

METAL ROOFING[®]

Advancing the Metal Roofing Industry Since 2001
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MAGAZINE

FEB/MAR 2022
Vol. 21 • No. 1

STATE OF THE INDUSTRY

INDUSTRY SUPPLIERS WEIGH IN

**TOP
10
PRODUCTS
OF 2021**

**STAMPED
METAL SHINGLES**
TOP PERFORMANCE WITH
A TRADITIONAL AESTHETIC

**CHECK OUT OUR
TOP 10 PRODUCTS INSIDE**

Drexel Metals
Roofing Systems + Custom Fabrication
a CARLISLE COMPANY

PAGE 14



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**ACE
CLAMP**
Innovative Roofing Solutions™

PAGE 18

PAC-CLAD
PETERSEN
a CARLISLE COMPANY

PAGE 19

**SETTING
UP A WORK
CONTRACT**

DRIPSTOP
Condensation control



Increase Profits Not Labor Costs

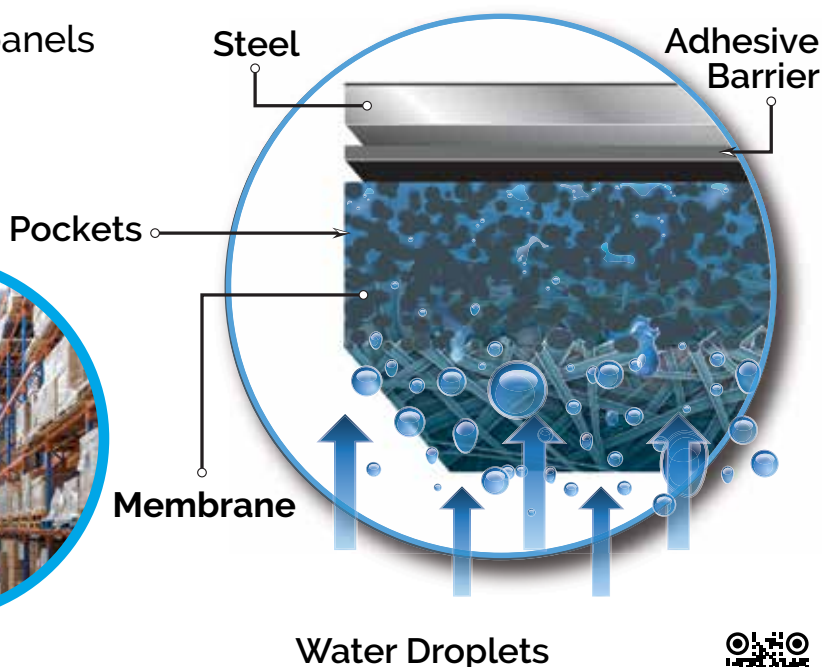
A Necessity for Any Metal Roofed Building That is Not Climate Controlled.

- Post Frame/agricultural buildings
- Steel buildings
- Self-storage
- Workshops/unattached garages
- Open-walled structures
- Carports, truck ports & RV storage

Better Science Equals Drier Buildings

When condensation occurs, moisture gets stored in the specially designed pockets of the DripStop membrane.

- Helps fight corrosion in livestock confinement
- Arrives on-site already on roof panels
- Cuts construction time in half
- Saves money



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Condensation control



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Help Us Help You

Welcome to the first issues of a brand-new year!

The first issues of the year traditionally feature State of the Industry articles. For these articles we survey our readers, our advertisers and interview key personnel in our industry. The goal is to review the events of the previous year and anticipate the changes coming up. We typically stay general because it is the future; we can guess, but in reality, no one knows.

For a decision maker or business owner, good business intelligence and data is critical for planning. The ability to anticipate and manage upside and downside risks allows you to survive tough times and prosper in good times. The question is always: "Where do I get this information?"

You have several resources; news, data services and trade associations all conduct market research and attempt to measure trends. In this environment, we want to be your resource. We see one of our growth areas as data generation. We are in a unique position to measure our industry. In November we passed 100,000 subscriptions. No association or market data company has that potential sample size. (There are other factors, but sample size is a major factor deciding validity of the information collected.)

One of the things we use as a resource for the articles are current and previous surveys. Help us help you survive and prosper.

Please complete and respond to our surveys. The information you provide is anonymous and will not divulge

any proprietary information to your competitors. We will continue to share the information we collect, free of charge, to our readers.

I would also like to know what questions you would like us to ask. If you have a question, chances are you are not alone among our 100,000 subscribers. This goes back to our phrase of the day: Help us help you.

Starting in 2022, Shield Wall Media wants to be your resource for industry trends and data.

Have a happy, healthy, and prosperous 2022.



Gary Reichert, Publisher
gary@shieldwallmedia.com

EDITOR'S LOG

By Karen Knapstein, Managing Editor

Show off those finished metal roofs

Who would have ever thought this pandemic would drag out for more than two years? I recall that when it started, the world seemed to stop. But slowly it came back to life — albeit cautiously. And in 2021, the industry surged ahead. We polled manufacturers and roofing business owners for the State of the Industry report in this edition. While many shared similar problems and challenges (labor shortages, supply chain issues, and price increases), there are also suggestions for how to overcome and move past these challenges.

Furthermore, reinforcing the positive outlook of the construction industry, we just returned a few days ago from the Frame Building Expo, which was held in Nashville January 18-20. Conversations with the exhibitors were upbeat at the

well-attended show. Exhibitors were focused on serving their customers by doing everything within their power to source quality materials and provide the best customer service possible to keep building the relationships that are so imperative to not only keep a business alive, but help it to thrive. The State of the Industry report begins on page 20.

With the February/March edition wrapped up, we look ahead to the IDEA Book in April. Time will be tight, but if you hurry, you just might be able to get your finished metal roofing projects submitted in time to have them published in this very special edition. In case you were wondering, there's never any cost associated with submitting a project or getting it published. And if there's no room for your project in the IDEA Book,



See this edition's Project of the Month on page 54.
PHOTO COURTESY OF S-SI

we'll keep it on hand and may publish it as a Project of the Month, which, according to reader feedback, is one of the most popular features in each magazine.

We look forward to hearing from you!



Karen Knapstein, Managing Editor
karen@shieldwallmedia.com

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ON THE COVER:

ProVia's Ironstone metal panels and complementary snow retention system are featured on this contemporary ranch residence. PHOTO COURTESY PROVIA, WWW.PROVIA.COM.

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MRA Warns Efficiency Incentives for Homeowners Going in Wrong Direction

The start of fall season is typically the time to prepare for colder weather, but with a changing climate, many regions are now experiencing hotter weather patterns that stretch far longer into the year, making home air conditioning systems not just nice to have, but a need for families everywhere.

That increasing demand is why the Metal Roofing Alliance [MRA, <http://www.metalroofing.com>] is calling on federal, state and local governments and utilities to take more action to help incentivize homeowners to make smart, energy efficient decisions when it comes to home building and remodeling practices. While some utilities continue to offer local rebates to help encourage homeowners to make more energy efficient choices, many of the federal tax credits and incentives that used to be offered through programs such as ENERGY STAR have been revised, reduced or in some cases, phased out completely.

Unfortunately, the lack of strong, ongoing incentives to help encourage more efficient practices is coinciding with a massive spike in demand for residential cooling throughout the country and an urgent need to reduce fossil fuel reliance. As reported by Yale School of the Environment [<https://e360.yale.edu/digest/u-s-air-conditioning-demand-could-increase-59-percent-by-2050-analysis-finds>], as temperatures climb, demand for home air conditioning in the United States is expected to surge 59 percent over the next 30 years, increasing emissions, straining power grids, and financially burdening millions of middle- and low-income American families who already struggle to pay utility bills.

Better residential building and remodeling practices designed to save energy—such as choosing highly efficient, longer-lasting quality metal roofs—could help offset those impacts significantly,



according to the MRA. Cool metal roofs offer high solar reflectance and help emit heat gain, reducing the amount of air conditioning needed by as much as 10-15 percent and the Environmental Protection Agency estimates that an ENERGY STAR-qualified roof can lower roof temperatures by as much as 50 degrees F. In the past, federal incentives have recognized the powerful energy savings potential of quality metal roofs that can emit as much as 85 percent of solar heat gain to help keep homes cooler. Yet federal tax credits for Cool Roofs are no longer in place to assist homeowners who are looking to make a more efficient and sustainable choice.

Encouraging homeowners to improve home insulation and consider installing residential solar systems also would make a significant difference in reducing the energy and environmental burden caused by the increasing use of home air conditioning. But these types of invest-

ments, while they help lower costs significantly over the long run, often carry a higher upfront price tags. That makes them out of reach for many homeowners, and that is why programs that help alleviate upfront investments in better-performing, more efficient improvements are so essential.

“There is a trifecta of forces happening: hotter weather, the need to reduce energy use to help combat climate change, and alleviate the financial impacts on families not just today but over time,” said Renee Ramey, executive director of the MRA. “Incentives, credits and rebates are important because they can help give homeowners an avenue towards making investments that address these issues over the long run. More utilities, as well as federal, state and local governments, would be well served to consider programs designed to help encourage these practices as much as possible.” **MR**

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NEW PRODUCTS



PVKONCEAL: New Solar Product from S-5!

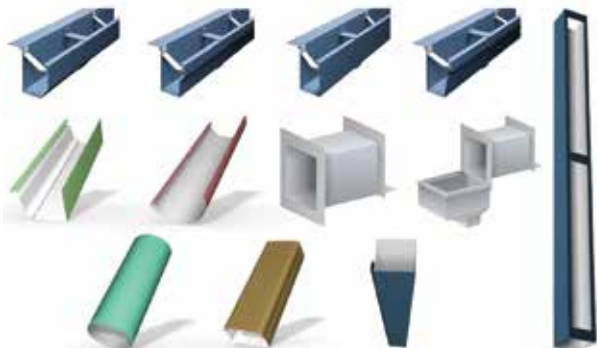
S-5!, the leading authority on metal roof attachment technology, introduces its newest addition to S-5!'s PVKIT® direct-attach™ solar solution for metal roofs.

Paired with the PVKIT, the PVKONCEAL module skirt conceals the front face of the solar PV array, protecting all mechanical and electrical components underneath, as well as creating an attractive, clean finished look. PVKONCEAL also helps to minimize the intrusion of small animals, debris and unwanted objects under the solar array.

PVKONCEAL is made of corrosion-resistant aluminum with a prefinished black high-quality PVDF (polyvinylidene fluoride – the same premium paint finish used to coat metal roofs) made to last the life of the solar array and the metal roof. The versatile lightweight solution can be used in two orientations to cover module frames from 30-46 mm thick.

“We are excited to add the PVKONCEAL to our portfolio of products, offering an aesthetically pleasing solution that protects the solar PV system and the owner's investment,” says Rob Haddock, CEO and founder of S-5! “Our team is always focused on responding to the industry's needs as we continue to innovate new and better solutions in a constant product improvement and invention/reinvention mode to bring competitive advantages to our customers.”

www.S-5.com



New Water Drainage Systems from Petersen

The design of PAC-CLAD PAC-Tite Water Drainage Systems from Petersen, which include gutters, downspouts and scuppers, improves performance while complementing a building's aesthetic qualities. Custom engineering such as the heavy aluminum gutter strap design also promotes ease of installation and helps the drainage systems withstand harsh environments. Petersen's PAC-Tite Water Drainage Systems line includes gutters that are not only Factory Mutual-approved, but ANSI/SPRI GT-1

compliant as well.

PAC-Tite Gold Gutters offer easy installation, outstanding performance and an attractive appearance. The products include a 2-in. wide external wind strap every 6 feet and gutter hangers every 24 in. on center to comply with the ANSI/SPRI GT-1 Standard. The unique, heavy aluminum gutter hanger is designed to eliminate the need for drilling and riveting and allows for full thermal movement of the gutter. Offered with an optional roof flange or slotted drain bars for ballast retention, PAC-Tite Gold Gutters offer maximum roof drainage and ease of installation in a one-of-a-kind edge metal solution. Benefits include:

- Easy installation and decreased labor costs
- Prefabricated miters and accessories to eliminate the need for field fabrication
- Variety of color, sizes and metal gauges
- ANSI/SPRI GT-1 tested to comply with the standard for gutter systems
- FM-approved gutters for wind uplift protection

The PAC-Tite Industrial Downspout is available in a variety of standard sizes, or it can be fabricated to meet specific job requirements. The open-face design makes clearing out debris an easy task. Downspouts are manufactured with simple connection configurations and include three attachment straps per 12-foot section, which enables fast and easy installation.

The PAC-Tite Water Drainage Systems line includes a variety of custom-designed scuppers and collector boxes that meet performance requirements that architects and contractors require. Their unique design provides maximum security and performance to protect against leaks and is a decorative and functional means of water control.

All hangers are included and will arrive at the job site with the water drainage product. Factory-fabricated accessories provide a cleaner, more aesthetically pleasing appearance. This eliminates the need for field fabrication, providing time and labor savings.

www.pac-clad.com

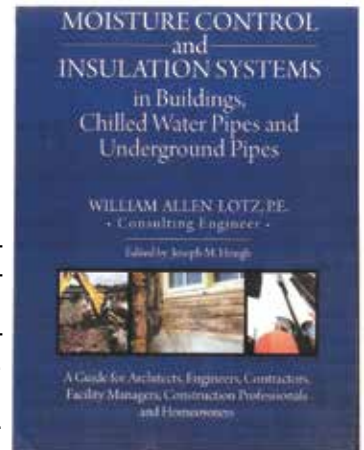
New Book: Moisture Control and Insulation Systems

Consulting engineer William A. Lotz, P.E., has announced the publication of his 340-page book: *Moisture Control and Insulation Systems in Buildings, Chilled Water Pipes and Underground Pipes* (softcover, \$90, edited by Joseph M. Hough). In it, readers will discover the basics of moisture control in an easy-to-understand manner through real-life moisture problems that the author has experienced and solved.

Lotz specializes in moisture problems and insulation failure. He has consulted on more than 2,000 wet buildings over the course of his career as a consulting engineer. Lotz shares hundreds of examples of building failures; the case studies detail what the situation was (why the building failed) and recommendations for how to fix the problem(s).

“There is one chapter on chilled water pipe insulation, and one chapter on underground pipe insulation,” Lotz explained. The balance of the book is about building failures of all kinds.

Having a long history in the insulation trade, Lotz writes from the per-



Looking for a **metal roof** that won't leave you twisting in the wind?



WE'VE GOT YOU COVERED!

ProVia's Metal Roofing was designed and constructed for serious weather resistance.

This stamped panel metal roofing system provides edge-to-edge secure panel placement and meets testing requirements for wind-driven rain and wind uplift resistance. It's certified in Florida's High Velocity Hurricane Zones, withstanding wind speeds up to 180 mph.

In addition to ProVia's outstanding Lifetime Limited Transferable Warranty on our metal roofing system, dealers who complete our comprehensive Installer Certification Program can also offer an Executive Workmanship Coverage which provides the homeowner with peace of mind against leakage resulting from installation issues. For premium metal roofing and professional installation, ProVia's got you covered.



DOORS | WINDOWS | SIDING | STONE | ROOFING



provia.com/metal-roofing

NEW PRODUCTS

spective of experience. “There’s also a chapter (chapter 15) on my history in the insulation industry. That chapter goes back to 1910 with my father’s and my older brother’s involvement; and my own involvement,” he continued. “I worked my way through high school and college installing insulation, including asbestos.”

Moisture Control and Insulation Systems in Buildings is available now on Amazon, both in print and in e-book form. It’s also available at Barnes & Noble and can be purchased directly from the publisher, Universal Publishers (www.universal-publishers.com).

www.universal-publishers.com



Brass Knuckle Cut-Resistant Gloves

Working with sharp materials, abrasive surfaces, light oils, chemicals, and other caustic conditions requires a glove that protects while it breathes and offers long-wearing comfort. Brass Knuckle® SmartCut™ BKCR4420 gloves offer A4 cut resistance with double-coated protection that combines slip resistance and permeation protection in a surprisingly dexterous glove.

These gloves deliver high cut resistance without bulk. A foam nitrile top coat adds grip security for oils, petrochemicals, fuels, and most acids. The sandy grip finish increases abrasion resistance and cut protection, all while being the most breathable and flexible glove in its class.

Over a high-density polyethylene (HDPE) shell goes a greener-formula water-based polyurethane (WBPU) coating as a palm and finger base coat that helps reduce penetration of liquids, including light oil. In this method, the polyurethane is infused into the glove with water rather than with potentially harmful chemicals such as dimethylformamide. The result is a superior, long-wearing glove that feels softer and provides excellent breathability, fit, and manual dexterity. It also reduces workers’ cumulative exposure to chemicals.

