. Gutter installers liked the idea, but found that these hangers were not very strong. That's when Zimmerman, who had experience in metal forming, created the Hangtite hidden gutter hanger. It looked small, but it was made of a very strong alloy.



One of Raytec's two self-loading lasers. PHOTO COURTESY OF RAYTEC.

Zimmerman sent his Hangtite Hangers out to installers and they began asking for them from their suppliers. Every year Raytec sold more hangers and fewer ferrules. Then his team developed Hangfast, which is a version of HangTite that uses a screw, and sales expanded even more.

### Today

Today the company's products are available through major supply companies. Raytec ships them from their plant in Missouri across the country and around the globe to ...



A Robotic Press Machine. PHOTO COURTESY OF RAYTEC.

basically anywhere it rains! They serve residential construction with gutters and gutter accessories and roof flashing, as well as agricultural products for smaller family farms and custom fabricating for anyone who needs metal parts.

Its headquarters are located in Ephrata, Pennsylvania, and the company consists of fewer than 50 employees between Missouri and Pennsylvania.

### Culture

Lancaster is a conservative Mennonite community with an old-fashioned work ethic according to Tag Saunders, Director of Sales Marketing. The company is a nice place to work he said. It's a family company and they really care about their employees.

"You can feel it. And, even when it's time to retire, most people don't want to leave," he said.

Maybe people are reluctant to leave because of the company's attitude about work: "Work hard and you will be rewarded," Saunders said. But don't forget why you are working. Come

# BUSINESS PROFILE

dinner time, go home to your family.

It's rare that there are job openings, but the jobs that do open up are usually quickly filled by an employee's family member or friend, or another member of this tight-knit community.

## Challenges

The pandemic created challenges for most companies and Raytec was no exception. There was such a spike in demand for building products and they had to determine how to handle it. They knew that the demand was artificial (not real growth) so they wanted to ensure that they were loyal to their existing customers, fulfilling their needs first. This meant that there were times that they had to deny new business.

Then there were the rapidly changing material costs. Saunders said it forced them to be agile so they could quickly adjust pricing as necessary.

However, good things came out of the situation, for it taught them to be more efficient and between 2019 and today, they have almost doubled their production capacity on their gutter hangers, and they are more competitive on pricing than ever.

Of course, now they, along with the rest of the industry, find themselves navigating a somewhat slowing economy.



An Automated Self loading Multi Stage Line Capable of Punching, shearing, tapping, sorting, bending. PHOTO COURTESY OF RAYTEC



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## Results

The company is glad to be known for quality products and excellent customer service. They are constantly looking for ways to deliver value — that is, to deliver more than the customer has paid for. It's not just business to the team, it's a feeling of personal satisfaction when the customer is happy and enjoys doing business with them.

Saunders' best advice to achieve this feeling is: Don't cut corners, work hard, treat people right, and good things will happen.

## Anticipation

A new product will be joining their lineup: a mesh gutter cover in stainless steel, a counterpart to the aluminum mesh cover they have.

Beyond new products, Saunders sees a constant string of challenges. At the beginning of each new year for the last 3-4 years, management has faced new challenges and every year turns out great. So challenges are good things — as long as you turn them into opportunities. **MR**

## The Old Ferrule Machine

Paul Zimmerman didn't realize that winning a contract to make ferrules from his father's small steel fabricating company was the first step in a journey to establishing Raytec Manufacturing. Paul was ill and needed some way to support his family. The ferrule contract was the ticket. The family made a penny apiece on ferrule production.

Ferrule and spike is the traditional way to hang gutters. The ferrule is a tube through which the spike was driven, maintaining the integrity of the gutter and keeping it from collapsing.

This ferrule-producing bench required a metal blank to be placed in the slot, then the operator manually cranked it until the ferrule was formed. It was fairly easy to use once you developed a rhythm. In fact, the whole Zimmerman family spent time on the machine making ferrules.

Some gutter installers still use spike and ferrule today. People who have been doing it this way their whole lives and some young installers think it's stronger than hangers, said Tag Saunders, Raytec's Director of Sales Marketing. However, the company discontinued this method of production back in the late 1970s or '80s. Now Raytec has a fully automated sheet metal line with benders to process 12-foot pieces, cut them, and the finished pieces roll off the line.

"Such a contrast in technology," Saunders said. "It's really not that long ago that this old machine was the sole production process we used to make ferrules," he added. **MR**



Tag Saunders looks on as Jordan Fox operates the ferrule machine at IRE 2023. SHIELD WALL MEDIA PHOTOS.



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# Championship Roof

Metal Roofing is a Hole in One at Medalist Golf Club

According to some, one of the best ways to judge a golf course is by the quality of its members. In the case of Medalist Golf Club, an 18-hole championship course founded by Greg Norman and influential golf architect Pete Dye, the South Florida club has more than its share of endorsements. Tiger Woods, Rory McIlroy, Brooks Koepka and Dustin Johnson are among the list of A-list members, along with dozens of other PGA tour players and professional athletes.

The challenging course layout and exceptionally maintained greens are just a few of the reasons that the world's top players call Medalist home. The exclusive golf destination also features first-rate facilities, including a sprawling 30,200-sq. ft. main clubhouse. The clubhouse, which both greets members upon their arrival and serves as the backdrop for hole 18, exudes quiet luxury; its timeless metal roof provides a beautiful contrast against its laid-back, coastal-style exterior.

## Consulting firm looks to trusted provider

Up until a couple of years ago, a natural slate roofing product covered the clubhouse. But slate tiles are heavy and easily damaged. During the re-roof, it was discovered the weight of the slate tiles had a damaging effect on the underlying sheathing.



*The DMC 175S profile used features a 1¼" seam height and in this instance, a 16" panel width. The metal panels were finished in Inkwell, a low-gloss dark charcoal-gray color, to reduce glare for the golfers. PHOTOS COURTESY OF DREXEL METALS.*

This damage explained the leaky roof the clubhouse had begun experiencing. Needing a new roof that could deliver lasting style and performance, Medalist Golf Club sought counsel from Knopf & Associates, a well-respected consulting firm in South





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To deliver a premium roofing solution from a trusted materials provider, Knopf & Associates turned to Drexel Metals. In addition to complementing the intended design aesthetic, Knopf & Associates felt 100% confident that a metal roofing system, installed by Southern Coast Enterprises Inc. of Deerfield Beach, Florida, could provide substantial benefits. These benefits include minimal maintenance, long-term performance and a strong manufacturer's warranty. Southern Coast Enterprises' long history of installing Drexel Metals' products made them an easy choice to ensure the re-roof was done right and on schedule.

### Benefits of concealed fasteners and clips

Knopf & Associates selected the DMC 175S profile, formed from .040 aluminum. The DMC 175S profile is known for its broad-width seam and weathertight integrity, featuring a 1¾" seam height and in this instance, a 16" panel width. The metal panels were finished in Inkwel, a low-gloss dark charcoal-gray color, to reduce glare for the golfers.

The DMC 175S system utilizes a snap lock installation and free-floating clips, which allows for thermal movement. The interlocking system made the installation process fast and simple for Southern Coast Enterprises, guaranteeing the ability to complete the project during the off-season. The panels discreetly attach to the roof deck with clips and are fastened beneath the metal's surface, preserving the roof's smooth, uninterrupted profile lines. Achieving a clean look across the expansive roof was a top priority for the project team given Medalist's high attention to detail on and off the course. Additionally, the panels can be "unsnapped" and easily replaced



if damaged, contributing to the system's low-maintenance appeal.

### Enhanced performance and weather resistance in the coastal environment

While the DMC 175S system provides many forms of weathertight protection, its ability to stand strong against coastal winds is arguably one of its most critical benefits given the golf club's close proximity to the Atlantic Ocean. In fact, Medalist is less than a mile and a half away from the nearest sandy beach. Receiving a Class 90 UL 580 Wind Uplift rating and meeting UL 1897 Extended Phase Wind Uplift requirements means the metal roofing system can endure the incredible pressures of high winds. Engineered to deliver all-around performance in nearly any type of coastal weather, Drexel Metals' roofing

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system is also certified to ASTM E1646 Water Infiltration and TAS 100 Wind Driven Rain specifications.

These performance ratings, in combination with the system's inherently durable aluminum substrate, mean that the new Medalist roof will resist the damaging effects of Hobe Sound's severe coastal weather events, including hurricane-force winds and wind-driven rain. This level of dependability has never been more critical, especially as Florida and other parts of the U.S. continue to get hit by stronger, costlier and more frequent extreme weather events. The resilient nature of the aluminum metal roofing system also translates to less maintenance over the course of its service life compared to its natural slate, asphalt or wood counterparts.

### Metal roofing is right on par for Medalist

Medalist Golf Club has already earned a reputation as the ultimate golf destination for many of today's top PGA tour players. The new metal roof brings the clubhouse up to par with the level of excellence you'd expect from this



championship course. In fact, Medalist extended the many benefits of metal roofing to other facilities on the property, including the security check-in point at the gated entrance and the "halfway house" at the turn.

Going all-in on metal roofing makes

sense. It has become synonymous with sought-after qualities such as lower total cost of ownership, advanced weather resistance and a beautiful design aesthetic, which makes it uniquely suited for this South Florida championship course. **MR**

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PHOTO COURTESY OF ENGLERT

# Retrofitting Metal Roofs

What roofers should know about retrofitting metal over metal

By Mark Robins

**A** metal roof retrofit is a metal roof repair process in which the existing metal on a building or structure is left in place and recovered or overlaid with another roof. Metal roof overlays are quick and easy to install compared to removing and replacing metal roofing and insulation on a building. Metal roof retrofit projects finish faster and buildings dry sooner in a much safer way.

“Retrofitting an existing metal roof is not complicated or hard to permit,” said Dale Nelson, president of Roof Hugger Inc. “It is actually easier than new construction in many ways since you

can work off the old roof and are not walking on open purlins. It is non-invasive and customer friendly since you do not have to remove the old roof and expose the building to the weather. You will have to meet the current code requirements but if you work with a company like Roof Hugger they will do the preliminary design estimate that includes engineered framing plans to meet the code requirements based on the building and the new roof.”

Pat Thostenson, regional sales manager, commercial roof & wall, MBCI said besides the obvious benefits of retrofitting metal roofs, “[Retrofit] systems allow you to change the roof geometry of the structure which can completely update the

# PRODUCT FEATURE

structure's aesthetic appearance and/or completely remove problems the current roof slope or geometry may be enabling.”

## Understanding Retrofitting

What do builders need to know about retrofitting metal roofs with a metal roof? Charlie Smith, national recover manager at McElroy Metal, said, “The main thing builders need to learn is that at least half of the time, it is better to retrofit a new roof over the existing than remove and replace the existing roof. Consequently, step one of any reroofing project should focus on this decision.”