SmartCut™ BKCR4420 is excellent for metal work, automotive, and stamping or for work in the oil and gas industries. It stands up to construction, glass handling, general industry, and HVAC while being dexterous enough for assembly work, small parts handling, and shipping. A full knit wrist — seamless and stretchable — provides a snug fit and prevents dirt, debris and cold from getting inside the glove.

www.brassknuckleprotection.com

Milwaukee Tool Heated Jackets

Milwaukee Tool is introducing a new generation in their lineup of Heated Gear with the redesigned M12 Heated ToughShell and QuietShell jackets.

Both jackets feature an advanced heat technology system, designed to outlast and exceed the wearer’s experience with other jackets in cold

climate conditions.

The next generation of M12 Heated ToughShell Jackets deliver “Heat Built to Outlast” with re-engineered ToughShell stretch polyester that offers 80% more stretch and 5 times longer life.

The jackets offer better mobility and flexibility while being lightweight and comfortable. The next generation M12 Heated QuietShell Jacket delivers “Heat Built for Silent Movement” with QuietShell stretch polyester that reduces noise from movement and provides wind and water resistance.

This jacket combines durable and lightweight carbon fiber heating elements with Realtree Edge camouflage pattern for use in wooded environments. With 3X faster heat, jackets heat up in 2.5 minutes and are designed with a new inner lining material that optimizes heat transfer to the user.

Both jackets feature the unique new battery pass-through that allows for battery placement in the front or back pocket. The pass-through provides improved comfort by allowing users to relocate the battery to a more optimal location based on the situation. Both heated jackets are powered by an M12 RedLithium 3.0 battery, allowing for 50% more run-time over the previous generations, and feature an advanced heat technology system.

www.milwaukeetool.com



UNIQ® Automatic Control System

New Tech Machinery (NTM), a member of Mazzella Companies and a worldwide leading manufacturer of portable rollforming machinery, recently launched a brand-new programmable control system for its award-winning SSQ II™ MultiPro Roof Panel Machine: the UNIQ® Automatic Control System. While the new control system will be first available on the SSQ II MultiPro Roof Panel Machine, New Tech Machinery will eventually make it the standard controller on all portable rollforming machinery in the near future.

This new control system is an overall more user-friendly solution for all customers who utilize roof panel, wall panel, and gutter portable rollforming equipment. The new control system has advanced safety features, built-in troubleshooting capabilities, and improved functionality letting machine operators gain more control of their projects.

Features of the new control system include:

- Simplified computer screens and purpose-built software for increased user-friendliness and efficiency with a portable rollforming machine
- 7-inch touchscreen built into the control panel for better weather rating; made of ruggedized glass
- Ability to use the controller in automatic or manual operation
- USB port for import and export of cutlists before and after project completion
- Interactive troubleshooting capabilities to easily diagnose and fix potential problems when using your portable rollforming machine

www.newtechmachinery.com

MR

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2021 METAL ROOFING TOP 10 PRODUCT WINNERS

Congratulations to all of the 2021 Metal Roofing Magazine Top Product winners! As a result of readers like you making the effort to give these manufacturers a vote of confidence, we offered the winners the opportunity to tell you more about themselves and their winning products.

TOP VOTE WINNER:

**Snow Guard Solutions:
ColorGard®, DualGard™
from S-5!®**

Rooftop avalanches cause hundreds of millions of dollars in property damage, personal injury and fatalities each year, creating potential liability for building owners and contractors. S-5! has mastered the art and science of mitigating this hazard since 1992 with a variety of fully engineered snow guard systems.

S-5!'s ColorGard® with VersaBracket™ 47 is the ultimate snow guard solution for trapezoidal rib, exposed-fastened metal roofs and is the only system on the market designed and engineered on a site-specific basis.

ColorGard provides the safety and serviceability you need while complementing the look of your roof, with a clean appearance and perfect color and finish-matching, all designed to last the life of the roof.

Extensively tested for load-to-failure results, S-5! ColorGard includes an industry-leading, lifetime product warranty.

DualGard™ is a complete, two-pipe aluminum, snow bar system for those who prefer a pipe-style snow retention system with the strength, testing, quality and time-proven integrity you expect from S-5! DualGard can be powder-coated or anodized with perfect color-finish matching and can be used on almost any standing seam metal roof, in addition to corrugated and most trapezoidal exposed-fastened roof profiles.

The one-inch diameter DualGard bracket design provides lateral system stability and utilizes two anchor points per bracket to reduce the moment arm for added strength. For standing seam metal roofs, it utilizes two S-5! Mini clamps per bracket, providing a broad base of attachment for extra holding strength



ColorGard®



DualGard™

when compared with other two-pipe systems. For exposed-fastened profiles, DualGard uses S-5!'s CorruBracket, providing versatile mounting options.

Benefits:

- Compatible with almost all metal roof profiles using S-5! clamps or brackets
- Can be color-finished (anodized or powder-coated) to match your roof
- Low-cost, job-specific P.E. wet stamp available for standing seam applications
- Engineer a system for any site-specific roof with the online S-5! Snow Guard Calculator

2021 TOP PRODUCT WINNERS

- Can be installed any time of the year!

DualGard is the most versatile and reliable pipe system on the market. And in S-5! tradition—also the lowest cost. For more information, visit www.S-5.com.

www.s-5.com

138T and 238T Standing Seam Panels from McElroy Metal

Chosen by the readers of Metal Roofing Magazine as a Top 10 Product in 2021, McElroy Metal's 138T and 238T symmetrical standing seam panels have changed the way the industry recovers old failing roofing. The 138T provides a long-term and economical solution for commercial building owners and homeowners in need of a new roof as it installs directly over existing shingles. The patented clips create an energy saving above



sheathing ventilation (ASV) airspace between the existing roof and the new 138T roof. The 238T standing seam roofing system is setting a new standard for performance in a metal over metal recover with ease of installation, outstanding wind uplift and strength characteristics, individual panel replacement capability and jobsite roll forming for long length panels.

About McElroy Metal

Since 1963, McElroy Metal has served the construction industry with quality products and excellent customer service. The family-owned components manufacturer is headquartered in Bossier City, La., and has 13 manufacturing facilities across the United States. Quality, service and performance have been the cornerstone of McElroy Metal's business philosophy and have contributed to the success of the company through the years. As a preferred service provider, these values will continue to be at the forefront of McElroy Metal's model along with a strong focus on the customer. More information can be found at <https://www.mcelroymetal.com>.

www.mcelroymetal.com

Roloshield™ Underlayments from Levi's Building Components

Contractor-friendly Roloshield™ is lightweight and stronger than felt, and is faster to install. This 100% synthetic line of underlayments far outperforms conventional 15# and 30# felt. Use less rolls to cover more roof and lower your installed cost by using this 100% polypropylene synthetic roofing underlayment.



Roloshield™ lays flat and is water-resistant with superior drapability in valleys and on ridges and hips. Speedy installation is achieved by using the Roloshield™ pre-printed nailing pattern. Extended UV resistance provides installation opportunities on hot, sunny days and provides a cooler working surface. Roloshield™ is Class A fire-rated and code-approved.

The new-and-improved Roloshield™ lineup has an added slip-resistant layer for every product level. With all four products having ICC and Miami-Dade approvals, the new Roloshield™ lineup offers a range of economical to high-end options with code-compliant quality for every product, from Plus to Extreme.

www.levisbuildingcomponents.com

R-Mer Force / R-Mer Shield from The Garland Company

Garland's metal solutions combine watertight integrity, aesthetic versatility, and intelligent sustainability to meet the widest possible range of functional and aesthetic requirements. Our flagship structural standing seam metal roofing system delivers the industry's highest performance in windstorm and water penetration.

The R-Mer Shield standing seam roof system is designed to redefine performance expectations in the roofing industry. This innovative, high-performance structural metal roof system can withstand wind speeds over 200 mph, offering unrivaled strength, durability and waterproofing protection for 30 years or more. In addition to its sheer strength, R-Mer Shield's

2021 TOP PRODUCT WINNERS



patented design provides unlimited thermal movement, eliminating concerns of buckling or separation due to temperature extremes. R-Mer Shield is available in steel, aluminum, zinc, copper and stainless steel.

The R-Mer Force flashless metal edge system is engineered to save both time and material without sacrificing strength by completely eliminating the need for flashing plies that would ordinarily be installed at the roof's edge. Instead, this patented metal edge system is anchored to exterior walls, which means there are no penetrations on the roof surface. Fascia cover pieces easily snap onto installed anchors, completing the installation and blocking out the elements to protect your building.

Visit garlandco.com/products/metal to learn more.

www.garlandco.com

Retrofit Framing System from Roof Hugger

Roof Hugger, a division of the LSI Group founded in 1991, has provided over 100 million S.F. of retrofit framing systems for metal roofs on municipal, commercial, industrial and military projects. This unique sub-purlin system allows any new metal roof to be installed over any existing metal roof without its



removal; saving time and money; benefitting the owner with added purlin strength, and the ability to comply with current codes for wind, snow and thermal resistance. The new metal roof is the perfect long-life platform for future energy generating photovoltaic systems. Retrofitting may also be eligible for up to \$1M in Sec. 179 Tax deductions.

www.roofhugger.com

175S Snap Lock Metal Roofing Panel by Drexel Metals

Installing Drexel Metals' 175S Snap Lock Metal Roofing Panel is simple and quick, which makes it an ideal solution for residential, institutional, and structural applications. The DMC 175S is dis-

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GOOD TO JUST
BLEND IN**

**2021 METAL ROOFING
TOP 10
PRODUCT**

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YOUR SNOW RETENTION TO YOUR SSMR!

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- High Strength 6061 Alloy
- Pre-Assembled

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Snap®**



THE DM-ARM HAS YOUR BACK!

Drexel Metals Association of Regional Manufacturers (DM-ARM) is a comprehensive portable roll former program designed to help you meet building codes and build your brand locally. The Drexel Metals DM-ARM program allows installers and regional manufacturers to grow their businesses by offering better local control, greater profits, freight savings, less scrap, and the ability to provide metal roofing on-demand.

As a DM-ARM member, Drexel Metals becomes your “back-office partner”, allowing your team to spend more time in the local market!



Become a member at
www.drexmet.com.

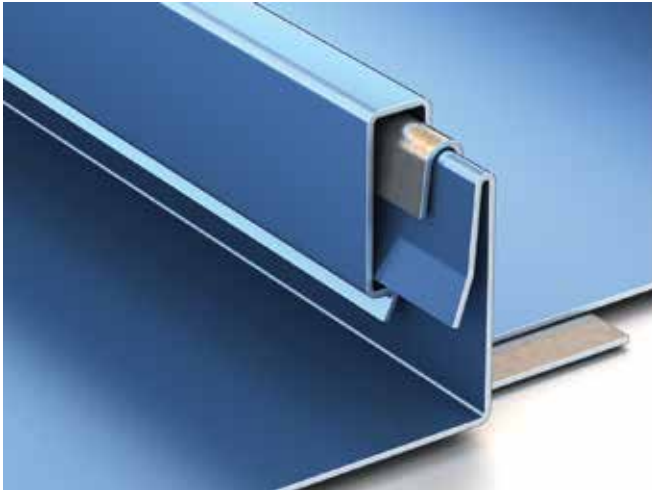
Sell More with the Roofing Passport

Exclusive to DM-ARM members, the Sherwin-Williams® Roofing Passport is a groundbreaking platform that simplifies metal roof estimation and ordering. As a fully automated program, this digital platform enables project estimation in one click. The Sherwin-Williams Roofing Passport creates a powerful link between EagleView's highly accurate roof measurements and SmartBuild's automated estimation software, creating an easy-to-use bidding platform.

Learn more at www.drexmet.com



2021 TOP PRODUCT WINNERS



tinctive for its broad seam width, impressive structural capabilities, and easy Snap Lock installation. Featuring a 1-3/4" seam height, this continuous interlocking engineered roof system has a concealed fastener and clip application that allows thermal movement and requires no mechanical seaming to ensure weathertight integrity.

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Installation

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Drexel Metals operates several manufacturing, sales, fabrication, and distribution locations throughout the United States. Drexel also extends its fabrication capacities to our local DM-ARM members, who are authorized fabricators, certified installers, and distributors. Projects are site-certified and protected by Drexel Metals' industry-leading warranty programs. For more information, please visit www.drexmet.com.

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Vibrant Dynamic Blue Snap-Clad metal panels brighten the playful roof shapes and walls of two interior courtyards, invigorating this mixed-use building that houses a Chicago Public Library, childcare center and community meeting space.

Altgeld Family Resource Center, Chicago Installing contractor: Progressive Dynamics Architect: KOO LLC
Owner: Chicago Housing Authority Photo: hortonphotoinc.com



Snap-Clad

Metal Roof and Wall System
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View the
case study
and video



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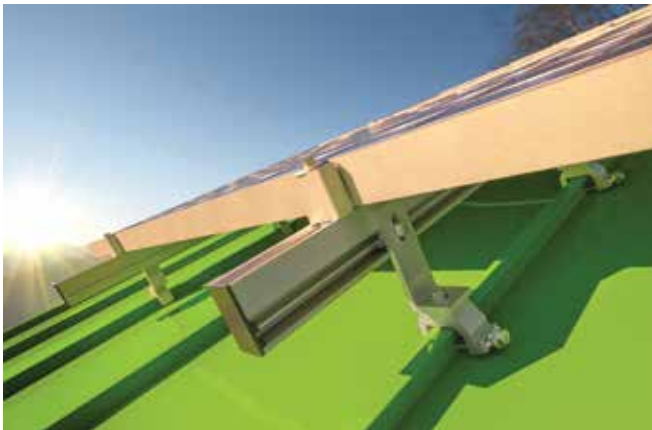
2021 TOP PRODUCT WINNERS

is generated. Premium HT provides waterproofing protection before, during and after installation of the final roofing system. Product features a 3" self-edge to ensure a secure, monolithic seal between courses. The membrane is self-sealing around fasteners and has a slip-resistant surface. The 60-mil underlayment comes in a 36" x 67' roll size, has 180-day UV exposure rating and a 30-year warranty. Premium HT Tile & Metal meets the requirements of ASTM D 1970, TAS 103-95, Florida Building Code 11842 and is Miami-Dade County approved. For more information or to request a FREE sample, call 800-882-7663 or visit www.mfmbp.com.

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Solar Attachment from AceClamp

Nowadays, many contractors are having a difficult time finding qualified help. When staffing is an issue, and you're looking to reduce labor costs on a job, you can rely on AceClamp®. Our Solar Snap pre-assembled components and snap-fit design not only saves on labor costs but gets you on and off the roof faster, making it potentially a best-in-class product for the industry.



AceClamp® manufactures precision-engineered snow retention and solar mounting systems, like our fast-installing rack-less Solar Mounting Kits. If you live in an area of the country with unpredictable weather such as high winds or hurricanes, you can count on Solar Snap™ to secure your solar array to the rooftop. Solar Snap is a robust high-wind racking system built to meet the rigors of Hurricane winds up to category 5.

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www.aceclamp.com

4350™ Metal Roof & Siding Construction Sealant by Geocel

Geocel's 4350 Metal Roof & Siding Construction Sealant is a high-performance, chemically curing (reacts to moisture in the atmosphere to cure) hybrid sealant that provides a strong, long-lasting bond to a wide variety of roofing and building material substrates. These include PVDF, SMP, and polyester-coated steel, bare galvanized, Galvalume® metal panels, aluminum, copper, skylights, glass, brick, block, wood, and vinyl siding. Geocel 4350 is permanently flexible to move with the substrates through challenging weather conditions, passing ASTM C-920 Class 50 (expands and compresses 50%). Geocel 4350 can be applied in extreme wet conditions, even down to 0°F.



Geocel 4350 is available in 23 colors to span the wide variety of colors available in today's metal roofing market. If needed, 4350 is paintable with high quality acrylic or latex paints.

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For over 40 years, the Geocel brand of caulks and sealants has given professional contractors an advantage with every job they finish. They know the performance they expect will be there every time, and every product will deliver solid results that support their goals of saving time, lowering costs, and, most importantly, no callbacks. Enjoy peace of mind and pride in realizing the workmanship of a job well done. Whether it's for tough construction or repair applications, Geocel products perform as promised and as expected. We work side by side with professional contractors to develop products they enjoy working with and ensure that each product has the performance characteristics they need and want.

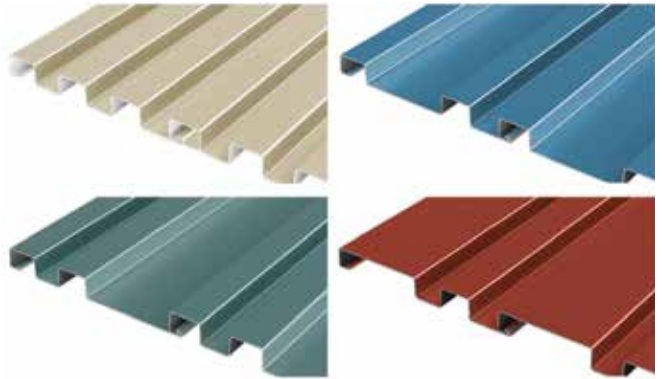
2021 TOP PRODUCT WINNERS

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Box Rib Panels from Petersen

Petersen's PAC-CLAD Precision Series wall panels now includes the Box Rib line. The four new Box Rib wall panels feature 87-degree rib angles and a variety of rib spacing patterns. The Box Rib architectural wall panels are 1-3/8 in. deep with a nominal 12-in. width. Architects and designers can specify one of the four panel profiles or combine multiple Box Rib panels on the same surface to create custom patterns of ribs and valleys. Petersen's Box Rib panels are ideal for practically any structure that requires exterior wall cladding such as schools, hospitals, banks, sports facilities, office and industrial buildings, and most other nonresidential applications, but also residential buildings. Each of the four Box Rib profiles is offered



in a no-clip fastener-flange option, or a clip-fastened panel to accommodate thermal expansion and contraction. They deliver design flexibility while combining bold visual effects with easy, cost-effective installation.

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STATE OF THE INDUSTRY

Industry insights from metal roofing manufacturers and suppliers



By Metal Roofing Magazine Staff

PHOTO COURTESY OF S-51

The challenges we've seen over the last two years persist. It seems we can't see a day pass without hearing about supply chain disruptions, price increases, and labor shortages. We reached out to metal roofing suppliers, including the manufacturers of the Top 10 Products of 2021, for their reflections on the year 2021 — and their opinions of what may come to be in 2022.

ATAS International • www.atas.com

Lee Ann Slattery shares ATAS International's view on the challenges and opportunities of the past and coming year. When it comes to the biggest challenges that construction-related businesses will face in 2022, Slattery says, "I think that material availability is still going to be a challenge, which then, of course, affects the cost of materials; but I do not think it will be as bad as it was in 2021. The challenge will be mitigated with more materials being manufactured in the US, which will decrease the lead times of materials and avoid the costs of ocean freight and tariffs. With more material production within our country, that should also have a positive impact on lower costs.

"I think the biggest challenge in both construction and manufacturing is the labor shortage," she continues. "Even

though the unemployment rate is decreasing, there are still many people retiring or otherwise choosing to leave construction and manufacturing. Our country needs to focus on training programs for these jobs, starting at the middle and high school levels. The stigma against trade schools, versus college, needs to be overcome. Most positions within construction and manufacturing are good paying jobs, and students can begin their career with little to no student loan debt. Many people within the trades quickly move into higher level positions, and some start their own businesses. We are also starting to see more women working in these industries, which will set the stage for even more women entering those positions."

It's important to get involved whenever and wherever you can. "Regarding the labor shortage in our industry, I would encourage people to support our youth in exploring career options within construction and manufacturing," she says. "This can be done through getting involved in the local trade and vo-tech schools, offering internships, and participating in career fairs. Many STEM (Science, Technology, Engineering, and Mathematics) camps occur all over the country, and some seek volunteers; the ideal volunteer is working in those areas, to share their experience with the students. I've been involved with our local 'Let's Build

Construction Camp for Girls' since its inception in 2017. This annual camp is free to middle and high school aged girls who want to learn about construction and manufacturing. It's great to see these young women grow in a short period of time, not only in their skills, but also in their self-confidence. There is nothing better than the excitement on a girl's face after she wires a light and then flips the switch to see the light come on!"

Slattery points out the manufacturing sector continues to be strong, and a key to overcoming supply chain issues is bringing more manufacturing back to the US. "The manufacturing sector of nonresidential construction in 2021 was the largest by far, compared to other sectors. More production facilities are being built in the United States to combat the supply chain issue of obtaining materials manufactured overseas."

When it comes to strategy for 2022, don't take your relationships for granted. "Building and maintaining strong relationships with your suppliers can help in these difficult times," Slattery advises. "Even though there will still be issues with costs and availability, those long-term suppliers will remember your loyalty, and will try to help expedite things whenever possible. If a contractor has always shopped around for the lowest possible material price for many years, without concern for the service, reputation, quality, and reliability of a supplier and the value those attributes bring, it will be more difficult to obtain materials as availability challenges occur."

McElroy Metal • www.mcelroymetal.com

Labor challenges are a common theme from builders around the country. Labor has been a challenge for several years now, and unfortunately builders will probably be challenged again in 2022. Fortunately, it appears that colleges and associations, such as the NFBA, are encouraging the construction trades as career choices and developing curriculums and tools to help train and educate.

Ken Gieseke, Vice President of Marketing at McElroy Metal, states they continue to see growth in the residential metal roofing segment. "Homeowners are becoming more educated about the benefits of metal roofing and have grown tired of regular replacement of conventional shingles. Metal roofing market share has grown the past several years, so more and more homeowners are being exposed to metal roofing, getting educated about metal roofing, and then installing metal roofing on their own homes."

This positive state of affairs gives Gieseke hope for the coming year. "We remain optimistic and believe the construction market will have another solid year in 2022," he says.

MFM Building Products • www.mfmbp.com

Price increases for raw materials have definitely affected customers, according to David Delcoma, Product Marketing Manager at MFM Building Products. The company is not known for issuing price increases throughout the year, but 2020 and 2021 were a different story. "Every raw material we purchased has been subject to multiple price increases. Everything

from the key ingredients in our mastic down to the packaging supplies have seen increases," Delcoma explains.

MFM is betting on the construction industry going strong in the coming year. Delcoma says, "MFM foresees another strong year in the construction industry, both residential and commercial. The slowdown may occur in 2023." Of course, unforeseen outside forces can affect the industry. Delcoma put it this way: "For most manufacturers of building materials, natural disasters like hail, tornadoes, flooding, and hurricanes can drive product demand. Of course, these cannot be anticipated, but can have a major impact on the construction industry."

Throughout 2021 and 2022, product availability for builders and the corresponding increase of those items were a major hindrance to the construction industry. Delcoma continued, "At MFM, we understand the value of being able to deliver the product at a competitive price. We anticipate that builders will still be subject to longer lead times in 2022. However, MFM has placed a major focus on having inventory in stock for 2022. Builders need to anticipate these delays and work closely with their distributors to ensure that product is available when needed."

Delcoma has further advice for builders: "Focus on product quality, availability, and cost. We've seen many projects waiting for months on one or two products that were delayed. A local house sat for over 12 weeks waiting on the windows and doors to arrive. Nothing else could move forward until these items arrived. A builder needs to be conscious of these unknown factors."

Changing prices may cause difficulties for builders in the next year. "Some raw material pricing has leveled off during 2021 Q4," Delcoma says, "whereas others seem to be just beginning. What is unfortunate is that many raw material suppliers will pass on an increase with very little warning, which hurts the manufacturer, distributor, contractor, and ultimately, the consumer. Our suggestion is to assume that pricing will continue to increase and operate under that premise. Some customers have increased their orders to ensure product availability."

Overall, MFM appears poised for good things to happen in the industry. "MFM underwent a 2021 Expansion Project to significantly increase our manufacturing capabilities for 2022. This in-excess of \$10 million dollar project includes a new warehouse facility, production equipment, support equipment, a new fulfillment center, and state-of-the-art Research and Development Laboratory."

Besides facility expansion, MFM has other big plans in store. "MFM plans on introducing several new products in 2022 through our new Research & Development Laboratory. We are not at liberty to say what these products will be at this point," Delcoma says, "but suffice to say that it will give our customers a wider selection of product offerings. MFM is unique in that we supply a complete envelope of waterproofing products from the rooftop to the foundation. These new product introductions will complement our existing product offerings."

COVER STORY

Petersen Aluminum • www.pac-clad.com

Mike Weis, vice president of sales and marketing at Petersen Aluminum, says, “Builders will face many of the same challenges in 2022 as they did in 2021. The flipping of the calendar to a new year will unfortunately not wipe away the conditions that have existed over the past two years. Supply disruptions will continue, inflationary pressures will impact everyone, labor shortages will persist, bottlenecks in shipping will remain, and demand for more metal will come from all segments of the world markets. Builders can mitigate these by being open and communicating realistic expectations with full transparency to their customer base. Many have also learned that contractual steps can and should be taken to better protect them from the risks that are out of their control.”

S-5! • www.S-5.com

2021 A Year of Turning Problems into Opportunity

Instead of looking for problems in the midst of the pandemic, we looked for opportunity. That opportunity was (and still is) out there—to respond to the near term, manage differently and plan for the longer term. Just shift thinking, re-direct resources, re-invest and prepare for the (new and increased) demand.

Within the health crisis, we got creative with our sales process and came up with new ways to stay in front of customers, educate and train them. We used the time to survey our customers and gather some insightful feedback. We expanded our marketing efforts, improved our processes and invented new things.

At the onset of this pandemic, we learned what to do and not to do; we gained knowledge and understanding of how to plan better for the future. Most importantly, we prepared for the pent-up demand we had predicted. It isn't rocket science but only requires some common sense. We were ready to respond.

Construction Up or Down in 2022?

The increase or decrease in the rate of construction has much to do with the fiscal policies of the Fed, the government in general and what happens with the Build Back Better Act by the time it works its way through the U.S. Senate. These are all external forces beyond our control.

Our economy is in a very volatile state because the Fed and administration are being irresponsible with the supply of money. The Fed sets interest rates to control inflation. But not now. Inflation is rampant and the Fed keeps suppressing interest rates. A lot depends on public policy regarding money supply.

The other issue is the dollar losing value (you only need to go to the supermarket for proof), but other currencies are losing value as fast or faster. It doesn't seem to be slowing things down as consumer credit is expanding (and spending along with it). There was such a pent-up demand from 2020 when it was hard to get anything built, so businesses and families are doing what they have to do—buying what they need regardless of cost.

Supply Availability and Costs Going Forward

At S-5!, we have seen cost escalation and constrained availability like we have never seen in five decades—mostly to the fallout from the pandemic. Companies had shut down production and inventories became decimated. Extreme weather events in 2021 also did not help. The response from buyers was some degree of over-reaction. Spontaneous reactions propelled by fear and fueled by federal debt burdens and cheap credit alter rational logic.

Throughout the course of the pandemic, steel production companies had major shutdowns. That's raw material at its source. Other mills beyond steel, like aluminum, stainless, lumber and consumer goods had shutdowns as well (both domestic and foreign). The result is an increase in demand along with



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COVER STORY

a decrease in supply. Because of this, “too much money was chasing too few goods” (Warren Buffet’s definition of inflation). Costs should begin to decrease by Q2, 3 and 4 2022 as raw material producers get geared up and freight channels loosen.

With the deceleration of construction on the heels of projects previously on hold and now being completed, several factors will work together to levelize costs and bring them down a bit. As far as supply availability, from a company perspective, we haven’t waited to find alternative sources. We have those sources on board now and are still able to maintain our long-standing relationships with key suppliers and customers. They understand our situation. They are in the same boat—trying to meet the demand. One of our key suppliers for raw material (we are one of their largest customers) recently said to us, “...help us out and find a secondary supplier because we just can’t meet your demand.”

The Labor Shortage

The labor shortage should improve in mid-2022 since the generous benefits provided by the federal government have ended. S-5! has experienced the labor shortage firsthand at our manufacturing plant with competition from government-subsidized income paying so many to stay at home. As a result,

companies like ours have had to shift and invest more in their people—providing growth opportunities, leadership training and job security. These are not bad things.

With that said, the hesitancy and low rates of vaccination among construction workers (as compared to other occupations) are likely to present some ongoing issues with labor shortages. We are not reducing our labor force but are further automating processes to reduce dependence on direct labor while re-assigning the labor that we have to increase production overall. In so doing, we are increasing efficiencies. Again, not bad things.

With a strong balance sheet and income statements, we have remained out of debt. And with some of the changes that the health crises precipitated, we will come through these times a better, more efficient company. Many others will as well.

Conclusion

Everyone is facing the same challenges: labor shortages, rising prices, and supply availability. Where you can stand apart is how you face and deal with those challenges. You never know ... you, too, may find opportunities in the challenges ahead. **MR**

The opinions shared are those of the suppliers, and do not necessarily reflect the viewpoint of Shield Wall Media.

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State of the Industry — From a Publisher's Perspective

By Gary Reichert, Publisher

One of the unique things about my position is I have the opportunity to regularly communicate with many people in different segments and strata in the construction industry. My conversations include marketing and advertising, but also other topics related to general and specific events affecting our world. The specifics of these conversations are always confidential, but it allows me to aggregate information relevant to our portion of the construction industry. Without violating confidences, here are some takeaways based on our surveys and my conversations. Please understand that these are opinions and anecdotes. The information is possibly inaccurate and is being presented for consideration only. Do not base any business decisions solely on opinions expressed in this article without verification through other sources.

In no particular order, some thoughts about the upcoming year.

Machinery and capital goods manufacturers are doing very

well. Demand is up and lead times are longer than typical. For some products lead time is running a year or more. Typical leads times used to be 3-6 months. This is good for the manufacturers and a sign of general optimism. These are expensive durable goods that depreciate over a period of years. A company is not going to make a large investment in capital equipment if they believe the economy will support the investment over time. A lot of people must believe the increased demand will continue for the next 3-5 years, or longer.

The supply chain is facing challenges at multiple levels with different underlying causes. Essentially it is a mess. Everything from shipping to labor shortages is affecting the availability of products. This creates short-term uncertainty and makes it difficult to forecast and predict cash flow. In larger companies this may represent a larger challenge and cause them to be conservative in the short term. With additional levels of management, reacting to change takes more time and there is a greater aversion to risk. Indications seem to be that this will lessen after first quarter.



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Generally the business climate is good and most people I speak with believe 2022 will be similar to or up from 2021. Most of the businesses experiencing challenges seem to be suffering supply chain issues and are unable to receive or ship product. Demand is high and the increased material and labor costs have not driven prices up to the point where it restricts demand.

Energy and fuel costs are an issue, but do not seem to be a

major damper on business as they are just passed through the supply chain to the end user, and the tipping point where it affects demand does not appear to have been reached.

The labor shortage is a continuing challenge. This may lessen, as the government is cutting back programs that subsidize workers staying home and COVID recommendations change. Interestingly, I read an article recently that asked, “How long can Americans afford to not work?” That topic being discussed in conventional media makes me hope that we are nearing the end of this obstacle.

Political instability, COVID policy, a looming election year, possible interest rate hikes and ongoing mergers and acquisitions introduce an aspect of uncertainty. As a rule, uncertainty limits expansion and capital investment, but our industry seems to be running counter to that trend, primarily because demand is high.

I am only in the business of making predictions about my own business. I would not recommend anyone taking my opinions too seriously. We have many reasons to be optimistic about 2022. The possibility of labor returning, shipping and supply chain issues resolving and high demand continuing may make 2022 a very interesting year — in a good way. **MR**



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Metal Shingles, Tiles, Shakes

Give your customers a traditional aesthetic with the durability of metal

By Karen Knapstein

For consumers who want or need the look of traditional roofing materials like shingles or tiles, yet desire the performance of metal, you can provide them with the solution in the form of metal shingles, shakes, or tiles. For example, if traditional standing seam or through-fastened metal panel roofs are prohibited by homeowner's associations (HOAs), contemporary metal shingles and tiles are convincing to the eye and may be acceptable.

Metal panels that look like shingles (shakes or tiles) are available from manufacturers who make the more commonly used metal panels you're familiar with. Let's take a look at a few of those manufacturers and a selection of the convincing "shingles" they offer.