Smith cited several factors that deserve consideration:

- The amount of disruption the owner can tolerate
- The capacity of the existing structure
- If the existing roof contributes to the structural integrity of the building
- The appearance of the underside of the roof
- Whether the owner wants to bring his building up the current energy code
- If there are conditions that limit the height of any roof that may be added on top
- What the existing metal roof is attached to



Retrofitting safer than tearing off the existing metal roof.

PHOTO COURTESY OF ENGLERT

- How it is attached to the deck or structure
- If the existing roof is exposed fastener or a standing seam
- If it's a standing seam they need to know is it installed with high-floating or low-floating clips
- Understand that if the existing roof is on a steel deck or a wood deck, options for recovering are different than if the existing roof is installed on open purlins or bar joists.



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*Vented Roof Hugger installed over standing seam panels.*

Nelson explained that there are three basic things to remember when doing a metal-over-metal retrofit:

**Dimensions and sizes.** The typical metal-over-metal roof retrofit project is done on an existing commercial or industrial building that has open framing 4' to 5' o.c. The first thing to understand is that 1" to 1-1/2" snap-seam or mechanically seamed residential panels cannot be used on a commercial project; they are not strong enough to span over open framing. Structural through-fastened panels 1-1/4" to 1-3/4" and commercial mechanically seamed panels 1-3/4" to 3" ribs can span from 4' up to 6' without additional support.

**Building codes.** The building codes have changed dramatically over the past 25 years since the building being retrofitting was originally built. This means the existing

## Solving Issues and Challenges

MBCI's metal retrofit systems solve issues and challenges with tailored solutions for each unique project. MBCI helps determine the project solutions, and also develops budgets, estimating, engineering, and a complete set of shop drawings. MBCI offers five main retrofit options: Retro-R, Double-Lok Over R Panel, NuWall, NuRoof, and Roof Hugger. "These installation methods include options for standing seam roofing, an exposed fastened overlay panel, a solution for retrofitting walls, creating a completely new sloped roof plane over an existing structure, and usage of sub-purlin systems to create a new roof plane over an existing slope," Thostenson said. "Unique to unique to MBCI is our Retro-R panel. This is an exposed fastened overlay panel for installation over an existing R panel on either the roof or wall. It has a Dripstop membrane on the bottom side of the panel to prevent any metal-to-metal contact with the old roof or wall upon install."

Englert's metal retrofit roofing product distinguishes itself through several unique features, specifically its industry-leading warranty encompassing both finish and weathertightness

capabilities. "In contrast to traditional offerings, our methodology incorporates collaborative input from key stakeholders integral to the design of the system. By involving the contractors in the selection of components and ensuring that their preferences are considered, we provide a tailored solution that aligns with their specific needs and preferences. Moreover, our product ... is backed by comprehensive testing conducted by Englert. This testing process ensures that our metal retrofit roofing product not only meets but exceeds industry standards for performance and durability."

**Roof Hugger** is unique because it has done extensive testing so that it can have a basis for designing and estimating our projects. "Notched Zee's do not perform the same as regular symmetrical Zee purlins," Nelson said. "It is critical to understand this difference so you can properly design your project. We have also demonstrated, again by actual ASTM testing, that our products can add strength to the purlins in most existing buildings. Does it solve the problem that this product is intended to solve in a different way than other products? Most other products do design and engineering

by section properties alone. This is fine for solid and symmetrical products but when you cut notches into these parts, that all changes. The only way you can know true performance is to test actual conditions in an E-1592 test chamber with various existing and new panels."

**TopHat** Framing Systems makes multiple framing systems. Its flagship product is a patented roll-formed prepunched hat channel. When attached through the existing panels to the existing purlins, it creates what is called a composite purlin. "This composite purlin has been shown to significantly increase both positive and negative load capacities," said Tim Lane, president, TopHat Framing Systems. "These increased capacities allow building owners and designers to move forward with the project with greater confidence in the system's ability to meet the current codes. Since TopHat recognizes the significance of examining these load capacities, we have designed free of use the TopHat Design Tool. The TopHat Design Tool is able to show improvements in positive and negative load capacities, project specific. [MR](#)



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*Metal-over-metal can be installed over a curved roof. PHOTO COURTESY OF ROOF HUGGER*

purlin/joist spacing that worked then may not be adequate today. Consult with an engineer on your project to determine the correct spacing for the framing members to meet today's standards. During the preliminary quoting of the project, consult with a reputable retrofit framing manufacturer for a design estimate or at a minimum get a "clip analysis" from your panel supplier. Keep in mind different panels will have different

framing requirements. Stronger panels will need less framing, weaker panels more.

**Existing roof.** Take note of where and why the existing roof is having problems: Is the roof at the end of its useful life or is the roof leaking and if so why? Don't repeat the same mistakes. Retrofitting will allow you to remove some roof steps, relocate or eliminate roof penetrations and to increase the amount of roof insulation, improving the thermal efficiency of the building.

James Hazen, national roofing sales manager at Englert Inc. said builders should, "possess a comprehensive understanding of various critical metal roof retrofit factors. First and foremost, they should ascertain the specific design loads and potential snow loads applicable to the geographical location in which the project is situated. Additionally, a thorough assessment of the structural capabilities of the project is imperative, necessitating consultation with a professional design engineer to ensure compliance with safety and performance standards. Builders should be knowledgeable about such remediation options and be adept at determining their applicability to the specific project requirements."

## Roof Retrofit Installation Insight

There are several different ways to retrofit an existing metal

## Resources

### Englert Inc.

Perth Amboy, New Jersey  
(732) 826-8614  
[www.englertinc.com](http://www.englertinc.com)

### MBCI

Shelbyville, Indiana  
(844) 327-1748  
[www.mbc.com](http://www.mbc.com)

### McElroy Metal

McFarland, Wisconsin  
(608) 838-1331  
[www.mcelroymetal.com](http://www.mcelroymetal.com)

### Roof Hugger Inc.

Lutz, Florida  
(800) 771-1711  
[www.roofhugger.com](http://www.roofhugger.com)

### TopHat Framing Systems

Mentor, Ohio  
(330) 931-9201  
[www.tophatframing.com](http://www.tophatframing.com)

### RetroFit Clip

Manitoba, Canada  
(800) 431-9661  
[www.retrofitclip.com](http://www.retrofitclip.com)

### Avoid this Retrofitting Mistake

A common retrofitting mistake is using a locally sourced metal panel that is inadequate to meet the design requirements of the new metal roof overlay. While this may create an initial expense, contacting a local engineer to get through those early design stages to develop a complete system that meets the building owner's needs is a good first step. Create a good budget for the project. Don't rely on assumptions and drawings for building accuracy. Field verify measurements before ordering sub-framing. It is a strong likelihood that when this original construction was done, building codes have significantly been updated. This is another reason to have an engineer involved to identify this problem.

*Tim Lane, president, TopHat Framing Systems*

roof. Nelson cites the following methods:

**Hat Over Hat.** Using this method you would place a short +/- 6" "blocking" hat on every purlin and eave line that is taller than the existing panel ribs (2" to 3" typically). These pieces run parallel to the panel ribs and are attached to the existing purlins

***Doing your homework up front is critical when using notched zee's. Knowing the rib size and spacing of the existing panels is critical to making the parts correctly. If the existing roof is standing seam, it is important to know if it was installed on low clips or tall clips because the design for each system is different.***

*Dale Nelson, president, Roof Hugger*

then another hat is placed on the top of the blocking, above the existing purlin rows, fastened as required. Spacing of each is determined by design requirements. Note this framing is not appropriate for attachment of new screw-down panels due to its rigidity, not allowing for proper expansion/contraction.

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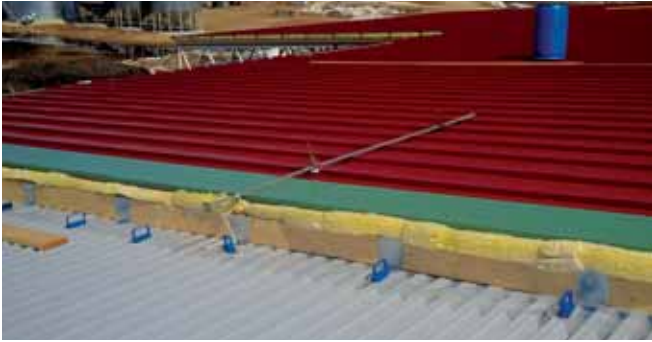
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**The Retrofit Clip system can achieve “any R-value customers want.”**

PHOTOS COURTESY OF RETROFIT CLIP



**A school roofed with Q deck gets an upgrade using the 2 x 8 retrofit clip with a 2” trapezoid thermal block system.** PHOTOS COURTESY OF RETROFIT CLIP

**Purlin Over Purlin.** This system is similar to the hat over hat above except it uses Z-shaped members in lieu of hat members. It typically requires the use of clips to properly support the blocking Z’s attachment to the existing purlins. Additional bridging to control roll-over of the upper Z purlins may also be required.



**A molded insulation panel is layered on top of the old through-fastened roof deck before it is re-covered.** PHOTO COURTESY OF MCELROY METAL.

## Retrofit Clip

Cold spots, roof leaks, condensation problems, and interior frost are problems often found in metal buildings for which there’s a retrofit solution. Invented by Joe Marshall in 2012, the Retrofit Clip system uses special mounting clips to solve the heating and cooling issues associated with buildings in which batt insulation is pinched between the purlins and girts and the metal roof and wall panels.

Retrofit Clips, which are ASTM D1761-60 tested, are used to attach new framing members to the existing roof or wall, providing a cavity to accommodate additional insulation. A 2” x 4” Retrofit Clip system allows two layers of R12 insulation; a 2” x 6” system holds a layer of R20 plus a layer of R12 insulation; and a 2” x 8” Retrofit Clip system accommodates an R30 plus an R12 layer of insulation. Adding a proper vapor barrier and additional insulation, and then topping it with the customer’s preferred roof system using those new framing members, provides 100% thermal break, preventing conductive thermal energy loss that results in the previously mentioned problems.

Another benefit: Since all roof retrofitting is done outside the building, there’s no disruption inside the building.

“When steel buildings are put up, [often] builders just pinch the insulation and then they use screwed-on metals,” Marshall said. “Eventually it leaks and the insulation sags and it starts dripping, especially in Canada where we have cold. Any steel building can have ‘sag-and-bag,’ where they roll the insulation on the roof and then put a roof membrane over the top of it. Eventually it fails and there is a lot of wasted heat. We go over the top. We can give any R-value customers want. It’s really simple to install; engineers love it. Engineers are my biggest salesmen, because a customer will ask, ‘How do I fix this?’ The engineer will say the Retrofit Clip system. You can install it fast and our clips are ready to ship out next day.” **MR**



**Rigid insulation panels are added on top of the old standing seam deck.**

PHOTO COURTESY OF MCELROY METAL.