ProVia
www.provia.com

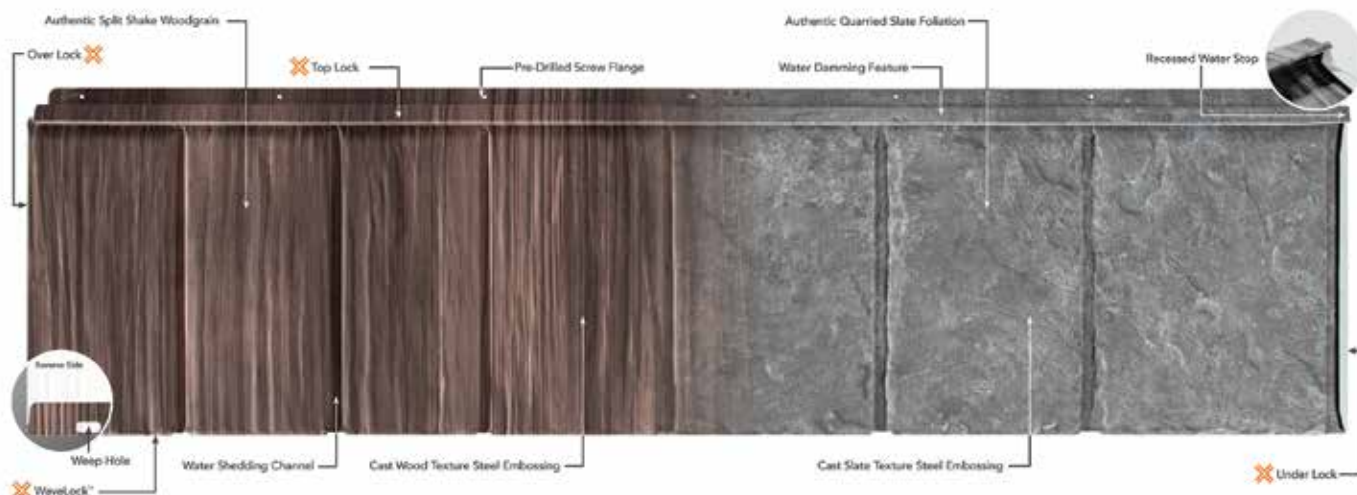
Entering the metal roofing sector just two years ago, but with a long



Residence roofed with ProVia Ironstone Slate metal shingle panels. Note the matching snow guards and their placement. PHOTO COURTESY PROVIA.

history of developing high-end building components, ProVia is a relative newcomer to the stamped metal panel market. The company offers premium stamped panel roofing systems in Shake

and Slate profiles, each available in four colors. The panels are manufactured from 26-gauge steel in Booneville, Mississippi. "We wanted to create a system that would help our customers differentiate



An up-close look at ProVia's premium steel Shake and Slate profiles. PHOTO COURTESY OF PROVIA.

PRODUCT FEATURE

themselves in the marketplace,” explains Scott Lowe, Sales Manager, ProVia.

To accomplish a genuine appearance of premium natural materials, the company turned to nature itself. The embossed texture on the metal panels is the result of casting molds from actual pieces of slate and wood shakes. “We brought in all kinds of colors and variations of slate and shake and incorporated all the nooks and crannies to make it the most authentic and real-looking steel system on the market today,” said ProVia’s Chris Baio.

The panels mimic the texture and variegated colors of the natural materials, while providing outstanding performance. The company’s proprietary GalvaTec™ four-part Kynar paint system, which utilizes Sherwin-Williams coatings, is fade- and chalk-resistant and provides enduring performance (with a lifetime warranty on the coating integ-

riety and a 40 year warranty against chalk and fade). And, when installed correctly the system meets and exceeds the TAS 125 standard of 180 mph wind uplift rating and is approved for High-Velocity Hurricane Zones within Florida, including Miami-Dade and Broward Counties.

Where the convincing appearance and prime performance are top priority for the consumer, the ease of installation and manufacturer support are prime considerations for the roofer. “When we were first starting,” explains Lowe, “we found that the number one reason why roofers didn’t want to get involved was the installation aspect. We created additional tools and methods that speed up installation time and make the system more user friendly.”

ProVia manufactures its metal roofing panels from 26-gauge steel, which makes for better walkability than roofs

made with thinner-gauge metal shingles. Requiring 24 panels to cover a square, the 50” x 12” (visible) panels install quicker than traditional shingles. Ready to install right out of the box, certified roofers use galvanized 1” #10 screws to install the panels from the eaves to the ridge, and left to right. “We recommend sealants around flashings and for trims more than anything,” explains Lowe. “The panels themselves don’t need sealants thanks to the 4-Way Locking System.”

The company provides starter strips and trim kits so the roofer has to do less hand-fabrication. “We’ve made one of the most comprehensive trim kits on the market,” Lowe continues. “We’re thinking about the installer. Rather than having to fabricate all the pieces for a job, we’ve done it for them. For the most part, we’re eliminating a lot of hand-work for the installers.” Trim kits are made from

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PRODUCT FEATURE

28-gauge steel, so when installers do need to fabricate, it's easier to work with. Their proprietary tools, including the Valley Bender Tool and the Valley Taper Tool, are designed to make installation easier for roofers.

When asked if snow guards were still necessary with the panels, which have more texture than standing seam panels or profiled through-fastened panels, Lowe explains, "You have to follow code. Some people want them, some don't. We have a proprietary snow guard ... Two, actually." They are diamond-shaped and are made from the same 26-gauge metal and print as the panel, so the guards blend in from the curb. They are installed as the panels are installed since the guards are attached using a screw flange that is built into the panel.

The premium roofing system deserves a premium underlayment. The company recommends Sharkskin®. "Sharkskin is great stuff," says Lowe. "You're not going to find a better underlayment on the market. For a system like ours, you have to use a high-temp synthetic underlayment. That's extremely important." Around the edges and any water penetration points, they recommend Ultra SA. The minimum recommended slope is a 4:12 pitch over Sharkskin Ultra, or a 3:12 pitch over Sharkskin Ultra SA.

Lowe also cautions installers should not use accessories that contain copper or lead with ProVia's metal roof system; the metals are incompatible and will cause panel failure.

Certified Installer Training Program

Only companies that have participated in ProVia's installation certification program are able to buy and install their metal roofing products. This assures both ProVia and homeowners that their metal roofing is installed as it was engineered to be. "Roofers travel to the ProVia facility for hands-on training," explains product manager Kurt Mohn. "We have a training room with mock roofs set up. Our guys are going to show every step, and then every trainee has

their own mock roof for hands-on installation." The company doesn't just show a PowerPoint presentation and send their new partners on their way. "They're going to be doing everything at our facility – including installing all the trims."

Lowe adds: "When we have a new customer and they're installing on their first home, we'll send a trainer out to help that new partner. We're big on partnership – not transaction."

McElroy Metal
www.mcelroymetal.com

McElroy Metal, Inc. offers specialty panels that replicate the appearance of tile, shingles, slate, and shake. Their

or wood shakes by using an embossed texture and low gloss, Kynar 500/Hylar 5000 (PVDF) coatings. The product warranty is a 30-year term against fade and chalk, and a 40-year term for the integrity of the finish (coverage includes, but is not limited to, delamination, chipping, and cracking).

The shingles are manufactured in a stamping press from 29-gauge G90 galvanized steel. Coil is fed into a press and run through stamping dies to form into the final shape, which includes a four-way interlock system.

Milan shingles are installed, from left to right, eave to ridge, using standard metal roofing tools including hand seamers and brakes. (Use chalk lines to keep courses straight.) The steel shingle



McElroy Metal offers Met-File panels that emulate the look of ceramic tile. The Fluoropon® PVDF coatings resist fade and chalk. PHOTO COURTESY MCELROY METAL

Milan metal shingles provide the aesthetic of shingles, slate or shake. Met-File roofing panels look like ceramic tile. Both provide the benefits of metal; they are long-lasting, quick to install, add to a roof system's overall fire resistance, and more.

Milan steel shingles are offered in eight low gloss, Kynar 500/Hylar 5000 (PVDF) colors, as well as several designer prints: four colors of Slate and three options for Cedar Shake. The premium Slate and Shake lines emulate traditional slate

exposure is 39" x 12", so it takes 30 tiles to cover a square.

Each shingle includes a continuous integrated nailing flange, through which at least five evenly spaced fasteners should be used. Recommended fasteners are 11-gauge hot-dipped galvanized or stainless steel nails or #12 stainless steel pancake-head screws with threaded points. The shingles can be installed over existing asphalt shingles (if it is a single layer) or over a solid deck. A minimum slope of 3:12 is required.

PRODUCT FEATURE

To complete the Milan roof system, McElroy also offers matching factory-formed accessories, including drip edges, gable trim, valley flashings, hip and ridge caps, and more.

General installation guidelines recommend using a minimum of one layer of nail-down or peel and stick underlayment (felt or synthetic). In areas with heavy ice and snow potential, use an ice and water shield or similar underlayment above overhanging eaves plus 2' past the exterior wall line.

While it's not a shingle, it's worth taking a look at Met-Tile, also offered by McElroy Metal. These roofing panels provide the appearance of ceramic tile roofing with all the advantages and performance of metal with which you're familiar. It's lightweight, energy efficient and aesthetically attractive. Since Met-Tile is a panelized roofing system,



Courses are staggered, avoiding a direct repeat of likes in successive courses. Shown here is Milan Gray Slate from McElroy Metal. PHOTO COURTESY MCELROY METAL

installation takes a fraction of the time required for ceramic tiles. Like the Milan shingles, Met-Tile panels are installed vertically from eave to ridge and are

secured to the deck with fasteners.

Met-Tile panels are manufactured in lengths from 2' to 20' (in 1' increments), and have a visual coverage of 36 3/16".



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PRODUCT FEATURE

The substrate is 26-gauge Galvalume; the panels are coated with a low gloss, Kynar 500® (PVDF) finish that looks like ceramic tile.

According to McElroy, Met-Tile is frequently used to reroof existing residential roofs and can be installed directly over existing shingles. (Often, a #30 felt underlayment is installed over existing shingles.) It should go without saying, but always check and follow the required building codes.

Now that we've covered a few steel products, let's take a look at an aluminum shingle.

ATAS International www.atas.com

When the old diamond-shaped asbestos shingles began to fail on the Cornerstone Bible Church in Glendora, California, CastleTop® was chosen as a replacement. The shape of the aluminum panels resembled the original shingles, which was an important factor when making the decision of a replacement roofing material. The owners also loved the idea of the longevity and durability of a metal roof, along with the fire resistance of the panels — a concern due to the southern California location of the church.

While individual shingles may take longer to install, this example shows how roofers can create distinctive and unique looks with the smaller component. Installed over a solid wood deck with hidden fasteners, two colors, Rocky Grey and Charcoal Grey, were used together to create the pattern on the roof. The CastleTop shingles complement the church's natural stone walls. Prior to the building's opening in 1931, members of the church mined rock quarries in the mountains above the citrus farms of Glendora and brought down large stones, out of which they built the Cornerstone Bible Church.

Manufactured from .032 aluminum, CastleTop shingles cover 13 ½" x 13 ½", requiring 78 shingles per square. In some cases, the shingles may be applied directly over the old roof, eliminating the need for tear-off and disposal of the old roofing material (depending on local building codes).

An expanded polystyrene backer board gives the shingle enough strength to allow for foot traffic during installation. These aluminum shingles have a turned-down edge on the front and a turned-up edge on the back for double sealing protection. The minimum recommended roof slope for CastleTop metal shingles is 3:12.

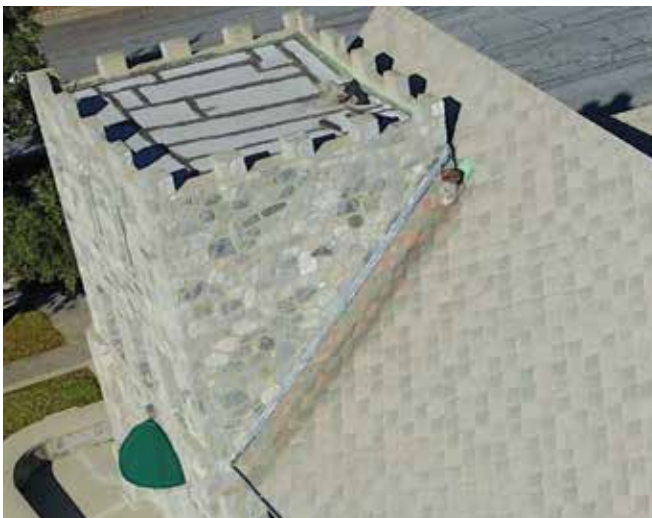
These aluminum shingles are avail-

able in more than 40 stock colors in 70% PVDF. An anodized finish is available in Clear Satin or Dark Bronze. Copper and zinc shingles have a natural finish. The shingle texture is stucco embossed for aluminum, while copper and zinc have a smooth texture. A complete line of trims are available in matching colors, gauge, and finish (or as specified).

ATAS International has locations in Allentown, Pennsylvania; Mesa, Arizona; and University Park, Illinois. They provide roofer support with installation details, videos, and a large team of knowledgeable product representatives and technical advisors.

Conclusion

Stamped metal shingles provide roofers with the opportunity to meet their customers' needs when those customers need or want a more traditional look. Installers are always encouraged to communicate with manufacturers to get their prescribed shingle installation method, as well as for flashing and detail elements of the roof. The manufacturer should have all those published and available, so you have the details you need to install a great-looking metal shingle, tile, or shake roof. It can't be stressed enough to always follow manufacturer specifications; every product will be a little different. **MR**



When the old asbestos diamond-shaped shingles began to fail on the Cornerstone Bible Church in Glendora, California, ATAS International's CastleTop diamond shingles were chosen as a replacement. (Recommended minimum slope of 3:12.) PHOTOS COURTESY OF ATAS INTERNATIONAL.

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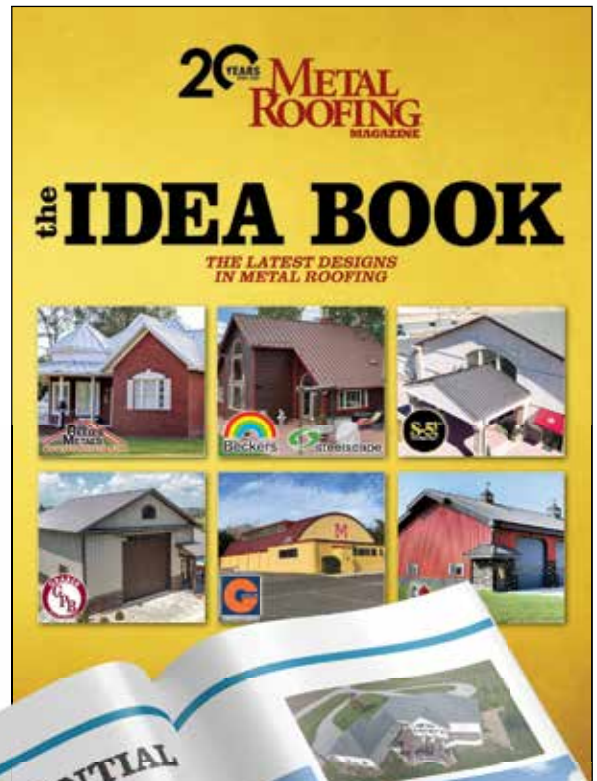
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METAL ROOFING[®] MAGAZINE

Idea Book

**PROJECT
DEADLINE:
MARCH
1ST**



Do you have a special building project to share? Show readers what you can do!

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

The Idea Book is a special issue of *Metal Roofing Magazine* that features unique projects ranging from equine facilities to courthouses, schools to residential houses. The publication is sent to 27,000 *Metal Roofing Magazine* subscribers, as well as distributed at industry trade shows.

The Idea Book will take into consideration: projects featuring metal as the main material, to serve as inspiration for architects and builders.

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!

Feel free to contact us with any questions.

Thank you in advance!

Please fill in all fields relevant to your project or scan QR code below to fill out electronically and send completed form to:

Linda Schmid at linda@shieldwallmedia.com or
Karen Knapstein at karen@shieldwallmedia.com

Shield Wall Media, PO Box 255, Iola WI 54945



What we need:

PHOTOS OF THE COMPLETED BUILDING

at least 3-4 photos (high resolution: 300 dpi)

For tips on great building photos read Jeff Huxmann's article:
<https://garageshedcarportbuilder.com/how-to-take-great-shed-photos/>

ALSO NEEDED ARE THE FOLLOWING DETAILS:

Your Company Name: _____

Website: _____

Building type (home, school, etc.): _____

Building size: _____

Building location: _____

Architect: _____

Contractor(s): _____

Installer(s): _____

Building system manufacturer (if applicable):

Roof panel: _____

Coating: _____

Ventilation: _____

Fasteners: _____

Snow/rain management: _____

Underlayment: _____

Insulation: _____

Other: _____

PRODUCTS USED

General description of the project:

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

GENERAL DESCRIPTION

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Chapters include: *Metal Roofing Essentials, Climate, Facts, Factors, Fashion & Financing, Look Before You Leap and an Inspirational Gallery* full of the gorgeous, quality completed-project images that motivate serious customers to buy.

Our Affiliate Program allows you to customize the book to include content specific to your business. One of your pictures will even be on the cover. Use ***Pro Tips On: Your Metal Roof*** to educate your prospects and build you own credibility as a renowned and reputable metal roofing company.