## PRODUCT FEATURE

**Tall Clip.** This system is exclusively for new standing seam roof panels. It is attached to the structure by a tall clip holds the base of the new panels above the ribs of the existing building. It does not require additional framing except around openings but is sensitive to the modularity of the existing roof panels. System capacity may be limited by existing purlin spacing.

**Notched Z's.** This is a system that uses Zee-shaped members that have oversized notches punched out of the vertical part of the section that allow the existing metal panels ribs to pass through the Zee. They will work with any existing and new metal roof system. They mate easily with grid framing when needed to reduce existing purlin spacing and can be sized to add insulation. Notched Zees have also been shown to add capacity to the existing purlins, this can be important

when adding photovoltaics. Note: They are sensitive to the modularity of the existing roof panels.

Thostenson explained that while builders consider these diverse

installation methods, “They can tailor their approach to the specific project requirements, emphasizing both structural integrity and sustainable practices in the retrofitting process.” **MR**



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# Forecast 2024

From Up on the Rooftop

By Linda Schmid

Shield Wall Media and METALCON conducted an industry survey that generated a lot of market information, and we are providing a few of the basics here. Watch for our new Construction Survey Insights—Annual (mailing in April) for more in-depth industry insights.

A new year is begun, and businesspeople in every industry are moving forward with great hopes that the economy will work in their favor. One might think the roofing industry is somewhat immune since everyone needs a roof, and most people are not prepared to allow the rain into their buildings to avoid the cost of repairs. However, the number of new roofs is largely dependent on the state of the economy and even reroofs may be put off for a time.

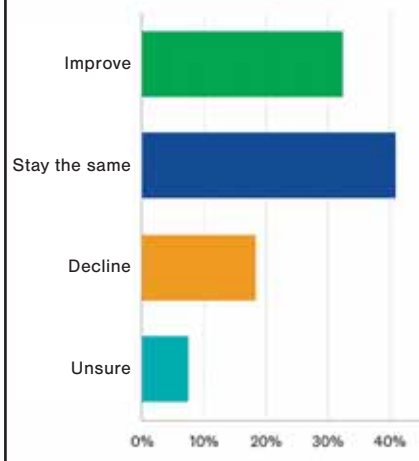
Economists have much to say about the U.S. and global economy, but we will confine ourselves to those who look specifically at the construction industry.

## The Economists

Economist Anirban Basu regularly reviews the state of the economy and its likely impact on the construction industry. He has provided a mixed outlook for 2024.

“The upcoming year will present varied challenges and opportunities for contractors,” Basu said. “Contractors focusing on public works are poised for a successful year thanks to increased funding from infrastructure legislation, while those working on residential properties will likely see a shore up of projects due to a tough real estate market.” In other words, with high real estate prices and lower supply than demand, residential construction isn’t likely to slow down. Further, Basu sees growth

### Survey Respondents’ Predictions Of The Industry’s Business Climate In 2024



opportunities in mega-projects across the country as many manufacturers reshore supply chains. These projects will call for more employees in an industry that already offers more job opportunities than skilled/quality workers to take them.

When considering what situations may negatively affect peoples’ plans to build, Basu advises remembering these: high consumer debt, geopolitical uncertainty, stricter credit conditions, and the government’s increasing debt. However, he believes that the bond market indicates a likely decline in interest rates by mid year. If this occurs, it could mean greater project financing and backlog generation.

Ken Simonson, Chief Economist of the Associated General Contractors of America, said that after a torrid third quarter in 2023, slower growth is expected going into 2024. Overall, he believes that unemployment will remain low.

“Some industries will cut head count, but most people who want jobs will find them quickly,” Simonson said. “Conversely, employers in expanding

industries such as construction, will continue to have trouble filling positions,” he said, “and will have steadily increasing wage bills for new workers (when they can find them) and overtime or bonuses.”

Simonson said that while most supply chain issues have been cleared up, there remain a few holdouts, such as electrical equipment and it looks like these will likely remain problems throughout 2024. He expects these supply challenges along with labor shortages will stretch project completion times.

Specific niches that Simonson expects to do well in 2024 are data centers and manufacturing plants followed by infrastructure and renewable energy projects.

## The Construction Industry Survey, aka CIS

A preliminary look at a few of the industry professionals’ expectations pulled from Shield Wall Media’s 2024 edition of the annual survey are shown in the bar graphs.

Nearly 75% believe the business climate will be the same or better than last year. When you break respondents into groups based on their primary market, metal roofing or other roofing, the metal roofing market shows less confidence in their profitability in 2024. What do metal roofing industry insiders say about this?

## Industry Insiders

Everything looks rosy from where Drexel Metals sits. Brian McLaughlin, National Sales Manager said, “Finally, the flow of projects and purchase orders are where they were pre-pandemic. The supply chain rebounded, and pricing stabilized. Overall, 2023 has been a great year for supporting our customers’ businesses,” he added.

McLaughlin continued, “We see continuing opportunity. The metal

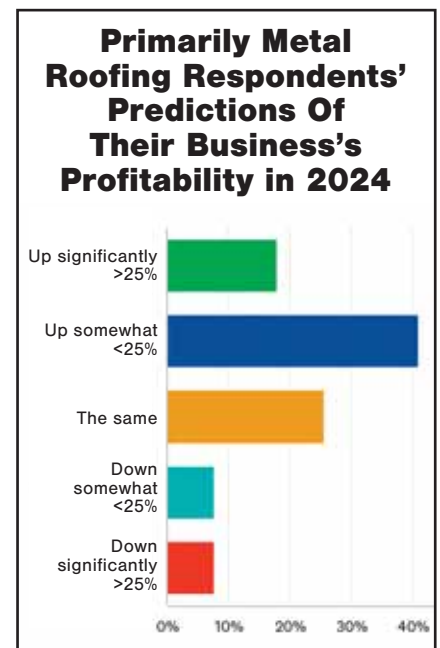
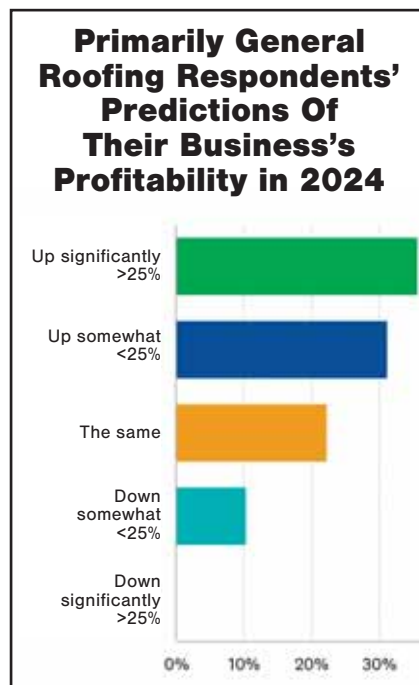
roofing industry is interesting as no manufacturer has market share. Instead, it is a fragmented regional industry with many players. And while some are viewing 2024 as bearish due to rising interest rates (there may be some truth to that), activity in bid work and design work remains strong.”

Proof of their positive outlook is Drexel’s introduction of a new product line of insulation for ceilings and walls, working toward a full assembly solution for customers.

Keith Dietzen, SmartBuild CEO said, “I continue to be amazed at the strength of demand for both post frame and all metal buildings. Honestly, the biggest challenge my company faces in growing our customer base is how busy our prospects are. I keep waiting for the economy and the demand for these buildings to take a big hit because of the Fed’s policies, but continue to be surprised.”

Rob Haddock, S-5!, has seen some industry slowing, but he points out that is not necessarily bad.

“We have definitely seen a slowing in the year-over-year (YoY) growth rate, but not a backwards slide YoY,” Haddock said. “This was predictable as the extreme rate of growth in construction, generally speaking, was just not sustainable or healthy. 2023 felt like someone hit



a “pause button.” That is not surprising with interest rate hikes and economic uncertainty proliferating in news media. In some ways, this is a blessing because the growth in our business was nearing break-neck speed.”

Haddock continued, “Most of our end uses are in the commercial and industrial sectors and involve life-safety products, such as fall protection and other essential applications, so we are

comfortably situated with a backlog and strong pipeline and expect to see double-digit growth in 2024.”

Renee Ramey, MRA Executive Director, is similarly minded. She remarked that 2023 was a solid year for residential metal roofing. Supply chains re-stabilizing was very helpful to that end.

“Although rising interest rates have caused some homeowners to be slightly more conservative when it comes to investing in home improvement projects,

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Ramey said, “the need for more resilient, longer lasting building materials has continued to drive demand.”

Ramey continued, “The residential metal roofing industry in both the U.S. and in Canada are in very favorable positions. Our latest market share research (2022 Dodge Report) indicates that demand for metal roofing has jumped to a record high, up by six percentage points in just three years.”

Ramey added that the MRA anticipates that will continue, “so long as the industry maintains an aggressive effort to educate, inform, and promote metal roofing’s many advantages among homeowners.”

### Insiders on Interest Rates, Inflation and Debt

Everyone is talking about interest rates; will they continue to rise? Will they depress the market?

Dietzen said, “I believe the Fed will maintain high interest rates until it sees inflation return to the 2% neighborhood. We should see sluggish growth or recession until that happens.”

He continued, “There’s no doubt there is a shortage of housing stock that fuels ongoing demand, though the rise of the 30-year mortgage rate from 3% to 8% SHOULD have a negative impact in 2024, but I continue to be surprised at the resilience of the market.”

Ramey said, “All renovation and remodeling categories may be impacted by rising interest rates, ongoing inflation and global instability which can cause spending on things such as home improvements to slow. But the fact is the inventory of housing in the U.S. and Canada continues to age, and with climate extremes getting fiercer, the MRA believes that will continue to drive demand, despite the potential for higher rates and inflation.”

Haddock quipped that his crystal ball is busted, but he went on to say, “people gripe about high interest rates. Interest rates are finally healthy again. It discourages reckless borrowing. We have seen plenty of that. I remember during the Carter Administration when CD rates were 21% and mortgage rates at 11-14%, so 7% is not ‘high.’ I am certainly concerned that Joe Q.

Public bases all buying decisions on what the monthly cost is, and lives paycheck to paycheck. That is short-sighted and self-destructive but seems to be the norm. That may be my biggest concern. Debt is not anyone’s friend — including our nation!”

### The Labor Shortage and Other Challenges

McLaughlin believes the biggest challenges in 2024 will be in predicting market uncertainty and in dealing with the consequences of the ongoing skilled labor shortage. He is also keeping an eye on the cost of raw steel and aluminum as possible fallout from the Fall 2023 UAW labor strike. Our insiders, like the economists, all agree that the labor shortage is not going away any time soon, though some companies appear to be harder hit than others.

Haddock said, “For the S-5! organization, it is not so bad. I think people are attracted to our company culture. Our compensation packages may not be the ‘best,’ but are equal to or better than most, and our culture as an organization is ... well, just different. We have a few who leave and many who feel ‘at home’ at S-5!”

Dietzen said, “We see the more progressive of our customers undertake efforts that include internal training programs and aggressive intern programs to attract, nurture and educate a capable workforce. We do our part by automating the demanding process of doing accurate takeoffs and generating documents that help guide field construction.”

In conclusion, there are a few things that companies can do to minimize the labor shortage’s impact on their business. Automating can help in many situations, ensuring that your company culture is welcoming and supportive while offering competitive benefits, and working with local institutions to offer internships or events to encourage interest in your company. **MR**



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# Solutions to the Roofing Labor Shortage

## Finding Workers in a Shrinking Labor Market

By Rick Zand, New Tech Machinery

The labor shortage in the U.S. is a growing problem faced by many industries, including manufacturers and contractors, even as we've seen an increased demand for metal in building construction. According to Metal Construction News, 42% of top metal builders reported labor as the biggest challenge they faced in 2022, up from 23% reported in 2021. Imagine you have the machines and materials to meet the needs and the jobs are lined up, but you can't find workers to fabricate and install panels.

### Reasons for the Persistent Labor Shortage

#### Reason 1: Decrease in Birth Rate

Starting out as a roofer or in metal panel production is generally a young person's game. Many of these entry-level positions tend to attract those from 18-22 years old.

In a perfect world, this isn't a problem. There's always a high school or a trade school grad searching for a job or career opportunity. However, we've seen a decline in the population growth rate in the U.S. In the 1950s, the growth rate approached 2%.<sup>1</sup> Until the end of the 20th century, it consistently remained above or very close to 1%, a number we haven't seen since 2007. In 2023, it reached only .50%, which was actually an increase over 2021 and 2022, which saw .31% and .38% increases, respectively.

This is not good news for the workforce, coming after a wave of Baby Boomer retirements. In fact, the last time it reached 1.50% was in 1963, and that was a decrease from the previous decade, which saw peaks as high as 1.98%. By 2035, adults 65 and older will outnumber children under the age of 18 for the first time in history.

The labor market in the U.S. is shrinking,

a trend that is predicted to continue for years to come.

#### Reason 2: The Big Quit

According to the U.S. Chamber of Commerce, by the end of 2023, the U.S. had 9.5 million job openings but only 6.5 million available workers to fill them, leaving a deficit of 3 million jobs<sup>2</sup>. This is partly due to the residual impact of the pandemic. During 2020-2022, employees received aid and relief due to layoffs and hiring freezes. We saw the availability of goods shrink due to disruption in the supply chain. We also saw what's become known as the Great Resignation, also known as the Big Quit, where many workers simply left the workforce.

After, many laborers didn't return to their jobs. They may have used their lockdown time to learn coding or other skills that made them marketable in the tech industry. Even now, more and more companies are dropping degree requirements from job descriptions as technical skills are valued over academic credentials. Additionally, if you're a coder, programmer, or web designer, you can make a decent salary and not have to stand on a roof in the hot sun or in cold winter weather. For some, the pandemic provided an opportunity to regroup and perhaps move in another direction.

Lost income was another deterrent to returning to the workforce. According to Roofing Contractor, 68% of the workforce earned more on unemployment during the pandemic than they did working their regular jobs<sup>3</sup>. Those who have returned to work or joined the workforce post-pandemic may not have the same work ethic as the pre-pandemic crews.

"Their expectations are different," says Dave Susee, Vice President of Taylor Metal

Products, a West Coast manufacturer. "They want more flexibility to come in when they want to. They may tell us they won't come in before 9 a.m. Some of them are very good, but some haven't developed a work ethic."

In the end, the changes in financial circumstances, job options, and changing work expectations bite into the availability of roof and gutter installers.

### Solutions to the Labor Dilemma

Although the demand for metal construction increases and the supply chain is close to the pre-pandemic flow of goods, the labor market remains in a downward spiral. While there probably isn't one solution to the labor shortage, combined approaches may bolster your labor force.

#### Solution 1: Use a Workforce Service

Services like Labor Central will match you up with roofing crews online. Crews are available in all states, and their site will provide you with a list to choose from for residential and commercial work, as well as the type of roofs they install (metal, shingle, clay tile, etc.).

You must join as a member. Memberships are priced at \$99 monthly or \$999 annually (there is no fee for roofing crews). Once you join, you can contact the crews listed and receive job bids. It's up to you to negotiate fees, as Labor Central does not serve as a go-between in this capacity.

<sup>1</sup>U.S. Population Growth Rate 1950-2024, MacroTrends

<sup>2</sup>Understanding America's Labor Shortage, U.S. Chamber of Commerce (uschamber.com)

<sup>3</sup>Roofing Worker Shortages May Be Permanent, Roofing Contractor

Labor Central is easy to use either on your computer or through their app. While their service may not be a long-term solution, it can get you through a crunch. In the long run, however, you may want your own employees who you can train and supervise.

**Solution 2: Attract and Develop Workers**

Skills, skills, skills. If your workforce comprises skilled workers who can operate machines, leverage technology, and are educated in techniques, types of roofing, roofing measurement software, smart roofs, etc., they can establish themselves as industry professionals. Also, if you can create room for growth, say, as crew leaders, advancement in the field can be a motivator.

Developing an educated, skilled workforce takes time and investment. However, providing a hiring plan that includes training and professional development may attract new workers to the industry. Also, if you produce qualified professionals, you're less likely to have turnover, and you'll have a more productive, committed workforce.

Taylor Metal Products often hires entry-level warehouse workers and trains them for more advanced operational positions. That way, they can gauge their performance and work ethic and then promote from within.

**Solution 3: Hire Documented Immigrants**

Currently, we're dealing with an influx of immigrants, and the government is expediting work permits to those residing here legally. Increasing work permits provides hiring opportunities for businesses desperate for workers. Contact local employment and job agencies to see if you can use them to acquire documented immigrant workers.

**Solution 4: Join a Roofing Contractors Association**

Joining a contractors association provides many benefits outside of engaging and recruiting workers. Roofing and metal associations also offer access to training programs, strategies for recruitment, and resources through articles, podcasts, networking, and more.

National associations like the National Roofing Contractors Association (NRCA) and the Metal Construction Association (MCA) offer training for roofers, including certifications for crew members, OSHA compliance, etc. Promoting training as a way of recruiting workers may attract those who hadn't previously considered roofing as a profession.

NRCA offers members recruitment resources and expands the idea of career development through skills, safety, and technology training. NCRA also offers an online job bank to its members to locate

qualified workers.

MCA membership provides access to their Metal University online training, which includes metal roofs, solar systems, sealants, and more. Roofers can receive training and certification online.

**Which Workforce Solution Is Right for You?**

Depending on your situation, a combination of solutions may best serve your workforce needs. A workforce service is a great quick fix if you must line up a crew for an immediate job. If you're looking towards the long-term, you might include a recruitment tactic, such as hiring immigrants with work visas, recruiting and developing a skilled workforce, joining a roofers association, or a combination of approaches.

As mentioned at the beginning of the article, more people are retiring than are entering the workforce. With the dramatic decrease in birth rates, we'll need more solutions to the tightening labor market on the road ahead. Beyond attracting workers, retention is imperative, especially if you're investing in training. Maintaining a positive work environment and providing bonuses, rewards, and advancement opportunities will go a long way toward curbing turnover and keeping a well-trained, qualified workforce. **MR**



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*Metal Roofing Magazine* was born as a supplement to *Rural Builder* magazine in 1999. A few more supplements were published in 2000. In 2001 it was elevated to a stand-alone magazine, and today it is over 20 years old.

If you have recently completed a metal roofing project on a historic building, we'd love to include it in the *Metal Roofing IDEA Book*. Don't wait! The deadline is March 15. See page 52 for details.

If you have any questions related to *Metal Roofing Magazine* or the *Metal Roofing IDEA Book*, contact Karen Knapstein at [karen@shieldwallmedia.com](mailto:karen@shieldwallmedia.com) or 715-513-6767.

In the meantime, enjoy a bit of metal roofing history! This article originally appeared in the August/September 2004 edition of *Metal Roofing Magazine*.

# Understanding Sealants For Metal

By Greg Moran, Sika Corporation

**A**s a metal construction professional your number one deliverable is a quality installation that will withstand the test of time.

In most cases, the test of time can be 30-plus years, which means everything used in the job rides along with that guarantee. With this understanding, the quality installation of metal roofing systems must withstand years of weathering, continuous hot and cold cycling, thermal expansion and contraction, and environmental variables that include snow loads, hailstorms, rain and water exposures, UV exposure, and various wind loads. With these requirements as a given, one of the most challenging technical arenas is the understanding and selection of quality sealants and adhesives that match the required physical application needs.

Selecting the right sealant for an application goes a long way in reducing maintenance, callbacks, and quality issues reflected in your bottom line.

Metal roofing and metal construction systems contain numerous applications for sealants. The intent in using a sealant is to provide a boundary against air, moisture, dirt, dust, and debris.

Wherever steel roof panels or roofing accessories form an overlap or connective joint, form a frame or an opening, or meet up with architectural highlights like fascias, flashing, roof ridge or wall structures there is a need for a sealant. Likewise, wherever the roof surface includes a penetration, there is a need for a sealant. Examples include the joining of standing seam roof panels, both at the end laps and the standing seams, roof jacks, smoke vents, roof curbs whether for heating, ventilation, and air conditioning equipment or for

skylight installation, roof ridges, and at any penetrations by mechanical fasteners. Typically these joints at the roof level are sealed with a butyl tape or a combination of butyl caulk and butyl tape.

Butyl tapes are normally made up of three components: rubber, filler (talc, plasticizer, etc.), and oil. Of these components, rubber percentage is the key ingredient. Rubber is what makes the product a better sealant. Why not use 98 percent rubber? It would cost too much, it would be more difficult to cut and manipulate, and the resulting material would be overkill for most applications.

Miscellaneous exterior joints can be sealed with one-part polyurethane or silicone sealants. Typical examples include sealing fascia installations, gutter seams, window and door installations and trim, and flashings.

Adhesive systems are used on the building envelope to attach various accessories and to reinforce joints that are subject to stress. Many adhesives serve a dual role — they not only provide structural strength, but also an impenetrable seal.

## Applications

Review the application requirements and the environmental exposure of the bonded product. Important data includes information on the material substrates involved, the surface properties, and their residing thermal expansion and contraction properties. In the case of metal roofing systems, remember that the entire roof system will expand and contract under thermal cycling conditions, not just the individual panels. Review the size of the joints, the application temperature extremes, and the environmental

exposures. Sealant materials, which are exposed to the elements, will receive more direct punishment than those concealed under building materials.

You also want to be sure to review environmental conditions the product will be used in during installation — specifically the application temperature range. Metal construction works 12 months a year, and construction conditions vary within this timeframe. As an installer or specifier, make sure you select products that can still be used in extreme conditions.

**Butyl caulks, hot melts and tapes**

Butyl caulks and butyl hot melts are normally factory applied to the female seam of a standing seam roof panel, however butyl caulk is also used on site and in portable roll forming processes.