CONTACT TRACY SCHUBERT FOR DETAILS:
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- 144 Pages
- Written by industry experts
- Checklist for customers to evaluate their roof needs
- Gallery of beautiful, completed metal roof installations
- Coverage of need-to-know basics, climate factors, myth fact from fiction
- Warranties protections explained
- Beneficial contract inclusions

How to use Pro Tips On Series as a sales and marketing tool

The *Pro Tips On* series puts roofers, contractors and builders in a unique position. Our Affiliate Program puts you and your business in a professionally produced digital or print book, even including one of your pictures on the book's cover. This book can help close more business.

How many of your prospects get excited about the project, provide a quote and then you cannot close or lose to a competitor? If that is too familiar, these books may help bridge the gap.

Any sale has an emotional and an intellectual component. The emotional component is simple to see. You help the customer develop a picture of what they want and let them see themselves take ownership of the finished product. This is a huge part of the sales process. It is the reason why many manufacturers launched visualizer programs. It helps people see their dreams and makes them real. This step of making a positive end real is necessary to get people to agree to a sale. This part of the sales process is something a good salesperson controls.

The problem comes when the prospect leaves and thinks about the project. This is where control of the sales process is lost and the intellectual portion of the sale starts. Once offsite, they begin to examine what they see as facts. What does it cost? What are the mechanical specifications of the products? What is the warranty? What is the reputation of the contractor? When can the project be completed? Does what they want work with third parties like banks, insurance companies and Home Owners Associations? All of these questions are asked and compared to the information provided by your competitor.

The key to success is controlling what happens when the prospect goes home



with a proposal. There are three parts to controlling the client's internal dialog after they leave.

1. What questions does the consumer ask?
2. What are the answers to those questions?
3. How credible, reliable and complete does the consumer see you and the information you provide?

Pro Tips On addresses all those needs.

1. What questions does the consumer ask?

One huge obstacle is prospects not knowing what to ask and how to distinguish between a good end product and a substandard one. Without that knowledge prospects look to price as the primary metric.

Pro Tips On provides information from recognized industry experts. It goes through the features of the subject exploring important elements and identifying which ones are less so. Knowing which questions customers will likely

ask allows you to tailor the information you provide so you can either address the questions before they are asked or provide context so that the customers understand the questions.

2. What are the answers to those questions?

There is an expression in sales that says you never ask a question if you don't know the answer. To know the answer, you need to know where the consumer's research will lead them.

Pro Tips On educates the consumers by providing information and data that answers their questions.

3. How credible, reliable and complete does the consumer see you and the information you provide?

Consumers have an ingrained tendency to question information from someone selling them a product or service. There is an inherent conflict of interest between the seller and the buyer. It does not mean the seller is being dishonest, it means the buyer has a legitimate concern regarding the veracity of the information sources and claims from the seller.

Pro Tips On is information from a 3rd party source. The source of the information has been publishing for builders and contractors for over 50 years, and does not have a vested interest in the sale. A 144-page book is obviously more complete than simple handout literature, so it can be seen as an actual resource.

The ability to include a brief writeup about your company and pictures enhances your own credibility as a resource worthy of being in an actual book.

Pro Tips On Affiliate Program builds your status as a recognized contractor, helps consumers decide which questions to ask and provides answers directly to your prospective customers.

BUSINESS BUILDING

The best asset for a quality product is an educated consumer. Consumers need to know enough to distinguish between offerings. Providing the information necessary to make that distinction is the objective of *Pro Tips On*.

If you provide a quality product, your next questions will be the details of how you can utilize the *Pro Tips On* Affiliate Program to create a competitive advantage.

Pro Tips On is distributed as a Shield Wall Media Product, sold directly to consumers digitally and hard copy.

It is also distributed through the affiliate program by builders, contractors and manufacturers. Affiliate program copies will be branded for the sponsoring companies and include a cover picture, text on the Introduction page and pictures in the Inspirational Gallery.

Affiliate Editions can be bought in bulk for hard copies, in bulk as digital downloads and/or sold by affiliates through a link where the affiliate receives a commission.

In addition to the actual books, a marketing plan is included for the books. The marketing plan is an ongoing project and will be under constant revision. Please remember this is a new project for us and will assuredly change as we learn more about the individual markets and how our affiliates use the books. The marketing plan includes print ads, press releases and other marketing collateral to support the books.

Some potential ways to use *Pro Tips On*:

- Give the books free (digital or print) and use the requesters as lead generation
- Sell the books through a link and take the commission as an additional revenue source
- Use the books as hand out literature to high value prospects
- Brand the books as a manufacturer to support your dealer, distributors and contractors
- Use the book as a textbook to host an "Introduction to" type seminar in your area for lead generation
- Donate copies to areas following

weather damage as a public relations move

- Provide the book as a resource to introduce the subject to zoning committees and Home Owner Associations.

Feel free to contact Tracy Schubert tracy@shieldwallmedia.com to request

more information regarding the Affiliate Program and how you can use *Pro Tips On* in your business.

We are also interested in input on what we can include in the Marketing Program to create the most value for you. [MR](#)

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No Leaky Boots Allowed

Things to Remember When Installing Rubber Pipe Flashing

It should go without saying that the purpose of a roof is to protect the interior of the building from the elements, so you should avoid putting a hole in the roof. At the same time, you know that sometimes it's necessary to put a hole in the roof.

Roof penetrations such as vent stacks and chimneys create a weak spot in the roof barrier that keeps water from infiltrating the building. Roof penetrations must be properly flashed to prevent water entry and the significant damage and destruction it causes.

In this back-to-basics product feature, we'll cover some of the details to keep in mind during the selection and installation of pipe flashings.

Avoid Dual Fixity

Metal panels move through thermal cycling. The longer the panel, the more movement there is. When installing a pipe flashing, avoid fastening into the deck to allow for the inevitable panel movement. If you fasten to the plywood deck, thermal movement of the metal roof panel will cause oil-canning in the roof panel — or worse.

To prevent pinning the panel to the deck, overcut the hole in the deck so you can drive the fastener through the flange and roof panel without pinning to the deck. Use the base of your pipe boot as a template to gauge how big to cut the hole.



Aztec Washer Company pipe flashings exhibited at Frame Building Expo 2022 in the ST Fastening Systems booth (<http://stfasteningsystems.com/>).

Avoid Intersecting a Seam

Before you install the panels, make sure roof penetrations will not intersect a seam. If the pipe will intersect a seam, move the vent pipe over a few inches and center it in the flat of the roof panel. Otherwise, a roof leak will be the result.

Carefully measure and mark the location of the pipe on the panel; cut a hole that allows at least 1" of clearance all the way around the pipe to allow the metal panel to expand and contract without

damaging the pipe. Depending on the region, if panels are longer than 30', you may want to elongate the hole.

Select the Right Size

Installing a pipe boot that is just barely big enough will eliminate the extra flexibility needed to accommodate the roof slope and movement of the roof panels that results from thermal cycling. Only use maximum pipe diameters on minimal roof angles. Aztec Washer, a leader



Aztec Washer is a leading manufacturer of pipe flashings. They offer a full line of products to "Seal It Right, Seal It Tight®." PHOTO COURTESY AZTEC WASHER COMPANY.

PRODUCT FEATURE

in the flashing industry, recommends using its Universal Master Flash® one size larger on steep roofs or if the roof panels have deep corrugations. To help take some of the guess-work out of selecting a pipe boot, the company developed its “Master Flash Roof Pitch calculator” [<https://rpc.aztecwasher.com/>].

Cut the boot 20% smaller than the pipe diameter for a tight fit. If you cut it too big, you won’t get a good seal; throw it away and start over with a new boot.

Use a stainless steel drawband over the flashing to seal around the pipe — especially if there is a risk of severe weather or heavy snow load. Use a sealant that is recommended by the metal roof manufacturer under the base of the pipe boot.

Fastening

To assure the flange has proper contact

with the panel surface, install fasteners with EPDM washers. Start by installing a fastener on each side, then work your way to the sides from the starting points. Fasteners should be no more than 1 1/2” apart. Center the fasteners in the aluminum base flange, and do not over-tighten.

Will It Last?

For hot pipes, such as wood-stove and furnace flues, use silicone pipe boots. EPDM won’t hold up to constant hot temperatures and will break down prematurely. Silicone pipe boots can withstand continuous high temperatures. Aztec Washer Co.’s EPDM Master Flash® products are tested to withstand +275°F (+135°C) with intermittent heat exposure and +212°F (+100° C) with continuous heat exposure. Their silicone Master Flash® products are tested to withstand

+500°F (+260°C) with intermittent heat exposure and +437°F (+225° C) with continuous heat exposure.

Details positioned on a rooftop are blasted by UV light; black EPDM flashings or state-of-the-art silicone flashings are made to withstand the beating. Aztec Washer’s Master Flash® products are made of EPDM or high-temperature silicone. These roof pipe flashings are compounded specifically for maximum resistance to weathering due to ozone and ultraviolet light.

Conclusion

This is, by no stretch of the imagination, all you need to know about pipe flashing installation. As always, if you have questions about a flashing product or its installation, contact your supplier or the manufacturer. **MR**

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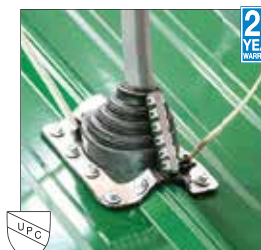
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20
YEAR
WARRANTY

Low-Profile

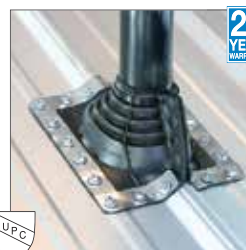
3 Sizes • EPDM or High Temp Silicone
Fits: 1/8 to 12-1/2” Pipes / Wires
Base Size: 6-1/4” to 16-1/2”
Overall Height: 5/16”



20
YEAR
WARRANTY

Multi-Port

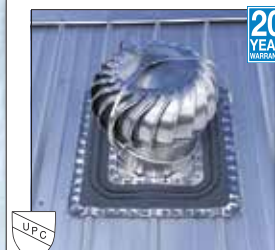
EPDM or High Temp Silicone
Standard Fits: 1/8” to 2-3/4” Pipes / Wires
Retrofit Fits: 1-1/4” to 2-1/4” Pipes / Wires
Base Range: 4-1/2”



20
YEAR
WARRANTY

Standard Retrofit

3 Sizes • EPDM or High Temp Silicone
Fits: 7/8” to 17” Pipes / Wires
Base Range: 8-3/16 to 21-1/2”



20
YEAR
WARRANTY

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Setting Up A Work Contract

By Tracy Schubert

Since no one wants to be responsible for unexpected expenses, contracts are a significant component in metal roof building. They protect both the consumer and the contractor throughout the construction period by creating a clear understanding of responsibilities including the gray space that may occur between preparation and when unexpected things happen on a job site.

Topics that are typically included in a good contract are materials to be used, money exchange, a timeline of construction, special work, permit and license procurement responsibilities and insurance, unforeseen job expansions and management of workers on site. There are many more items needed so all parties are on the same page for the construction period.

To ensure things are amicable make sure there is a clear understanding of the job description. For example, state the scope in full detail including what type of materials are going to be used and what happens to scrap at the end of the project.

The execution of a roofing job has many areas where potential problems might creep in. Existing problems within the residence can be present in a re-build and a new build so it is good to expect that and represent that possibility in your contract. Content of contracts often includes issues related to time, materials, finances, regulations, warranties and special jobs.

Make sure all areas of your contract are easily read. Anyone

who knows anything about contracts knows to read the small stuff first. It makes a better impression on the potential customer to create an easy-to-read document without the five-point type in a two-inch pile at the page bottom.

Make sure there is a clear understanding in regard to what is considered a reasonable response time when questions and issues arise. People need to know who to contact at your business to effectively start those conversations. There is nothing more frustrating than hitting a snag and feeling a lag in time being able to be heard.

People appreciate organization, a sense of fairness, and honesty. A work contract is the most significant place to convey a sound business impression. If you show responsibility and a mutual respect for the process it goes a long way toward making an attractive deal to a potential customer.

Checklist of key components to include in your contract:

☐ EXISTING ISSUES

Are there possible site issues that can be vetted going to be explored before work begins such as with venting and gutters?

Who is responsible for making that happen?

☐ INSPECTIONS

What will the inspection process responsibilities be?

What about re-inspections? Who sets them up?



BUSINESS BUILDING

❑ MANAGEMENT OF WORKERS

Who monitors the site?

❑ MATERIALS USED

What specific items are to be used for the job?

Are there additional overhead costs applied to the direct costs for supplemental wood or other materials by a contractor such as labor, demo, cleanup and disposal?

❑ MONEY ISSUES

How is money going to be paid?

Is payment due when materials are delivered to the job site upon delivery?

Are their up-front down payments required for special order/custom items?

Cost overruns are going to be handled how?

❑ PERMITS, LICENSES & HOA APPROVALS

Who requests permits and licenses and HOA approvals?

Who pays for them and when?

❑ SITE DAMAGE AND CLEANUP

How will damage and cleanup such as dumpster damage, stray nails and yard debris be handled?

What is the timeline for these being cleaned up after the roof passes inspections?

❑ SPECIAL WORK

What happens when unforeseen things become needed such as professional mold mitigation?

❑ TIMELINE ISSUES

Are start and completion dates in writing?

How will supply and demand issues impact the job?

During current times there are often issues that are out of people's hands. It is a good topic to navigate.

❑ WARRANTY

There are two warranties involved in a metal roof project: a manufacturer's warranty for defects and a workmanship contract from the contractor.

Does the manufacturer pay for both the materials and labor to fix the project?

Does the person doing the work agree to only perform work that is approved under the manufacturer's guidelines, so no warranties are voided by the installation?

How long are you, the contractor, warranting your work and for the roof to be leak free?

The issues mentioned are details that



will help contractors have better experiences with their customers and better outcomes on their job sites. The agreements in a contract serve as protection against litigation issues if problems develop during the project. It is a part of the long-term relationship you are building with your customer that is worth investing time in. If they have a positive experience, they are more likely to help you achieve a greater market presence through the positive word of mouth. People can understand better what they are facing and are often better able to navigate a challenging situation if they understand what is going to happen up front. Protecting your customer is protecting yourself. **MR**

Tracy Schubert is a book editor at Shield Wall Media, LLC. Schubert has edited more than a dozen books over the course of her career including the 2022 release, Pro Tips On Your Metal Roof.

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Fishing for Job Candidates? It Helps To Use The Right Bait

What does your ideal estimator, designer, sawyer, or production line employee look like — beyond their skills? Attracting the best candidates is a lot like fishing. You have to use the right bait. To get the right candidates' attention, first you must clearly define the knowledge, skills, the competencies, and the ideal behavioral and cognitive attributes you need in a role.

Defining the ideal behavioral and cognitive strengths required to be successful in your unique company culture, and then measuring how people fit (or don't fit) that ideal job model will help you make more effective hiring decisions and help your managers to better train and communicate with their people every day. As an example, Business Results clients

use job assessments to understand what your company needs strategically to accomplish your goals.

Here are three short examples of the job model and the behavioral language (the bait) we weaved to attract job candidates (the right fish) who are more likely to be successful.

Figure 1: This fast-growing firm is looking for an independent self-starter who is driven to proactively help resolve customers' problems. Every day is different with new opportunities to trouble-shoot issues to the best resolution for the client.