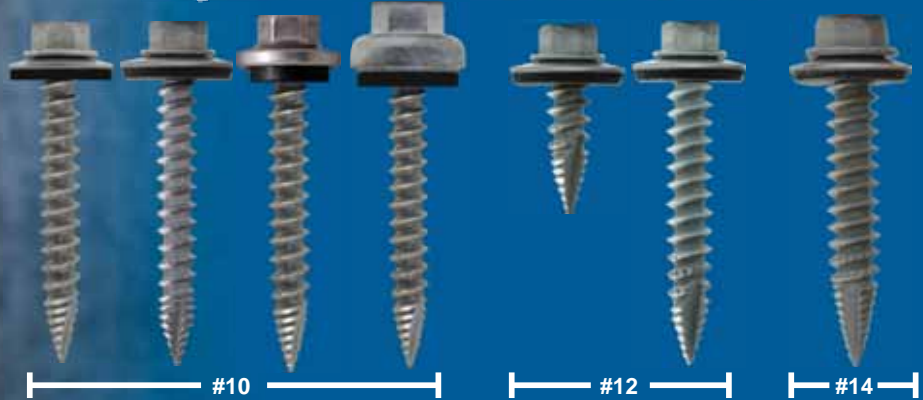
Sealant	or	Adhesive
<ul style="list-style-type: none"> <li>■ Lower viscosity</li> <li>■ Slower cure</li> <li>■ Higher elongation</li> <li>■ Lower modulus</li> <li>■ Hardness &lt; 40 Shore A</li> </ul> <p>Sealants seal: They accommodate high joint movement. They are not intended to transfer loads.</p>		<ul style="list-style-type: none"> <li>■ Higher viscosity</li> <li>■ Faster cure</li> <li>■ Lower elongation</li> <li>■ Higher modulus</li> <li>■ Hardness &gt; 40 Shore A</li> </ul> <p>Adhesives are designed to transfer loads from one substrate to the other, and to distribute stresses. "Elastic" adhesives will accommodate joint movement.</p>

For roofing applications be sure to select a pumpable or gunnable non-skinning butyl formulation to assure the sealant remains soft and pliable throughout the service life. This is arguably the most important criterion to understand as many products become hard and rigid after environmental exposure. Rigidity in combination with joint movement

can lead to sealant failure.

Several easy tests to quickly analyze butyl properties exist. Cut about a foot section of the tape and roll it into a ball, then stretch it horizontally (or vertically) and notice how quickly it breaks apart and how quickly it recovers. Butyl tapes with a higher rubber content using higher-grade rubber will not break apart

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and will recover close to their original size. This difference is critical in applications where thermal expansion and contraction occurs. At the same time, check the webbing characteristics. Webbing occurs and is visible when the material is stretched. Good webbing is illustrated when the material stretches but stays intact. If this occurs, it will provide a good sealant barrier.

Next, roll a piece of each tape sample into a ball, holding it between the thumb and forefinger of both hands. Pull it apart about 1 inch then continue to stretch it apart very slowly while at the same time pulling down with your middle or ring fingers of both hands. What you are trying to create is a square shape of material that is stretched thin. You'll be able to see how each product webs under extreme stress.

Likewise when selecting a non-skinning butyl caulk, or hot melt product, webbing is critical. To illustrate the webbing properties of different products, apply the product to two metal strips, squeeze them together and then slowly pull them apart. If the material stretches uniformly when pulled apart, it will do the same during thermal and stress cycles.

## Wet sealants, adhesives

Within the wet sealant and adhesive product families there are multiple options, but also more opportunity for pitfalls. Again, the key to performance and longevity is selecting the right product. Review substrate materials, joint movement requirements (elongation), joint width and depth, and joint tensile strength requirements (particularly if the material is expected to add structural strength). Review product technical data sheets or specifications for key material properties including elongation, tensile strength, hardness ratings, and cure time. Generally, sealants are quantified as low viscous products, with a hardness rating below 40 Shore A, high elongation, and lower tensile strength ranging.

Adhesives are normally high viscous products with a Shore A hardness rating of 40 or greater, lower elongation, and a higher tensile strength rating.

Chemical families for these products include latex, urethane, silane terminated polymers (STP), silicones, and acrylics.

Generally the use of any latex-based product is discouraged for metal roofing and metal building applications due to the performance aspects of both the building and the sealant.

Latex- and acrylic-based products are not commonly used in the metal construction industry, as the products generally do not meet the heat resistant requirements. Many polyurethanes and silicones offer excellent benefits such as strength, adhesion, and thermal expansion and contraction. Silane terminated polymer is a relatively new technology to the marketplace. These materials are solvent-free, have excellent strength, and offer resistance to color change when exposed to ultra-violet light. Butyl-based sealants typically offer adequate temperature resistance, adhesion, and thermal expansion for metal construction applications. It is important to understand the performance requirements of the building structure, and then choose a sealant or adhesive technology to complement the required performance.

## Wet sealant and adhesive bonding analysis

The most obvious property characteristic question for sealants and adhesives is: does it adhere to the surfaces to be sealed or joined? There is however more to this equation than first meets the eye. When selecting a wet adhesive or sealant, it is necessary to understand the adhesive interfacial layer at the bond line based on the effects of environmental cycling. Although a material may bond at room temperature, this is not an indication of adhesion when subjected to elevated or freezing temperatures or

after severe environmental exposure. This information is critical when determining the life of a bond-line.

There are several methods for testing adhesion; however, the most widely used and accepted is the peel test, which rates adhesion to a substrate after continuous exposure to a series of climates.

Following testing, a successful bond will show cohesive failure. When the material is peeled from the substrate, a mass of material is left behind, which indicates application was successful. Such failure indicates the adhesion strength to the substrates actually exceeds the cohesive strength of the bonding or sealing material. Therefore, don't rely on peel strength specifications alone. Review the cohesive failure percentages for accurate portrayals of adhesion performance.

## Summary principles

In summary, when selecting sealants and adhesives, key principles include the analysis of the application, joint design, joint performance requirements (sealant or adhesive), substrates involved, environmental exposure, application techniques, and expected performance longevity.

Understanding the requirements for your project is critical. Once this is complete you must fully understand the limitations of the sealant or adhesive and review the application and design in accordance with the suppliers instruction. Most manufacturers have recommended joint design and dimensioning guidelines based on extensive testing and expert experience.

If these simple principles are followed, you can expect that your work will stand the test of time, leading to more business and peace of mind. **MR**

*Greg Moran is the market field manager for the Sika Corporation.*



# EVENTS CALENDAR

## FEBRUARY

**Feb 27-29**

International Builders Show (IBS), Las Vegas Convention Center, Las Vegas, Nevada. [www.buildersshow.com](http://www.buildersshow.com)

## MARCH

**March 6-8**

Frame Building Expo (FBE), Iowa Events Center, Des Moines, Iowa. [www.nfba.org](http://www.nfba.org)

**March 12-14**

North East Roofing Contractors Association (NERCA) Annual Convention & Trade Show, Encore Boston Harbor, Everett, Massachusetts. [nerca.org](http://nerca.org)

## APRIL

**April 16-17**

Roofing Day in D.C., Washington, D.C. [www.nrca.net](http://www.nrca.net)

**April 24-26**

Metal Building Contractors & Erectors Association (MBCEA) Annual Conference, Rancho Bernardo Inn, San Diego, California. [mbcea.org](http://mbcea.org)

## JUNE

**June 5-7**

Florida Roofing & Sheet Metal Expo, Gaylord Palms Convention Center, Kissimmee, Florida. [www.floridaroo.com](http://www.floridaroo.com)

**June 5-8**

AIA Conference on Architecture 2024, Walter E. Washington Convention Center, Washington, D.C. [conferenceon-architecture.com](http://conferenceon-architecture.com)

**June 11-12**

Metal Construction Association (MCA) Summer Meeting, Hilton Rosemont/Chicago. [metalconstruction.org](http://metalconstruction.org)

**June 19-20**

Pacific Coast Builders Conference (PCBC), Anaheim Convention Center, Anaheim, California. [pcbc.com](http://pcbc.com)

**June 19-20**

Post-Frame Builder Show, Branson Convention Center, Branson, Missouri. [framebuildingnews.com/postframe-builder-show-registration/](http://framebuildingnews.com/postframe-builder-show-registration/)

## SEPTEMBER

**Sept 18-19**

Construction Rollforming Show, DeVos Place, Grand Rapids, Michigan. [constructionrollformingshow.com](http://constructionrollformingshow.com)

**Sept 29-Oct 1**

Western Roofing Expo Convention & Trade Show (WRE), Paris Las Vegas Hotel & Casino, Las Vegas, Nevada. [www.westernroofingexpo.com](http://www.westernroofingexpo.com)

## OCTOBER

**Oct 21-23**

Midwest Roofing Contractors Association Conference & Expo, Saint Paul RiverCentre, St. Paul, Minnesota. [www.mrca.org](http://www.mrca.org)

**Oct 30-Nov 1**

METALCON, Atlanta Convention Center, Atlanta, Georgia. [www.metalcon.com](http://www.metalcon.com)

**MR**

*Before making travel arrangements, check with the show producer to confirm there have been no changes to event dates, venue, or show hours. To have events included here, contact Karen Knapstein, 715.513.6767, [karen@shieldwallmedia.com](mailto:karen@shieldwallmedia.com).*

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# Natural Metals

## Oxidation, Galvanic Action, Preservative Coatings

By Jacob Prater

**M**etals are amazing materials. They can be formed, welded, drawn into wires, and sometimes have their properties changed with heat treatments. Metals don't rot due to fungi or get eaten up by insects like wood can. And they don't have issues with UV degradation like many plastics do.

But there is one thing that can make these wonderful materials succumb to corrosion. In order to protect metals, one needs to understand a bit about the corrosion process.

While we went through some interesting properties of metals above, the most important one for understanding corrosion is related to electrical properties and chemistry (*shiver*). Metals are great conductors of electricity as they freely allow electrons

to move through them. Related to this property is that metals lose or give up electrons or gain or accept them. The process of a metal losing an electron is the process of oxidation (which confusingly does not require oxygen). The process of a metal gaining an electron is called reduction.

When metals lose or gain electrons, that metal changes its oxidation state. For instance, Iron III ( $\text{Fe}^{3+}$ ) can be reduced to Iron II ( $\text{Fe}^{2+}$ ) and Iron 0 ( $\text{Fe}$  zero, this one is iron metal). This is part of the process of smelting iron ore to turn it into iron metal and is where we get the term "reduced" or "reduction."

Way back when humans began smelting iron ore they noticed that there was less material after smelting the ore and thus it was reduced (in weight).

Most of what was lost was oxygen and hydrogen, which readily react with Iron III ( $\text{Fe}^{3+}$ ) producing our favorite: rust (more or less, although there a whole host of different types of iron oxide and oxyhydroxide minerals that could be formed).

Two things can be picked up from this little bit of knowledge. The first is that it takes energy to make iron metal, and the second is that iron is more stable under natural conditions in the Iron III ( $\text{Fe}^{3+}$ ) state or as an oxide. Thus, all iron and iron steels will eventually rust, and rust is a lower energy state for iron than as the iron metal. This is why steel always needs some kind of protection from the elements if they are to last in them.

Some corrosion occurs a little differently though, with the same





**Galvanized pipe with soil exposure.**

underlying processes occurring in something many of us use often: batteries.

Galvanic action is an interesting beast that leads to corrosion — but also batteries. Way back in 1799 Alessandro Volta invented his voltaic pile, which was in essence the first battery. This battery consisted of a stack of alternating thin wafers of zinc and copper with spacers in between (I think paper was used as it removed direct contact but could absorb the acid easily) all soaked in a brine or sulfuric acid. The battery worked through the action of oxidation and reduction reactions. In this case, the zinc metal was oxidized and the hydrogen in the sulfuric acid was reduced and formed hydrogen gas. In this battery the copper was unscathed but the zinc would slowly be eaten away. Copper was the positive end (cathode) of the battery and zinc the negative (anode).

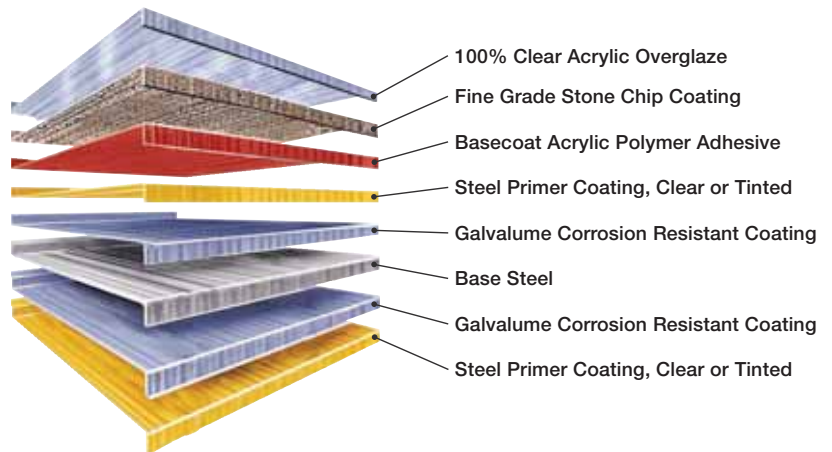
That was a lot of history, so it is time I get to the point. Anodes for batteries can make some really good coatings to stop

corrosion. Anodes are oxidizing metals of which zinc is a common one for coating steel in the galvanizing process and thus dramatically reducing the amount of rust on that steel. Whether a particular metal acts as an anode or cathode is dependent on the other metal that it is reacting with and each of their electrochemical properties. How much galvanic action

— and thus corrosion — might occur, say between metal panels and fasteners of different metals, is dependent on the electrolyte solution that gets on them. (Always check compatibility! For example, stainless steel and galvanized steel together will speed corrosion.)

Usually this electrolyte is rainwater, but if it is saltwater there is going to be more corrosion from galvanic action as the salt water is a better conductor (of electricity) than the rain water. For this reason (dissolved ions speeding up corrosion), soil contacting (near the soil surface) metals are more likely to corrode than those on a rooftop as the water in the soil contains lots of dissolved ions.

Temperature is a factor in any chemical reaction with the effect of speeding it up, so warmer climate means more



**Layers of materials used to create Unified Steel Stone Coated Roofing.** PHOTO COURTESY OF WESTLAKE ROYAL ROOFING SOLUTIONS.



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rapid corrosion with all other things being equal. Generally speaking, anode (example: zinc) will hold up better in the elements than cathodes (example: iron). Zinc is thus the sacrificial anode in galvanizing steel; it preserves the steel while it (the zinc) slowly corrodes. Other anodes used are magnesium and aluminum. (You have probably noticed that aluminum holds up well against corrosion without any coating on it.) Copper is an interesting case, too, as it makes its own protective, green-colored coating as it oxidizes, preventing further damage to the metal.

While galvanizing is awesome for corrosion prevention of steel, there are other ways to protect metals. They include but are not limited to, electroplating and anodizing, paints and coatings (including paints that contain anodes), and galvanizing with paint or coatings on top.

The Achilles heel of any coating (including galvanizing) is damage to the coating. This break in the coating can happen anywhere it is bent, stressed, or scratched. Paint or other coatings over the galvanizing can provide an additional barrier and/or a little bit of cushion for impact to reduce stress on the anti-corrosion coating.

This is the beauty of a product like a stone-coated steel shingles. It's got the



*Galvanized steel exhibiting rust.*

durability of steel, they are galvanized, and then they are coated and covered in granules to handle impact. Stone-coated steel is at or near the top end for current metal roof corrosion prevention.

Coatings of epoxy type over galvanized steel are excellent options as well. In that case, you have the epoxy sealing the metal from the elements and galvanizing under that for corrosion protection in case the coating ever is scratched or fails. There are also proprietary coatings that are purported to “self-heal” when scratched. I don’t put that in quotes because they don’t work (they do), but because it is

actually chemistry rather than healing.

Coatings in this category often contain something like phosphates to aid in this corrosion prevention. If you have ever used a rust converter on rusted steel, chances are it contained some phosphoric acid and was forming a protective iron phosphate layer where the rust was converted. Some proprietary coatings are even weldable. (Don’t do that with a zinc coating or you can really hurt yourself with fumes; grind off the galvanizing before welding!). And there are lots of products specifically for marine environments (ships, tanks, pipelines) and automotive applications, as well.

There are many options for protecting metals from corrosion and the action of the elements. Your task is to pick the one that fits your customers’ needs and budget. Sometimes that is galvanized steel for barns and grain bins (which are all still standing after many decades) and sometimes that is stone-coated steel shingles for beauty and long-lasting durability. **MR**

*Jacob Prater is a Soil Scientist and Associate Professor in Wisconsin. His passion is natural resource management along with the wise and effective use of those resources to improve human life.*



*Rusting galvanized steel where stressed.*

# Back to the Front

## Why Print Advertising Still Works in the Construction Industry

By Gary Reichert, Publisher/CEO, Shield Wall Media

For many companies, Spring includes building a marketing budget and getting proposals for advertising. While I am not an expert on all advertising, I do have a reasonable handle on print and digital advertising for Business to Business. I will mostly limit myself to the B2B side, but most of the general information and concepts included here will apply to consumer advertising as well.

There is one HUGE difference between most B2B and B2C: B2B is predominantly branding and education. Using our publications as an example, a \$250,000 roll former or finding a new supplier is not usually an impulse buy. Capital equipment and building supplies have longer buying cycles.

If a contractor needs a fastener supplier, their existing supplier either fell through on an order or raised prices. There is no way to know when you can capitalize on a competitor's mistake. To be prepared is all about branding and frequency; when the customer needs you, they need to be able to find you. They will either find you in that publication, or they need to remember your name to find you online. SEO is good and necessary, but branding means they search for you by name.

### Buyer Education

Education is about distinguishing your product so it is not seen as a commodity. Customers purchase commodities primarily on price. Sophisticated customers purchase on features and benefits. Educating consumers combines editorial and advertising functions. Editorial presents

the message in a credible and accurate form. Advertising repeats the message so consumers remember. The two together create sophisticated and knowledgeable customers.



This corresponds with big-ticket B2C items. Houses, cars, or major renovations are not usually impulse purchases. Much of the common information on advertising applies more to selling T-shirts than selling a custom home.

### Print and Digital

At Shield Wall Media, we are obviously firm believers in print media — especially in our niche. There are multiple reasons why:

1. A large portion of our audience is plain community.
2. Our audience is primarily decision makers or C-Suite level. This group is older and often prefers printed media.
3. Print is consumed in a different manner than digital. More time is spent viewing and more attention is paid to a specific item. Print readers have less tendency to bounce around.

4. Research shows that information from printed media is retained longer than information from digital media.

5. Printed magazines are physical, can easily be passed between readers and are seen multiple times.

Digital works best as a direct-response medium. In many ways, that is more suited to consumer products and an impulse buy. [I have many T-shirts that made me laugh for inappropriate reasons. I may not be able to wear them in polite company, but they have my money.]

Branding in digital is largely companies with million-dollar budgets.

Because the impression is not recalled as easily, more impressions are required. To achieve that frequency level on a large platform requires an investment beyond the reach of most companies.

### Successful Planning

All successful advertising focuses on message, audience, and repetition.

Audience refers to the type of person, and how many of them receive the magazine or digital product. For B2B publications, demographics like age and sex are nearly irrelevant. You will want to know if the subscribers are applicable for your product and their role in the buying decision. Most advertising targets decision makers and influencers for obvious reasons.

Most B2B trade publications are “qualified” and “free requested” publications. For someone to be a subscriber, they must answer a few questions to say they are “qualified” and ask to receive the publication. For digital products this is an “opt-in” list. Opt in indicates someone asked to receive it but

there are usually no criteria showing they are legitimate prospects.

After determining the magazine reached your audience, verifying the number of copies printed and mailed is the most important step. The circulation determines the advertising rates.

For print media, the U.S. Postal Service has a several requirements to be a “publication” and qualify for discounted postal rates. The Post Office verifies subscribers when they audit a magazine or grant it publication status. They pick subscribers randomly from the list and confirm the address is valid and that they requested the publication.

The USPS requires that over half of the subscribers have been subscribers for less than three years. They also require an annual Statement of Ownership (SOO). These have to be submitted every year and published in the magazine. They

## How To Make Informed Decisions

### Always ask *yourself* these questions:

1. What do I want to achieve with my advertising?
2. Do I think this product will reach my potential customers?
3. Will my message appeal to my prospective customers?
4. Will my audience be able to see and/or read my message in the ad?
5. Will my budget allow me the frequency required for consumers to remember my message?
6. Is the ad rate appropriate to the audience reached?

### Always ask the *company* supplying the media these questions

1. Is your product opt-in (if digital) or qualified requested (if print)?
2. How many readers or subscribers do you have and how can I verify them?
  - a. Are you a registered periodical with the USPS?
  - b. What issue contains your Statement of Ownership?

state the ownership and the number of copies printed. The SOO is a simple way to verify the circulation of any magazine. An SOO is required for a magazine that

is registered as a periodical and receives a lower postage rate. If a magazine does not publish an SOO, you should ask why. Advertising is based on Cost Per

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Thousand, abbreviated as CPM. CPM is how rates are determined for both print and digital media.

For printed B2B/trade publications, CPM for a full page 4-color ad varies between \$150 and \$300 depending on the focus of the publication. The narrower the focus, the more requestors will be in your specific target audience. Rural Builder incorporates different types of construction, all parts of the building and everything from residential to agricultural. Rollforming targets metal forming for construction. Since Rollforming is more targeted, the CPM will be higher.