Figure 2: The successful candidate will be an assertive, practical problem-solver driven to get things done, quickly and

Figure 1

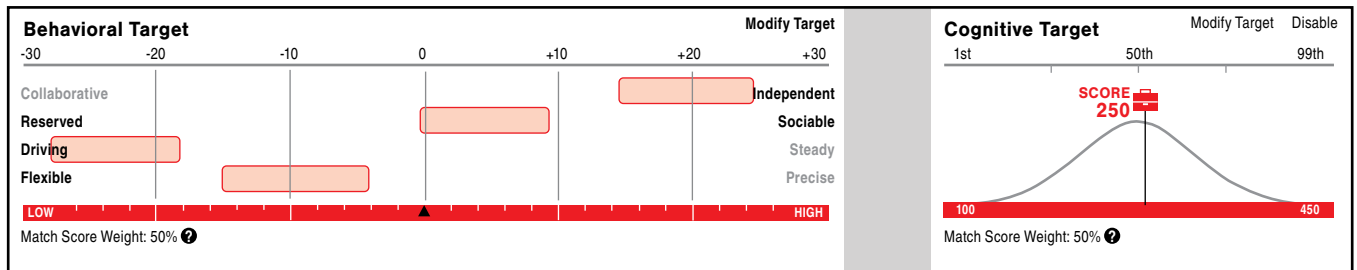


Figure 2

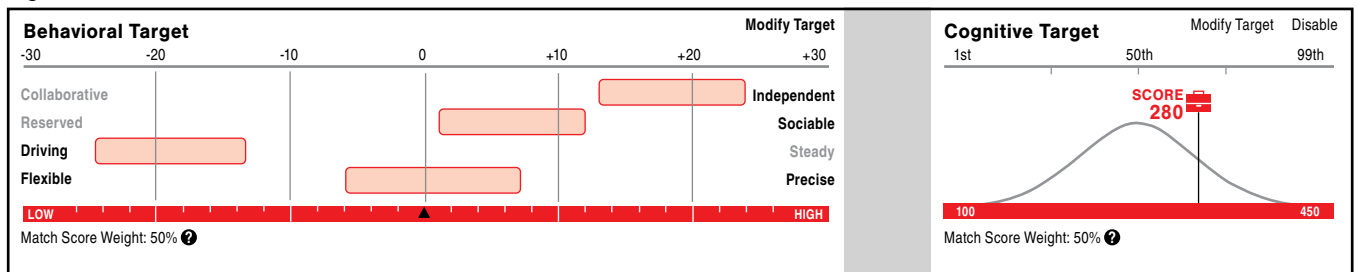
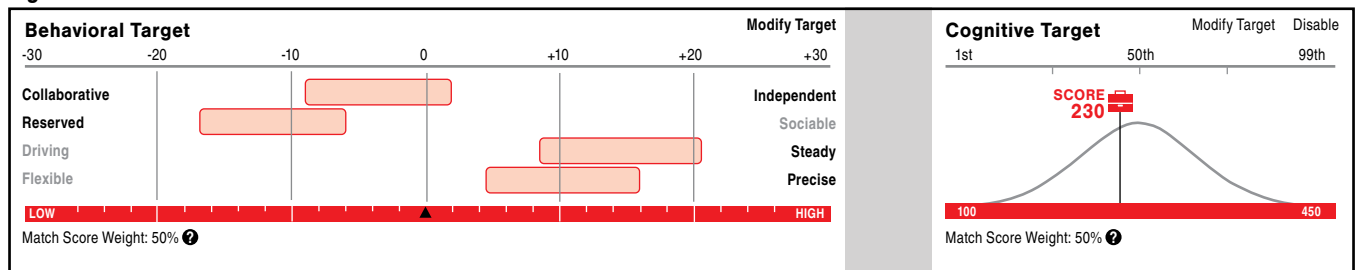


Figure 3



BUSINESS BUILDING

correctly. The duties of this job require a high degree of expertise and skill in maintaining established standards of quality and accuracy. Drive, determination and a self-disciplined approach are required to achieve expected results.

Figure 3: Are you a reliable team player? We need organized, supportive employees who will carefully adhere to very clearly defined tasks that result in the same outcomes every day. The successful candidates must have very strong attention to detail while working at a steady, consistent pace.

JOB DESCRIPTION BEFORE AND AFTER

Once you have an ideal job model created, adding that behavioral language into the job description to help attract candidates is critical. If you are using assessment, you'll want to gather both the behavioral and cognitive data of all candidates as soon as they apply to understand how they fit or don't fit to your ideal model of success.

Here's a portion of a recent Before and After the job description:

Job Description Before:

Ensure distribution and customer management and further expansion of sales activities in territory. Determine ways in which our company can help our customers grow.

- Collaborate with senior executives to create a sales and marketing plan to establish and execute sales targets for the region
- Network within the region to develop new leads and create and maintain customer relationships
- Oversee the regional dealers
- Create quotations and sales orders with required information
- Visit current and potential customers' facilities to learn their businesses and recommend products

Job Description After:

Independently ensure successful distribution and customer management while competitively expanding sales activities in territory. Determine creative and practical ways in which we can help our customers grow.

- Positively collaborate with senior executives to create a winning sales and marketing plan to establish and execute sales targets for the region
- Persuasively create new connections within the region by networking to develop new leads, and maintain customer relationships
- Oversee the regional dealers including goal setting, coaching, and practical performance management planning
- Create quotations and sales orders with required information and be able to fluently and articulately communicate the information with many different types of buyers and clients
- Frequently visit current and potential customers' facilities to learn their businesses and recommend products

MANAGE EFFECTIVELY

Each of the successful candidates for the above jobs are managed, motivated and communicated with very differently. One-size fits all management styles do not work. And because the Bureau of Labor Statistics data show that the Quits rate remaining consistently high, companies need to be very aware their rock stars might leave them if they aren't being properly managed. Managers and leaders at all levels must know how to best give direction, offer feedback and even give kudos to each person in a way that will positively charge them, rather than demotivate them. Do you know how to best work with, teach and guide each individual on your team every day? Training is the fastest way for your managers to drive your business objectives.

And it all starts with having a clearly-defined plan for workforce growth allowing you and your leadership team to more quickly achieve Business Results. **MR**

Dolly Penland, *President & CEO of Business Results* [<https://www.businessresultslc.com>], a PI® Certified Partner and Talent Optimization consultancy, and a CATIL® Certified Partner, works with organizations helping them to hire and manage their talent to their highest potential. She specializes in multiple areas including helping businesses grow sales, reduce turnover and develop leaders.



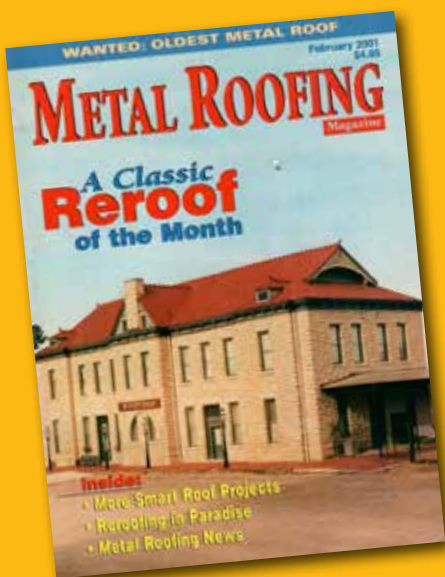
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February 2001 edition of *Metal Roofing Magazine*, the first stand-alone edition.

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.

Derek Hodgkin, a Forensic Engineer and author of the adjacent article, will be providing more interesting articles like *Caribbean Roofing 101*.

This article was published in 2001, but that wasn't the end of the story. In September 2004, Hurricane Ivan caused widespread damage in the Caribbean and submerged most of Grand Cayman. Hodgkin will update us on the rest of the story in an upcoming edition of *Metal Roofing*.



Designing With Metal

Caribbean Roofing 101

By Derek Hodgkin, P.E., RRO

I was recently given the opportunity to design a new roof for a resort property in Grand Cayman, British West Indies. My experience was pleasant, and the client is happy with the finished roof. However, getting through the project provided me with new lessons in roofing. I struggled at times, but I feel as though I have now graduated from *Caribbean Roofing 101*.

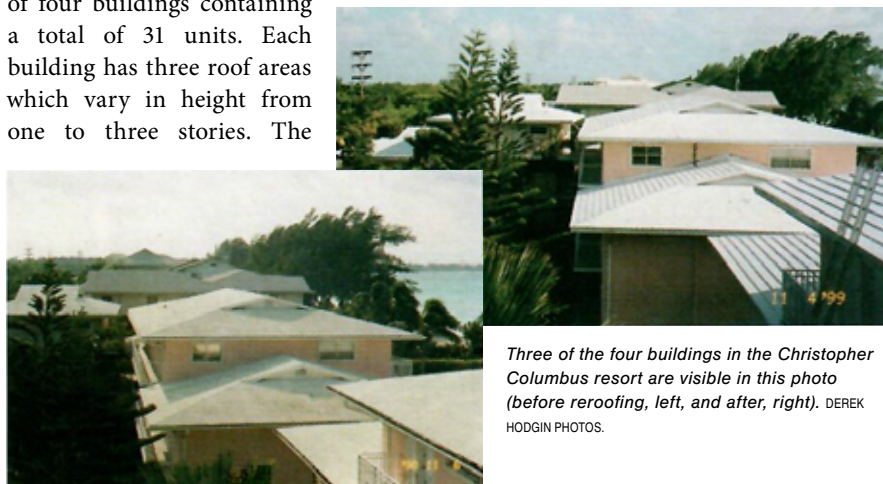
This story shares the highlights of my experience. I first flew to Grand Cayman in the fall of 1998 to perform my assessment of the existing roof and provide my recommendations for a new roof for the Christopher Columbus, a beautiful condominium resort at the north end of Seven Mile Beach.

The complex, built in 1978, consists of four buildings containing a total of 31 units. Each building has three roof areas which vary in height from one to three stories. The

roof areas are constructed in Dutch hip configurations with a 3:12 pitch. The total roof area of the four buildings is about 26,000 sq. ft. The existing roof assembly consisted of a 5/8-inch plywood roof deck, roofing felt, and three-tab composition shingles. The assembly is supported by prefabricated metal-plate-connected wood trusses.

Some visible repairs had been made over the more than 20 years the assembly had been in place. These repairs consisted of roof shingles that had been removed and replaced and were observed on all four buildings, mostly near the eaves.

Additionally, approximately five years prior to my visit, an elastomeric coating was applied on top of the roof shingles. This coating protected the composition



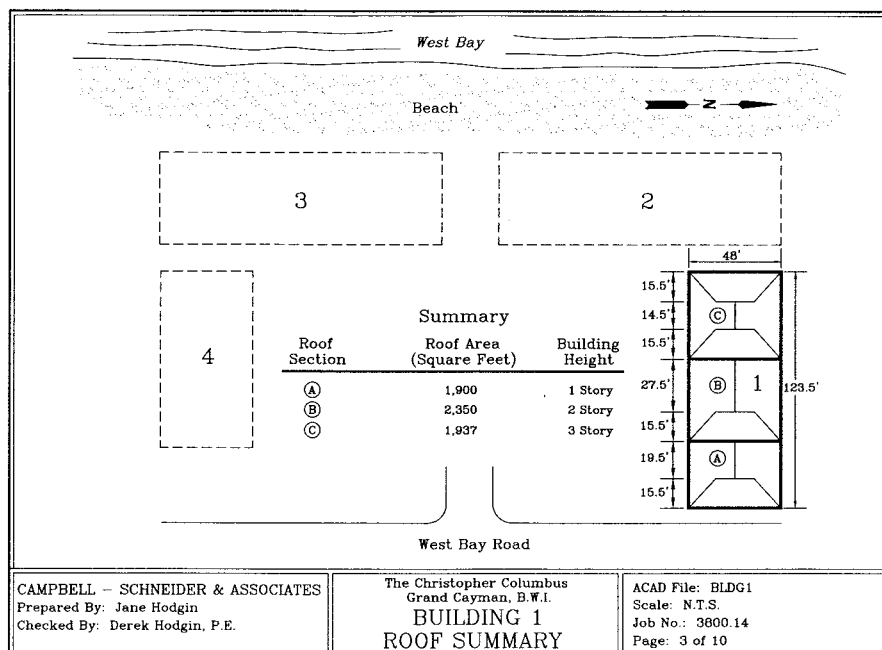
Three of the four buildings in the Christopher Columbus resort are visible in this photo (before reroofing, left, and after, right). DEREK HODGKIN PHOTOS.



shingles from ultraviolet light and likely extended the life of the shingles themselves. However, it appeared that the elastomeric coating and the low slope of the roof was a bad combination. The paint was observed to bridge between overlying shingle tabs in some areas but not in others. Due to the low slope of the roof, the shingles were vulnerable to water penetration during high winds. Once the water penetrated the shingles, it could migrate laterally and become trapped under the elastomeric coating. Evidence of long-term water intrusion was noted in the discoloration of the white roof surface caused by corrosion of underlying roofing nails and soft areas in the plywood roof deck which were detected while walking on the roof.

I was given complete design freedom for the roof. Changing the roof framing was not an option, however. Therefore, I was able to quickly eliminate heavier roof coverings such as clay or concrete tiles which would exceed the capacity of the existing trusses. The client expressed a desire for a metal roof. However, the architecture of the buildings did not lend itself to standing seam panels, which are popular on many newer buildings on the island.

I had recently completed a roof project in Hilton Head, S.C., using Rustic aluminum shingles manufactured by Classic Products Inc. and was quite satisfied that this project would be well suited for a similar design. To make things even better, Classic Products has a certified roofing contractor on Grand Cayman, John Smith, owner of Square Deal Roofing. Smith is a Cayman native and the nicest guy you could meet. After



This site plan illustrates the multi-story aspect of the project's four buildings. Buildings 1 and 4 have one, two, and three stories; buildings 2 and 3 have two and three stories.

discussing the project with Square Deal Roofing, we made a brief presentation to the client recommending the Rustic aluminum shingles. The client accepted the recommendation, and we were ready to begin the design process.

The New Roof

While I like the appearance of the Rustic Shingle and knew that I could adapt it to the design requirements, it presented a few shortcomings for the Christopher Columbus project. First, the profile includes a butt edge thickness of about 1 inch. Given the low slope of the project's roofs, this could have been the only part of the roof that would be seen, particularly on the taller two- and three-story roof areas. This problem relates to the fact that it is difficult to observe the roofs from a distance. The property is bordered by a road and the beach on the east and west and by other resorts to the north and south. Second, the thickness of the profile creates a small void under the base of the shingle. Concern was expressed about possible damage from foot traffic. This would not be a concern on a steeper roof but would be on relatively low-slope roofs.

Classic Products informed me of a new Oxford Shingle that would address the concerns just described. The new shingle has a low profile, which would significantly improve the visual aspect. Additionally, the Oxford Shingle is fabricated from slightly heavier aluminum than the Rustic Shingles (0.024- vs. 0.019-in. thick). The thicker aluminum and the low profile would also reduce the chances of it bending or crushing when stepped on. Unfortunately, the Oxford Shingle was not scheduled to be in mass production until the following year. Therefore, specifying the Oxford Shingle would mean a higher material cost (about 20 percent more than the Rustic Shingle) and slower production. Even so, after reviewing the options, the client selected the Oxford Shingle and I proceeded with the roof design.

Design Basics

Engineering calculations determined that, for a design wind speed of 120 mph, the wind uplift pressure at the corners and perimeters would be approximately 135 psf. Given the relatively small size of the roof areas and their broken up geometry, this uplift requirement applied

to a large portion of roof. A continuous 0.024-in. aluminum fastening cleat was specified in the 135 psf areas. The cleat attachment included a double row of stainless steel screws spaced at 12 inches on center. Individual fastening clips were specified in the field of the roof where the uplift pressure was calculated to be approximately half that of the corners and perimeter.

After the preliminary design was complete, a 10-ft. x 10-ft. section of the roof assembly was constructed by Classic Products and tested in a wind chamber to determine its uplift resistance. At the design uplift of 135 psf, the roof assembly was observed to be intact with no evidence of failure. The individual singles finally deflected and became disengaged at about 185 psf, representing a design factor of safety of about 1.4.

The roof deck preparation included removing and replacing any deteriorated plywood sheets (an unknown quantity at this point), fastening all the plywood roof deck to meet wind uplift requirements, and installing underlayment. The specified RoofGuard® underlayment is a hybrid woven product specifically designed for metal roofs. It's manufactured by UPM-Kymmene Corp. W. Rosenlew in Finland and marketed in the United States by Drexel Metals Corp.

The First Day

The roofing project was to begin in the middle of August and be completed by the first week of October, 1999. The materials had already been transported from Classic Products in Ohio to Miami, Florida. A container ship was then enroute to Grand Cayman and scheduled to arrive before the project start date. My first lesson in shipping was that, while the shipment may arrive on schedule, getting your hands on it is an entirely different matter. On the day the project began, all of the materials remained locked in a container at the port in Georgetown.

While the project could proceed without the shingles for a week or so, the underlayment was needed immediately. In an effort to keep things moving, I

instructed the contractor to proceed with the roof tear off and substitute a double layer of #30 felt which is available at the local contractor supply. With the necessary materials in hand, the contractor proceeded to tear off the first roof.

As the shingles were being scraped away, it was quickly apparent that the middle of a large plywood area was completely rotten. I expected the roof deck to be deteriorated (water stained, delaminated, minor decomposition) in some areas, but not rotten. The wood was dark brown to black in color and extremely soft. If the plywood was this bad in the field, I figured it would be even worse at the eaves as more of the roof was torn off. My fears were realized; the wood rot was widespread with no discernible pattern.

If the extent of rotten plywood was similar on the remaining roof areas, the plywood replacement allowance would be drastically exceeded. The contract provided for an allowance of 10 sheets of plywood replacement. In the end, 128 sheets were needed, costing the owners of the buildings considerably more than originally allowed.

I am now convinced that my original assertion that the elastomeric coating was trapping water was correct. The extent of plywood damage and the significant corrosion of the roofing nails and flashing was the direct result of long-term exposure to this trapped moisture.