As an example of CPM pricing, Frame Building News has 20,000+ requested subscribers. With a CPM of \$150 to \$300, the rate for a full page would range between \$3,000 and \$6,000 depending on the focus of the magazine. Frame

Building News is exclusively about post-frame, so it's fairly targeted and falls in the middle of that range.

By contrast Garage, Shed & Carport Builder has 8,000+ subscribers. The range for a full page would be \$1,200 to \$2,400 ... A smaller circulation results in a smaller rate.

-----  
*Note that offering a black and white rate is usually a sales trick or a forgotten leftover from years ago. Years ago, some pages in a magazine were printed in black and white some pages in color. It cost more to print the color pages, so the rate was higher. Virtually all magazines today print every page in 4-color so there is no cost difference for black and white. This doesn't apply to newsprint or some small event programs.*  
 -----

By contrast, CPM for digital advertising varies between \$25 and \$60. An email of 15,000 then would be between \$375 and \$900. The question to ask regarding any email campaign is: "Is it opt in?" That is the equivalent of being "requested" for a print publication.

**Be wary of digital pretending to be print.** Print ads often do not work as digital ads. This number increases every day, but currently about 49% of digital media is consumed on phones. Even a full-page ad scaled down to 2.75" sideways and 5.5" high will be virtually unreadable. The magazines should also be reformatted to be read on a device. A PDF or flip book does not work on a phone.

Advertising is a product like any other. To be satisfied with the product, understand what you are buying and how you plan to use it. **MR**

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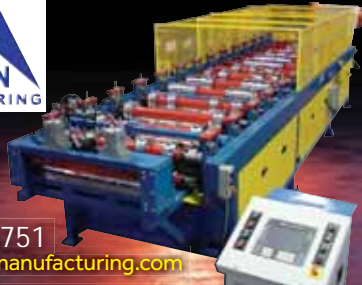
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[www.rollformingmagazine.com](http://www.rollformingmagazine.com)

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# NEW PRODUCTS



## Drexel Metals Wall Panels and Gutter Program

Drexel Metals, a provider of engineered metal roofing systems, equipment and custom fabrication services, has introduced new architectural wall panels and a comprehensive gutter program.

The company's new architectural wall panels can enhance the appearance of a building's facade in a variety of ways, adding depth and complexity to the design. The Facade HL series features seven unique profiles that are offered in a depth of 1-3/8". The panels come in nominal widths from 11" to 16" to accommodate different project needs. The Facade BR series features four profiles that are 1-3/8" in depth, with a nominal width of 12". The panels offer 87-degree rib angles and a variety of rib spacing patterns to add visual impact on a building's exterior. The facade offerings can be oriented vertically or horizontally, are available in different material substrates and come in dozens of on-trend color options to accommodate any design vision.

Featuring a variety of coils, gutter profiles and accessories, Drexel Metals' new gutter program offers industry professionals a comprehensive solution. Produced from high-quality domestically sourced metal, customers can choose from multiple gutter styles, including K-Style, Half Round and Box, with options available for both residential and commercial applications. Gutters come in a wide range of standard and custom finishes that are well-suited for nearly any environment. These finishes are designed to match a Drexel Metals roof, lending a cohesive and seamless appearance to a building's exterior.

[www.drexmet.com](http://www.drexmet.com)



## Levi's Building Components #10 Hi-Lo Mini-Driller

Levi's Building Components, a nationally recognized metal roofing product supplier and manufacturer, has added a fastener to the ProCap line of metal-to-wood fasteners. The ProCap™ #10 Hi-Lo Mini-Driller™ has all the characteristics that make the ProCap™ #10 the preferred fastener but with the added Mini-Driller™ point.

Driving through metal panels is made simpler with the Mini-Driller™ point. Hi-Lo threads offer greater pull-out strength when involving metal-to-wood applications. The ProCap™ #10 Hi-Lo Mini-Driller™ is available in three sizes, #10 x 1", #10 x 1-1/2", and #10 x 2". The fastener features a 304 stainless steel cap, a zinc-plated carbon steel shank, an EPDM rubber washer, and a 40-year warranty.

[www.levisbuildingcomponents.com](http://www.levisbuildingcomponents.com)



## ASC Steel Deck DeltaGrip® DG4™ Tool

ASC Steel Deck, a manufacturer of steel roof and floor deck, has introduced a new structural sidelap connection system called the

# VS-150

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# NEW PRODUCTS

DeltaGrip® DG4™ Tool. This tool builds upon the company's original DeltaGrip® system with added benefits, including higher connection strength, faster cycle times, and increased durability.

This powerful, lightweight pneumatic tool creates a permanent, durable connection significantly stronger than a screwed sidelap and comparable to a welded sidelap connection. The system's strength resists longitudinal movement and vertical separation under wind, seismic, or construction loads.

Compared to the previous DeltaGrip generation, the re-engineered DG4 Tool boosts connection strength by up to 26% and stiffness by up to 48%. The tool's optimized four-tooth punch and strengthened steel frame generate 35% more crimping force, amplifying the punching forces to form a secure mechanical connection between panels. An end-of-cycle air dump valve reduces cycle times by 17% across all steel gauges. Upgraded components like braided air lines and a rugged handle further improve reliability in the field.

[www.ascsd.com](http://www.ascsd.com)

## Brass Knuckle SmartCut Gloves

Application-specific cut standards remain the only way to specify cut-resistant protective gloves; however, A4 cut resistance has quickly become the de facto minimum standard for work gloves used in many applications. Foremen and plant managers alike trust its performance and feel confident putting their people in it when setting out for another hard day at

work. Brass Knuckle® SmartCut™ (BKCR4420) offers this highly desirable A4 cut resistance PLUS a whole lot more, making it a value-added glove with plenty of upside.

SmartCut starts with a high-density polyethylene (HDPE) knit shell to provide ANSI cut level A4 protection without bulk, with a strength-to-weight ratio 8 to 15 times higher than steel. But then SmartCut adds superior grip, moisture protection, and a high degree of dexterity.

SmartCut has a water-based polyurethane (WBP) coating as a palm and finger base coat. This helps reduce penetration of liquids, including light oil. Then it secures grip with a foam nitrile top coat, perfect for working with oils, petrochemicals, fuels, and most acids. Then, a sandy grip finish further enhances abrasion resistance and cut protection.



# TELL 100,000 SUBSCRIBERS ABOUT YOUR NEW PRODUCT

**If your company has developed a new product for builders or contractors, email a new product announcement to one of the contacts listed below for possible publication in our business-to-business magazines.**

*Include a clear, high resolution image of the product (no logos or advertisements), along with a brief description of your product and the problems it solves.*

**Submission is not a guarantee of publication. We reserve the right to edit all submissions for content, length, and clarity.**

**Metal Roofing Magazine; Roofing Elements Magazine; Rollforming Magazine: Karen Knapstein – [karen@shieldwallmedia.com](mailto:karen@shieldwallmedia.com) • 715-513-6767**  
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**NEW PRODUCTS**  
BY RURAL BUILDER STAFF

**ROSCH GST 18V-90 1.8V BRUSHLESS TOP-HANDLE JIG SAW**  
Bosch Power Tools has announced the launch of the GST 18V-90 1.8V Brushless Top-Handle Jig Saw. The cordless jig saw delivers a strong cutting capability of up to 1 1/2" in wood. Its brushless motor delivers up to 3,000 rpm load strokes per minute extending the motor's runtime and improving cutting performance on tough projects.

The tool-free blade change system permits fast and convenient blade insertion and ejection. A bright LED light illuminates the cut line in dark work areas, allowing workers to easily tackle a variety of jobsites efficiently. Complete clear dust shield to mitigate the cut line. The variable-speed control provides a dial to adjust the operating speed from 0-3,500 rpm load strokes per minute. With the variable-speed trigger, users can control the operating speed by feathering the trigger. Workers can select the right blade strike for their specific project by choosing one of the five orbital action settings.

Complete with Bosch Power Tools' COREAVI battery, the cordless jig saw delivers an extended runtime to help carpenters, remodelers, and plumbers get a quick cut done to accomplish a range of projects.

[www.boschtools.com](http://www.boschtools.com)

**ProVia Coal Black Soffit**  
ProVia has introduced Coal Black Soffit as an addition to the Universal vinyl soffit product line.

Building professionals are aware of the popularity of trend-setting color choices by home enteriors – combining black and white, black and gray,

and even black with black. This dramatic dark look that looks like solid black is available in full-vinyl soffit panels.

"We are excited to offer this soffit color to our customers," says Lapp, ProVia siding product manager. "We believe it checks all the boxes – a true shade of black, consistent quality control, homeowners expect from ProVia products."

[www.provia.com](http://www.provia.com)

**LP Building Solutions & Flashing Sealant**  
LP Building Solutions (LP), a manufacturer of high-performing products, has announced of LP WeatherLogic Flashing Sealant, which is available throughout the U.S. It is a solution for weathering adhesion moisture management technology.

The sealant is a liquid-applied material certified to AIAA's the only liquid-applied seal to seal the panel joints (seam to seam) of LP WeatherLogic products.

**SMART SHIELD NAIL GUARD**  
Moisture-Resistant Products has announced the new Smart Shield™ Nail Guard, the latest product launching from its SmartShield™ line of metal connectors.

**HORSE STALL LATCH**  
MVI knows your horse is too smart for its own good, so they designed a new horse stall latch. This latch is a secure extension system incorporated into a new robust design. Its HORSE PLAY resistant concealed latch mechanism, and there's no assembly required. Plus, installation and more time can spend less time on this affordable, strong. MVI stall latch is more than 28 powder coat options, so will be color matched to the stall door, there's a call to add the new horse stall latch to your next stall order: 800.360.6427

[www.mvicomponents.com](http://www.mvicomponents.com)

**JOISTPRO METAL CONNECTOR NAIL GUNS**  
SENCO has added two new pneumatic nail guns with increased magazine capacities to its JoistPro™ line of metal connectors.

The new JoistPro™1500XP and JoistPro™2500XP used by fastening metal structural connectors like joist hangers, seismic/bracket straps and other uses.

The tool features a rear

feature several design magazine size that boost productivity

**JOISTPRO™1500**  
The JoistPro™1500 nail ranging from 1/2" in diameter, its use of SENCO's piggy-backing dovetail design. The 1500XP also features an adjustable hook made steel, allowing the hook to be hung from a tool rack in use.

The tool features a nose clip nail tip placement into the panel connector hole.

**JOISTPRO™2500XP**  
SENCO's new 2500XP uses 1 1/2" inch nails. Like the 1500XP, it features an increased capacity magazine, also includes a rate hook.

Additionally, the 2500XP nail placement into the panel connector hole is made by forming hardware. The piggy-backing dovetail design makes it easier to push holes on metal connectors. Making it easier to push holes on metal connectors, making it easier to push holes on metal connectors, making it easier to push holes on metal connectors.

The tool features a rear

SmartCut is suitable for metal work and stamping to automotive, oil and gas — and any application that needs a sturdy, hardy safety glove. It provides excellent medium-to-high cut resistance with layered protection that is the most breathable and flexible in its class.

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May Issue  
**METAL ROOFING**  
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The *Idea Book* is published by the team at *Metal Roofing Magazine* and mailed to more than 25,000 subscribers.





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We are on the hunt for special building projects to be considered for inclusion in our annual Idea Book.

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What we are looking for from you is your best project, preferably one that has not already been featured in an industry trade magazine. If your project is chosen, you can use it as bragging rights to show prospective customers!

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What we need:

**PHOTOS OF THE COMPLETED BUILDING**  
at least 3-4 photos (high resolution: 300 dpi)

**ALSO NEEDED ARE THE FOLLOWING DETAILS:**

Your Company Name: \_\_\_\_\_

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Building type (home, school, etc.): \_\_\_\_\_

Roof size: \_\_\_\_\_

Location: \_\_\_\_\_

Architect: \_\_\_\_\_

Contractor(s): \_\_\_\_\_

Installer(s): \_\_\_\_\_

Roofing system manufacturer (if applicable):  
\_\_\_\_\_

Roof panels: \_\_\_\_\_

Coating: \_\_\_\_\_

Ventilation: \_\_\_\_\_

Fasteners: \_\_\_\_\_

Snow/rain management: \_\_\_\_\_

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Other: \_\_\_\_\_  
\_\_\_\_\_

PRODUCTS USED

General description of the project:

*(what did the customer want; what special elements set it apart; etc.)*

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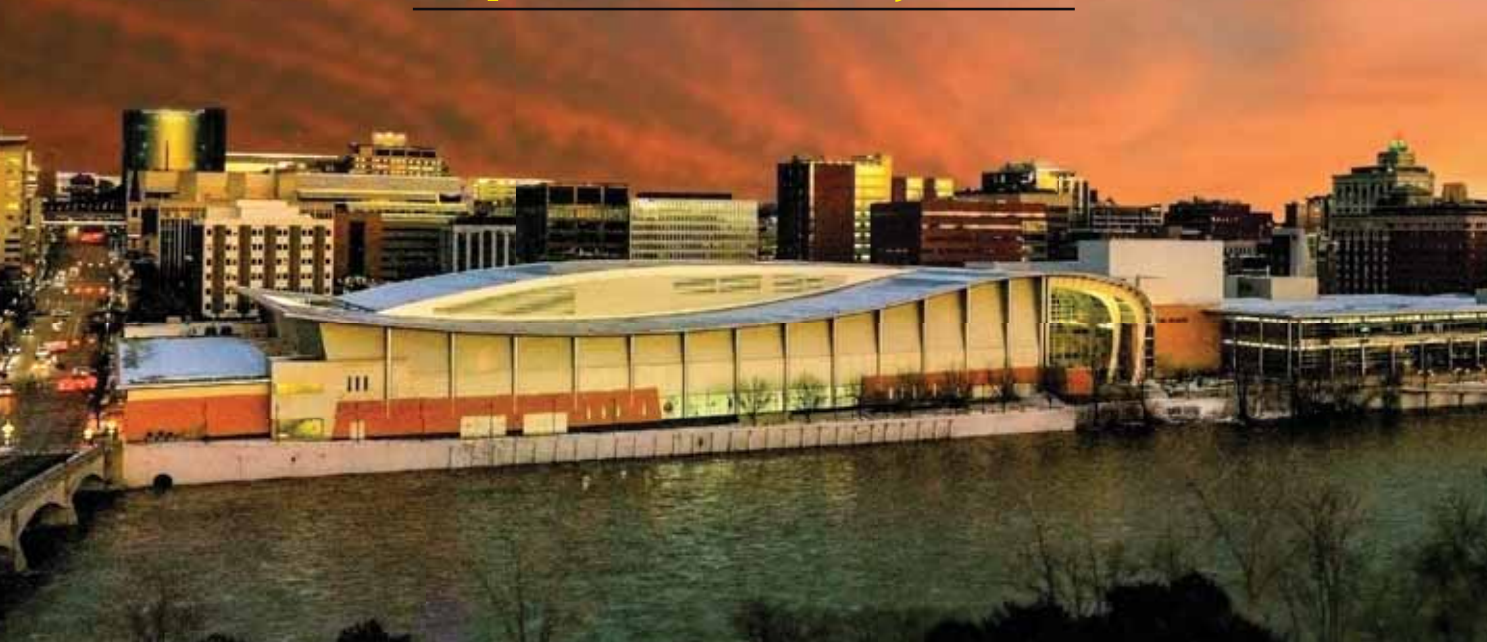
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# project of the month



## New Roof With No Downtime

Roof Hugger, Metal Sales team up to keep plant operational during re-roof

**T**he 25-year-old trapezoidal standing seam roof on the Metal Sales Manufacturing plant in Rogers, Minnesota, sustained hail damage during the summer of 2020. Initially, the plan was to tear off the damaged metal roofing and replace it with a new metal roofing system. In an effort to avoid a stoppage in production, further discussion led Metal Sales to install Roof Hugger sub-purlins on the damaged roof and attach a new metal roofing system to those sub-purlins.

“The disruption of production for several months was not an option,” said Kevin Roehl, Production Manager at Ebert Companies. “Using the Roof Hugger system

allowed operations in the facility to continue normally during the re-roof.”

Roof Hugger was charged with providing a structurally correct framing system to properly support the Seam-Loc 24 standing seam metal roofing and trims from Metal Sales. Retrofitting existing roofs installed using tall clips presents a special challenge since the panels “float” 1” or more above the existing purlins. Roof Hugger created, tested and patented a unique sub-purlin system specifically designed for these panels that controls positive, negative and rotational forces.

Ebert Companies installed 25,450 linear feet of Roof



## Project Overview

**Location:** Rogers, Minnesota

**Installer:** Ebert Companies

**Roof Panels:** Metal Sales Manufacturing Seam-Loc 24 standing seam, 24 ga., Galvalume

**Flashing & Trim:** Metal Sales Manufacturing, 26 ga.

**Coating (Flashing & Trim):** Sherwin-Williams Ocean Blue

**Sub Purlins:** Roof Hugger Model-T sub-purlins, G-90, 16 ga.

**Hat Channels:** Various heights, 16 ga.

**Other:** Curbs & Smoke Hatches, LMCurbs



Hugger's Model-T sub-purlins on top of the existing roof. The 16-gauge, 50 ksi, G-90 galvanized Model-T sub-purlins were designed and tested for existing metal roofs mounted on tall clips as well as special stand-off fasteners for the structurally correct attachment of the Huggers to the structure, standard fasteners for joining the Huggers to each other and attaching the other structural components and 16-gauge structural hat channels in various heights. Metal Sales chose a 24-gauge bare Galvalume Seam-Loc 24 roof panel (105,000 sq. ft.) with Ocean Blue flashing and trim.

The one issue Ebert ran into during the re-roofing process was replacing the existing smoke hatches that were not curb mounted. Ebert purchased and installed

new curbs and curb-mount smoke vents from LMCurbs, a manufacturer of roof curbs, roof hatches and skylights.

"Everything turned out very well," Roehl said. "We were able to leave the existing roof in place and not cause any disruption to their production area and not have to worry about keeping the facility dry if we would have removed the existing roof. The owner also noted that the insulation added between the roofing systems helped keep the facility warmer during the winter months."

Metal Sales is considering the option of adding photovoltaic panels to the roof in the future to help reduce or even eliminate electrical costs. The Roof Hugger sub-purlins and Metal Sales metal roofing are engineered to handle that load. **MR**

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**MR FEB/MAR 2024**

# The 2023 Survey Says ...

**W**e have closed out our annual survey and are working on the CSI-Annual that will mail in April. Our efforts to improve our data collection seem to be working. We roughly doubled the total number of respondents from 2022 to 2023.

Our strong areas, like post-frame, remained constant, but we gained a significant number of responses in General Roofing, Metal Building and Wood Framed (Stick Built) construction. With the roll out of Metal Builder Magazine, the gain in “Metal Building” makes sense. The gains in General Roofing and Wood Framed construction should help act as a baseline or control group to measure against the specific markets we cover.

One of the interesting aspects comparing year over year are the changes in responses, hot markets, business climates and concerns. Going through the comparison from 2022 to 2023, this is what caught my attention.

## Market Predictions

### What Market Segments of construction do you build for?

No areas increased significantly. Agricultural, Commercial and Industrial all decreased as a percentage of respondents. Agricultural from 40% to 28%. Commercial from 67% to 30%. Industrial from 44% to 19%.

When combined with results from the question “Overall, across the industry will residential construction increase or decrease in 2024 to 2023?” the obvious assumption is the change in products is in response, preparative or reactive, to

the view of residential construction. In 2022, 47% predicted the market would decrease and 32% predicted the market would the same. In 2023, 37% predicted the market would increase and 47% predicted it would stay the same. The percentage predicting an increase grew by 16%, while the percentage predicting a decrease dropped by 31%.

The market predictions for Agricultural, Commercial and Industrial remained unchanged. This seems to indicate a shift in direction to take advantage of an increase in residential construction.

This is consistent with the level of concern regarding interest rates and inflation. In 2022, 58% of respondents listed Inflation as a major concern. In 2023 that percentage dropped to 27%. Inflation followed a similar path. In 2022, 67% listed it as a major concern and in 2023 that number decreased to 34%.

## Expansion Plans

In 2022, 18% had immediate expansion plans and 50% had future plans. In 2023, 28% had immediate plans and 29% had plans farther in the future.

The areas for expansion remained the same with adding personnel (both construction and support) and new products or building types leading the way.

The one interesting drop was in trucks. In 2022, 24% of respondents planned on adding trucks. In 2023 that number dropped to 14%.

## Financial Outlook

The predictions of gross sales remained consistent. Units sold remained consistent as well.

Profitability remained consistent. The only significant change was an increase of approximately 7% predicting their profitability would increase by more than 25% in 2024.

## Concerns for 2024

One bright spot is the level of concern across the industry seems to have generally decreased. The challenges still remain but respondents seem less concerned.

Area of Concern	2022	2023
Finding Employees	65%	39%
Cost of Materials	59%	43%
Material Availability	45%	24%
General Supply Chain Issues	48%	17%
Demand for Products and Services	24%	12%

## Summary

Generally concerning issues seem down. Residential construction is expected to remain strong enough builders are shifting toward that market. Projections for gross sales, units sold and profitability remain stable. Which is extremely positive considering the industry is coming off of some record years.

The CSI-Annual will mail in April and should provide additional insight into the above topics and much more. We will be able to isolate regions, building types and specific market niches and examine our data and combine that information with input from industry experts and economists. The CSI-Annual is free to all subscribers to Shield Wall Media publications. **MR**

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