You Want It When?

The decision to use the Oxford shingle put the production at Classic Products into continuous overdrive. Because it was new, it was not yet being mass produced and each shingle had to be hand made for the project. This kept me continuously monitoring the materials at the site, the materials that were enroute, and the next possible shipping dates. Unfortunately, it seemed that there were always small gaps between the time we needed the materials and the time that they would finally arrive at the project site. This scenario resulted in a slow accumulation

of delays which were stretching the project schedule.

Realizing that I would not even come close to meeting the specified project schedule, I informed the client of the available options: 1) complete two of the four buildings that year and come close to meeting our schedule, saving the other two buildings for the next year, or 2) forget about the schedule and proceed to complete all four buildings. After weighing the options the client, instructed me to proceed with all four buildings.

O.K., I had my new marching orders and I was ready to go full steam ahead toward completion of the project. I scheduled a return visit to Grand Cayman with renewed enthusiasm. It was a terrific 3 day visit. The weather cooperated and things were progressing nicely. In fact, by the time of my departure, the roof tear-off, plywood replacement, fastening and underlayment installation on the last two buildings was complete—and I had only recently been given the instructions to proceed with these buildings. Things were looking up.

Irene Pays a Visit

My hopes for a quick completion were dashed on my first day back in the United States. Hurricane experts were showing the development of a significant storm in the vicinity of Grand Cayman. The storm eventually grew into Hurricane Irene. I discussed storm preparations with the contractor. All of the construction materials were taken off of the roof and stowed in a secure place and the underlayment was battened down where possible. While I knew that there was not a lot that I could do from hundreds of miles away, I could not stop thinking about the potential consequences associated with this storm. I got the report on the following day: no damages to the roof or underlayment, although the ceilings of several units in the remaining two buildings were damaged by water. I was certainly disappointed, but tried to remain positive. It could have been much worse. However, the roof project seemed

to be getting further from completion rather than closer.

Graduation Day

The storm damage was quickly repaired and the roof installation proceeded. In early February 2000, about four months later than originally anticipated, I got the call that I'd been waiting for. All of the roof work was complete and Square Deal Roofing was ready for the final inspection. I provided Square Deal with a copy of the very detailed punch list I planned to use in my final inspection. Square Deal diligently inspected every roof area in accordance with this list. My final inspection revealed only a few items to be addressed, none of them significant.

With all of the paperwork completed, final payments made, and the client satisfied with the new roof, I am happy to report that I finally graduated from Caribbean Roofing 101. I would like to take this opportunity to express my thanks and appreciation to Square Deal

Roofing, Classic Products, the friendly staff at the Christopher Columbus, the understanding client, and my employer for signing me to this unforgettable project. **MR**

Derek A. Hodgin has 30 years of experience as an engineering consultant and is responsible for facility condition inspections, failure analysis, damage assessments, and forensic engineering investigations of all types of structures. His experience includes failure analysis of a wide variety of building enclosures and roof systems. He has investigated and testified regarding the performance of various building products including fire retardant treated (FRT) wood, exterior insulation and finish systems (EIFS), hardboard siding and trim. Derek has also designed, permitted and investigated failures of civil and coastal projects such as residential and commercial developments, marinas, docks, shoreline stabilization and retaining systems, basin and channel

dredging. A large part of his projects have included analysis of deficient construction cases including roofs, exterior walls, windows, doors, structural framing, civil site work and building code review. He has investigated and testified regarding various types of personal injury cases including slip/trip and fall, railing failures, swing collapse and ladder accidents. Derek has performed engineering assessments of hurricane, tornado, hail, wind, ice and fire-related damages for a wide variety of commercial and residential structures.



Derek Hodgin, PE, RBEC, CCCA, CXLt. (2021)



The only publication dedicated to the effects of weather and climate on roofing.

Roofing Elements Magazine deals with the physical environment and how "Elements" like heat, moisture, wind, and sun affect roofing. The Elements need to be considered in every aspect from material choice and design to installation techniques. **Roofing Elements Magazine** provides both industry white papers and institutional knowledge from the experts who learned their trade in the real world.



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Reducing Waste Improves Profit, Increases Efficiency

By Ray Smith, Managing Director, AppliCad Software

The construction industry has long been known for its massive amount of waste as a percentage of the cost of a job, let alone how much ‘stuff’ ends up in landfill. Apart from the massive waste of valuable resources, there is also the additional cost of transporting this waste to its final resting place.

Perhaps one of the most motivating factors to address this issue in today’s climate is the extraordinary price rises that the construction industry has experienced in the past year or two. I am aware of many components in the roofing sector more than doubling in retail price in just 18 months! These increases are often difficult to pass on, especially if fixed price delivery of a property has been agreed to, and even if the price is not fixed, waste is profit margin that is going out the back door.

One way to address this in metal roofing, at least in part, is to reduce the amount of material that is not used to cover the roof – instead of trashing the offcuts from complex hip and valley roof structures, use them elsewhere on the roof! A method that has been in wide use for many years is what roofers in New Zealand call ‘Blocking’. This is a technique that is employed by experienced installers that **reduces waste** from a metal roof to almost **zero**.

The offcut on full length panel on a hip end is flipped into the

opposite hip – one cut, two panels, **no waste!** (Figure 1)

This technique has been further developed in the Roof Wizard software in a process we call ‘Block-Cut’. It results in efficient installation, reduced waste and improved profit. (See Figure 2.)

In this example, the only waste is the strip that is required because the roof is not an exact multiple of the panel width. The process is extrapolated across larger, and more complex roof shapes with the same result. We typically reduce waste from maybe 10-15% to less than 5% AND the installers get a map showing how the panels must be installed to achieve the desired result, thus reducing installation errors and further improving on site safety and efficiency.

It must be said that this does not suit all panel types. An

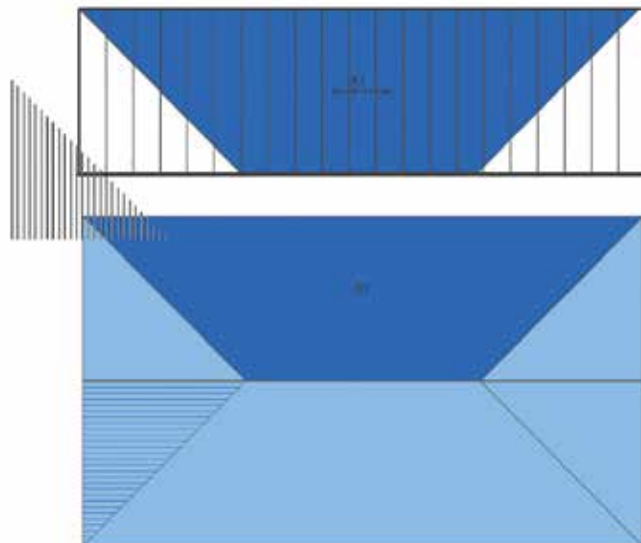


Figure 1

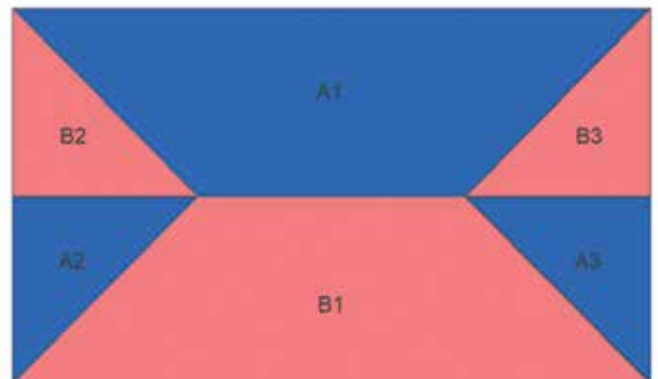
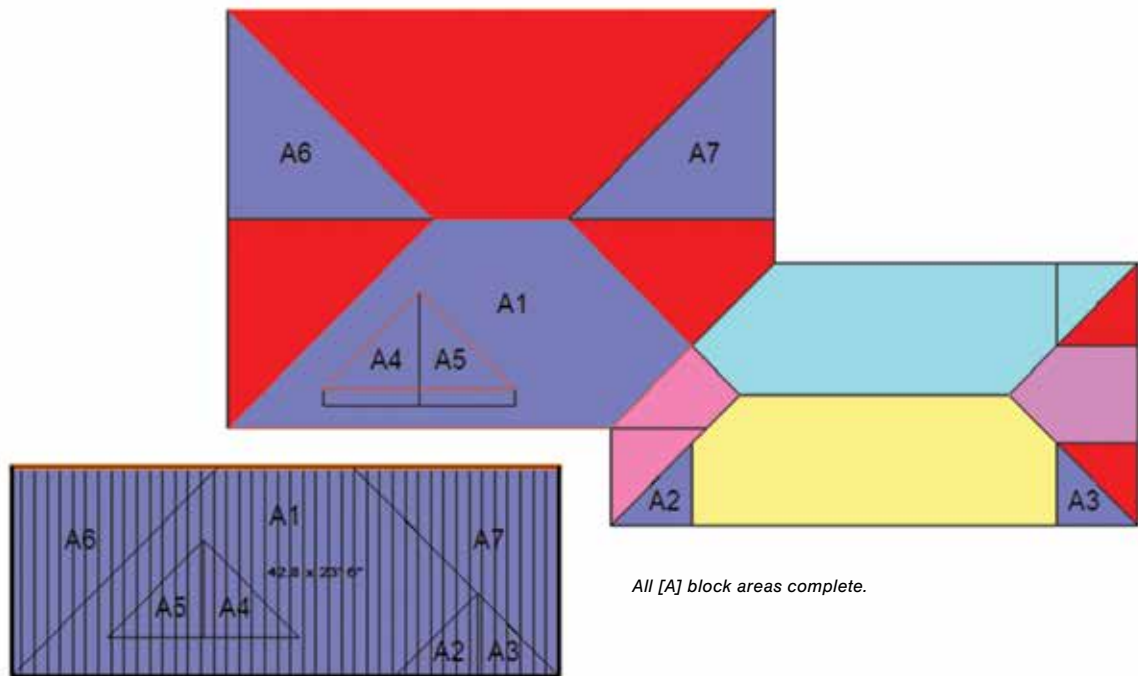
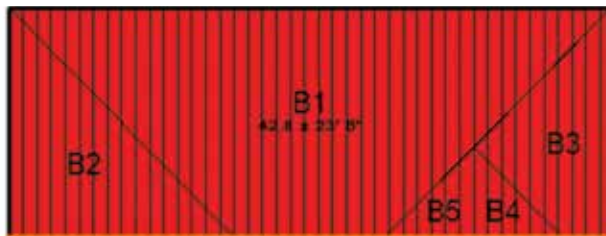


Figure 2

BUSINESS BUILDING

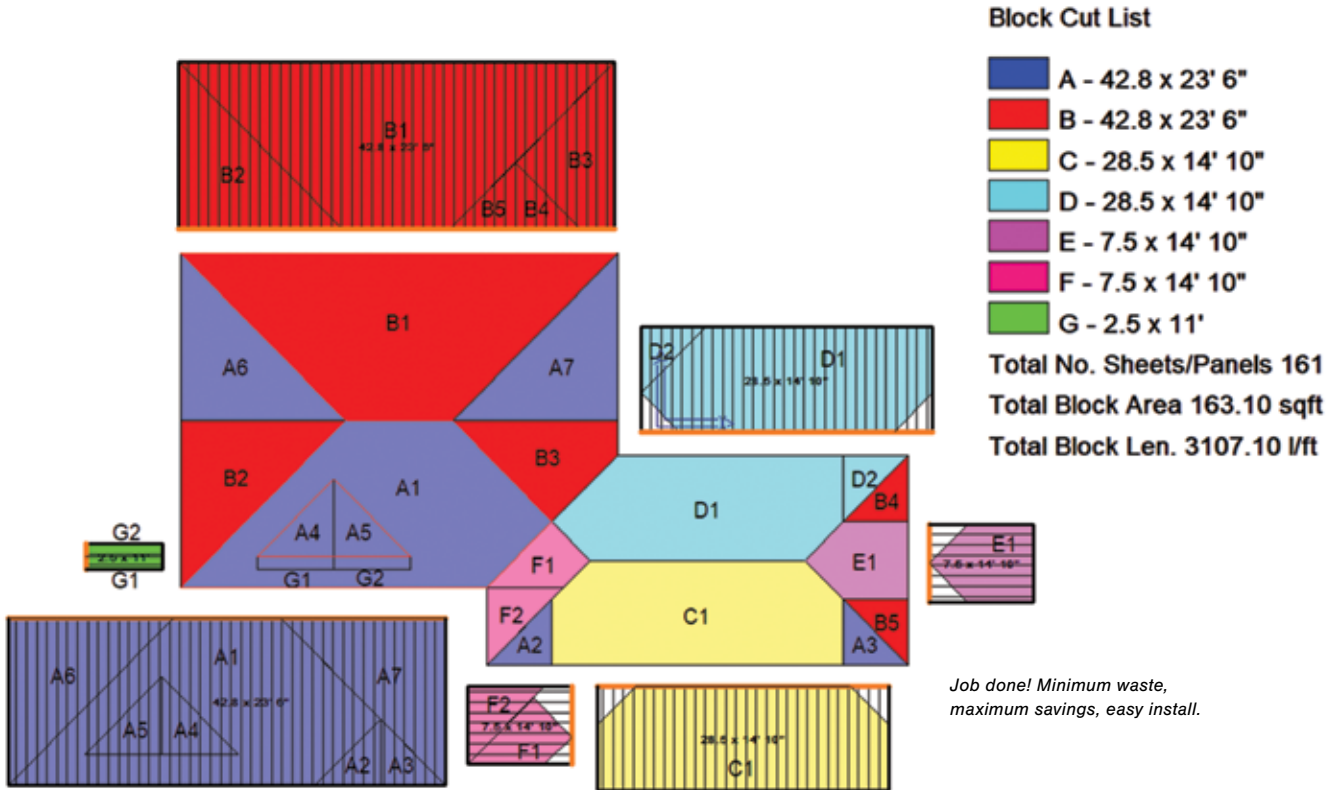


All [A] block areas complete.



All [B] areas complete.

BUSINESS BUILDING



exception to this would be narrow standing seam panels where the fabrication of the hem typically messes up the end such that any offcut is rendered useless. Besides that, the offcut is a very small percentage of the panel area as the panels are typically very narrow, say 16". Block cut works exceptionally well for wide format panels such as Ag Panel, 5V, corrugated or 'KlipLok' – panels between 24" and 36" wide where the off-cut is a more significant percentage.

Once the 'Block-Cut' layout is complete, the installation guide is produced, the cutting list is absolutely accurate, and supplier order forms are printed off.

The 'Block-Cut' process is one of the many standard functions in the Roof Wizard software that are designed to improve accuracy in estimating and improve the profit in your business. The saving on material costs are on average 10-15% on these jobs, and that goes straight to your bottom line as well as mitigating the effects of constant price rises.

Do the best job you can for yourself and your customer by investing a bit of time in the systems that help you. It is a very good investment for the long term and means that everyone in your team gets the benefit of the combined experience of you and your field crews.

You can count on a profitable job because you accounted for everything at the estimation/quoting stage. **MR**

Panel Cutting List Summary

Material: Ausdeck Patios, 0 4 60, Corro_Deck_100, Sea Spray, 100.00, 16.0

86/23' 10", 72/14' 10", 3/11".

Panel Accessories

Fasteners

Total Panel Length: 3150' 8"

Total Panel Area: 4200.9 sqft

Total Roof Area: 3986.5 sqft

Panel Area / Roof Area (Estimated Waste): 5.10%

Panel Allowances Used: <DEFAULT>

Selected Panel Length: 3150' 8"

Selected Panel Area: 4200.9 sqft

Export to Rollformer

Export CSV

OK



Rob Haddock accepts the Gold Level Industry Advocate Award on behalf of S-5!

MBMA Awards Gold-Level Honor to S-5!

S-5! [www.s-5.com], a leading authority on metal roof attachment solutions, has been awarded the 2021 Gold Level Industry Advocate Award for outstanding service, participation and support of the Metal Building Manufacturers Association (MBMA).

Accepting on behalf of the S-5! team was CEO and Founder Rob Haddock at the MBMA annual meeting and awards presentation on Dec. 8 in Indian Wells, California, the first in-person gathering of the association in two years.

Haddock, a well-known metal roof consultant, technical author, speaker and inventor of the non-invasive clamps for fastening accessories to standing seam metal roofs, was awarded for S-5's time, expertise and advocacy of MBMA and the entire metal building industry.

Among the many companies who were presented with gold, silver and bronze level awards, S-5! earned top-notch gold recognition and was recognized for exceptional commitment to promoting and enhancing MBMA initiatives, including participation in MBMA committees, advocacy efforts to enhance the metal building systems industry, atten-

dance at MBMA educational and promotional events and safety program participation.

Haddock is no stranger to the metal construction industry. With five decades in the business, his unwavering confidence in metal roof superiority built S-5!'s strong foundation. His attachment solutions make metal the most user-friendly roof type on the market.

"I am honored to receive this award and to be part of such a great community of industry specialists and an organization that provides a variety of resources to those who work in metal building systems," said Haddock. "I am a big believer in participating in industry associations like MBMA where you can meet others who will mentor and encourage you along the way."

Boral Steel, Full Service Roofing Named Winner in Metal Roofing Competition

Metal Roofing Alliance (MRA) has named a re-roofing project, featuring Boral Steel stone coated metal and installed by Full Service Roofing & Remodeling, as the winner of its Best Metal Roofing Project competition for third quarter of 2021.

Located in Quincy, Illinois, the award-winning metal roof was installed on the 3,500 square-foot home this spring after the home's original asphalt roof failed prematurely. The lightweight but strong new metal roof was installed over the top of the old roof, saving on tear off costs and increasing the home's energy efficiency.

Given the home's location on a golf course, there also was a need to make sure the roofing material was durable enough to withstand damage against potential errant golf shots. Boral Steel PINE-CREST Shake with a stone coated finish was selected for its traditional appearance and performance capabilities. The roof offers Class-4 hail impact and hurricane wind uplift resistance, best-in-class fire resistance and is exceptionally long lasting, with a transferable 50-year limited warranty.

Quality installation also set the project

apart. The old roof had failed after just 12 years due in part to a sub-par installation job. Many of the flimsy asphalt shingles had detached, sliding off the roof, which put the structural integrity of the home in jeopardy. Full Service Roofing & Remodeling made sure the new metal roof was installed correctly, paying close attention to small details such as the ridge cap along the rakes and the dormers, which add to the home's curb appeal and will ensure outstanding performance.

"We love installing roofs that allow customers to have a cosmetically-appealing roof that stands out from similar homes in a subdivision setting, while still providing the durability of metal for many years to come," said Kevin Phillips of Full Service Roofing & Remodeling.



McElroy publishes e-book About Specifying Standing Seam Metal Roof Panels

McElroy Metal, an industry leader in metal roofing and other building components, has published an e-book for architects, specifiers and metal roofing installers called *18 Ways to Reduce Risk When Specifying Standing Seam Metal Roof Panels* [www.mcelroymetal.com/resources/ebooks].

With its long lifespan, high uplift values, ease of recyclability and ability to reduce energy consumption, metal

roofing continues to grow in commercial, residential and institutional markets.

18 Ways to Reduce Risk When Specifying Standing Seam Metal Roof Panels is designed to ensure the best installation. It takes you through all design and spec phase considerations, highlighting risks to avoid so you and your building owners gain a roof that can last for decades.

EDCO Products Inc. Names Macaulay, Breitzman to Board of Directors

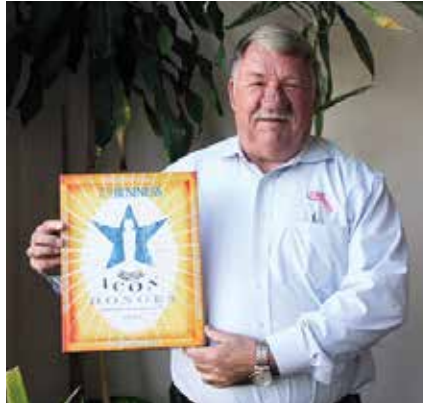
EDCO Products Inc. [edcoproducts.com], a Minnesota-based industry-leading manufacturer of residential and commercial exterior building products, today announced that Jim Macaulay and Jeff Breitzman have been appointed to the company's Board of Directors.

Macaulay joined the board on November 17. He has significant experience in strategy, finance and supply chain management across multiple industries. Currently, Macaulay is the Chief Financial Officer and Senior Vice President of Corporate Strategy at Marvin Windows and Doors. He has also served as Vice President of Corporate Strategy at Steel Case. Macaulay currently serves on the Board of Directors at Hardwoods, Inc., a wholesale distributor of building products; and Nucraft, an office furniture manufacturer.

Breitzman will join the board on February 18, 2022. He has led several organizations through the successful development and execution of corporate strategy. Breitzman has served as Chief Executive Officer and President of Bedford Technology, a building material manufacturer of recycled structural plastic lumber. In addition, he served as President of Rainbow Play Systems, a manufacturer of high-grade residential and commercial playground equipment.

Macaulay and Breitzman replace retiring board members Steve Broz and Mark de Naray. Broz has been a long-time board member and trusted advisor to EDCO Products. He was instrumental in EDCO's generational ownership transition and formation of the professional

board of directors. de Naray has served on the EDCO board since 2013, providing his expertise in building an organization's capability to grow profitability.



Dick Bus, President of ATAS International, received an Icon Honors award.

ATAS President Receives Business Icon Award

On November 4, Dick Bus, President of ATAS International [www.atas.com/], received an Icon Honors award. The awards recognized Greater Lehigh Valley (Pennsylvania) business leaders for their notable success and demonstration of strong leadership both within and outside of their chosen fields. The awards not only celebrate the recipients' leadership skills, but also their dedication to their community.

ATAS is an industry leading manufacturer of metal panels and accessories for the building envelope and interiors, with locations across the United States. Bus has served as President of ATAS since 1995, and he is also the Vice President of their sister company, BRIGHTSMITH Coaters. In 1963 the company began as Aluminum Trim and Shapes, founded by Bus' father, Jacobus "Jack" Bus, evolving from his siding and trim installer business. At that time, Jack and Nel Bus lived in a home in Rochester, New York with their eight children, and the business started in their basement. Bus helped his father by working on jobsites during his childhood, taking on other responsibilities and positions in manufacturing as the company continued to grow.

Currently a board member of the MCA (Metal Construction Association) and the NRCA (National Roofing Contractors Association), Bus has served and supported numerous industry associations for many years. He is currently the President of the MRA (Metal Roofing Alliance), a member of CSI (Construction Specifications Institute), and a former President of the MCA. Locally, Bus serves on the boards of the Da Vinci Science Center and the MRC (Manufacturers Resource Center).

A strong proponent of educating youth on the exciting careers in manufacturing and the AEC (architecture, engineering, and construction) industry, Bus has supported many initiatives. Those include MRC's "What's So Cool About Manufacturing" video contest in the Lehigh Valley for middle school students and NAM's (National Association of Manufacturers) annual Manufacturing Day (an open house for students to tour manufacturing plants and explore career opportunities). Bus has also been a supporter of the Let's Build Construction Camp for Girls, which began in the Lehigh Valley in 2017. He has assisted the camp with sponsorships and donated materials, and employees have volunteered time as instructors and mentors to the campers. The Pennsylvania Education Improvement Tax Credit program to foster scholarships for the trades and manufacturing has also benefitted from Bus' support.

From 1994 to 2004, Bus resurrected the Boy Scouts of America Troop 150 in Orefield, Pennsylvania. He led four of the original seven scouts to the rank of Eagle. In 2016, he received the Good Scout Award from Boy Scouts of America.

Although the third generation of his family is now involved in the management of ATAS, Bus shows no signs of slowing down. He will continue to contribute toward the business with the development of innovative building products, services, education, and training, along with continuing to participate in industry and local organizations, to further their missions.

Petersen promotes Mike Weis to Vice President

Petersen [pac-clad.com] has promoted its Southeast Regional Manager Mike Weis to Vice President, Sales and Marketing, effective Oct. 1. The promotion precedes the planned retirement of President Mike Petersen in the new year.

Weis' promotion is part of an effort to integrate all Carlisle Construction Materials brands, including Petersen and its PAC-CLAD architectural metal products, into its organizational structure. Similar organizational changes are taking effect within other Carlisle brands as part of Carlisle's Vision 2025 plan, which includes a goal of investing in and developing exceptional talent.

Weis began his career at Petersen in 1999 as Southeast Sales Manager and advanced to become Southeast Regional Manager in 2014. Prior to joining Petersen, Weis was a Sales Manager at Reynolds Metals Co. for five years.

"It's humbling in many ways to be given this opportunity," Weis says. "I have had the good fortune to learn from the best, namely Mike Petersen, John Palesny and Tom Bell. To have always had their support and guidance over the past 20-plus years has meant everything to me."

"It was a logical decision to promote Mike (Weis) to this leadership role," says Mike Petersen. "He has been demonstrating effective leadership skills since he came to Petersen more than 20 years ago, while helping to grow PAC-CLAD's brand recognition in the Southeast to an unprecedented level. Mike (Weis) will do an excellent job leading Petersen into the future."

Nick Shears, President, Carlisle Construction Materials, explains the decision to promote Weis: "Mike Weis has been chosen due to his extensive and successful leadership experience with Petersen. He will be a key figure in the continued geographic expansion of Petersen which, along with Drexel Metals, will remain an independent brand as part of the Carlisle Architectural Metals group."

Petersen, a Carlisle company, manu-

factures PAC-CLAD architectural metal cladding products in multiple gauges of steel and aluminum. PAC-CLAD products include standing seam roof panels, hidden- and exposed-fastener wall panels, flush- and reveal-joint panels, vented or solid soffit panels, perforated metal, coil and flat sheet, composite panels, column covers, plus fascia and coping. All are available in Kynar 70% PVDF finish in 45 standard colors that include a 30-year finish warranty.



Lezlie McInturff, Director of Human Resources, S-5!.

S-5! Adds New Leadership in Texas Manufacturing Plant

S-5! [www.s-5.com] is adding new leadership to its Texas manufacturing plant and welcomes Lezlie McInturff as S-5!'s Director of Human Resources.

With nearly 20 years of human resources experience in the manufacturing industry, McInturff is lauded for her achievements in employee recruitment/retention; compensation and benefits administration; performance management; mediation/conflict resolution; diversity and inclusion; and labor relations—both union and non-union environments.

Early on in her career, she worked in human resources for the financial industry and shortly thereafter moved into manufacturing. Previous to joining S-5!, McInturff served as the direc-

tor of human resources for air handling manufacturer, United Electric (Magic Aire) where she planned, organized and directed all aspects of human resources through values-based leadership.

McInturff earned both her bachelor's degree in business administration and her master's degree in human resource development at Midwestern State University in Wichita Falls, Texas.

Bradbury Co. hosts over 300 students for Annual Manufacturing Day

The Bradbury Company [bradburygroup.com] invited students from 13 local schools for factory tours to celebrate Manufacturing Day in mid-October.

"We opened our doors for student tours to share opportunities for rewarding careers in manufacturing and highlight the advanced technology we utilize every day," says Matt Werner, Senior Manager Sales & Marketing at The Bradbury Company. "Students received a full facilities tour, along with a chance to compete in hands-on skills challenges and explore our career center booths."

"This was our biggest year yet. We had over 300 students tour from 13 local schools. We were also happy to invite our technical school partners, Hutchinson Community College and Flint Hills Technical College."

Bradbury employees led tours and explained the manufacturing progression from concept to engineering design, fabrication, assembly and testing. Students viewed the fabrication shop, which houses approximately 60 CNC machines, where Bradbury fabricates the major components required for the construction of Bradbury equipment.

Highlights of the tour included the Doosan lathe, which machines parts from 200 inches long to 30 inches in diameter, the induction heat treat center, the robotic welding cell and the high-definition plasma torch. Tour groups walked through the assembly area to observe the assembly of Bradbury custom-made machines and watched several roll forming lines running formed products. **MR**

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project of the month



Donated Materials, Labor, Cash Make Pennsylvania Pediatric Clinic a Reality

Award-winning Dr. D. Holmes Morton of Strasburg, Lancaster, Pennsylvania created a medical model, which began when he and his wife, Caroline, developed the non-profit framework and community organization that became a pediatric clinic for children with rare, inherited disorders that are prevalent among the Plain people—mostly of the Amish and Mennonite churches—who live in rural communities, usually far from

health centers and who have knowledge of genetic disorders.

Their newest clinic in Belleville called the Central Pennsylvania Clinic, a medical home for special children and adults, also a non-profit, is a family practice that sees patients of all ages who suffer from rare, genetic disorders. Before the clinic opened, more than 500 patients, with nearly 100 genetic diseases, traveled two to five hours for comprehensive

pediatric care.

The clinic provides care and services on three floors: Main Level – main entrance; reception; office and waiting room; exam rooms; a treatment and procedure room; phlebotomy room; a patient, family, doctor consult room; staff conference room; and staff offices. Lower Level – biochemical and molecular laboratories; dental office; physical and occupational therapy rooms; hearing and

Project Overview

Location: Belleville, Pennsylvania

Architect: Henry Architecture and Design

General Contractor: Sunset Construction

Roofing Contractor: Fisher's Roofing

Steel Suppliers: A.B. Martin Roofing, E.B. Martin Roofing

Roll Former: Kyfus Metals Sales

Roof Profile: 24-ga., 19.5 panel, Kynar charcoal gray standing seam metal roof

Roof Measurement: Appx. 12,000 sq. ft.

Roof Pitch: 4:12

Mounting Products: S-5! ColorGard® (26); S-5-S Clamp (130);

S-5! VersaClip™ (130); S-5! SnowClip™ II (64)

vision labs; and staff offices. Upper Level – meeting room for medical and community gatherings; kitchen; workspaces for students, doctors and nurses in-training; and a genetic and medical library.

In true Amish fashion, the community organized a committee, put people in charge, assigned tasks and got it done. The project was a labor of love with materials and labor donated along with cash donations. The facility features a Kynar charcoal gray 24-gauge standing seam metal roof with the S-5! ColorGard® snow retention system. Kyfus Metals Sales used New Tech Machinery's portable panel forming machine to roll form E.B. Martin Roofing's and A.B. Martin Roofing's steel on site.

The Challenge

Along with determining an aesthetic solution to blend in with the beautiful scenic surroundings of this hilly rural community, the various roof contours and pitches of the roof presented a



challenge for installers to determine precise snow loads. Additionally, the clinic anticipated much foot traffic and wanted to ensure a strong, long-lasting snow retention system to protect the pedestrian traffic going in and out of this busy Amish clinic.

Another challenge was the coordination of the roof project since it was a community project involving donations from many local businesses. The siding and trim work had to be

constructed precisely to receive the metal roof panels. It was critical for all components to be compatible with this standing seam roof where everything would lock together in place.

The Solution

Fisher's Roofing utilized the complete S-5! ColorGard system, including S-5-S Clamps, VersaClips™ and SnowClips™ II. Together, the snow retention solution provided the aes-

thetics they were seeking since the ColorGard system offered perfect color and finish-matching designed to last the life of the roof. And, it offered the fully tested and engineered safety they needed to protect patrons from sliding snow off the new metal roof.

E. B. Martin Roofing based in Upstate New York donated the steel along with local metal roofing company, A.B. Martin Roofing. Other local businesses including Kyfus Metal Sales donated their time and equipment to roll form the steel on site; and Fisher's Roofing donated their time to install the roof and complete snow retention system. The result was a beautiful roof and facility that would serve the community for years to come. **MR**



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FEBRUARY

Feb. 8-10

National Association of Home Builders (NAHB) International Builders' Show (IBS), Orlando, Florida; www.buildersshow.com

MARCH

March 9-11

Self-Storage Association Spring Conference & Trade Show 2022, Orlando, Florida; www.selfstorage.org

APRIL

April 5-6

Roofing Day in DC
Grand Hyatt Washington, Washington, D.C.; nrca.net/advocacy/roofingday

April 24-26

National Coil Coating Association Annual Meeting, Sonoma, California; www.coilcoating.org

April 27-29

Metal Building Contractors & Erectors Association Conference 2022, Tucson, Arizona; www.mbcea.org

MAY

May 3-5

FABTECH Mexico, Monterrey; <https://mexico.fabtechexpo.com>

JUNE

June 13-15

Metal Construction Association (MCA) Summer Meeting, Rosemont, Illinois; www.metalconstruction.org

AUGUST

Aug. 16-20

National Association Of Women In Construction's (NAWIC) Annual Meeting And Educational Conference; www.nawic.org

OCTOBER

Oct. 12-14

METALCON, Indiana Convention Center, Indianapolis, Indiana; www.metalcon.com

Oct. 26-27

Construction Rollforming Show, Ernest N. Morial Convention Center, New Orleans; www.constructionrollformingshow.com

NOVEMBER

Nov. 8-10

FABTECH, Georgia World Congress Center, Atlanta; www.fabtechexpo.com
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