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METAL BUILDER
SPECIAL
SECTION**

DECEMBER 2023
Vol. 57, Issue 9

CUPOLAS Form & Function

All About
GRAVEL
FLOORING

**BIG
CLEAR
SPANS**

HOW TO
WORK A
TRADE
SHOW

SEE US INSIDE



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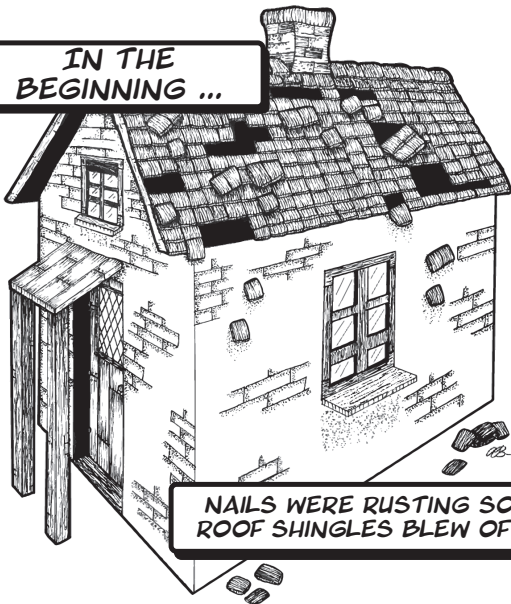
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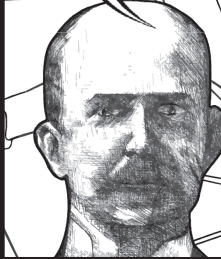
IN THE BEGINNING ...



NAILS WERE RUSTING SO ROOF SHINGLES BLEW OFF

1886

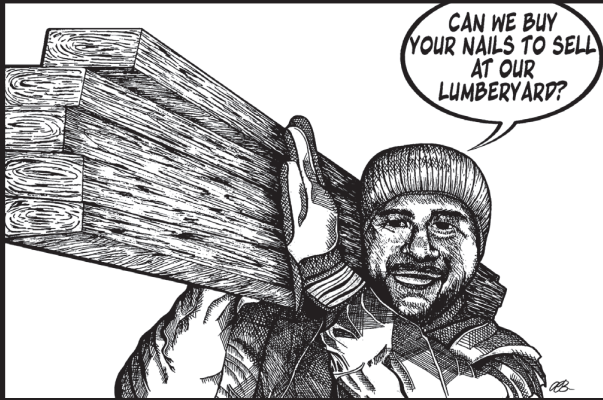
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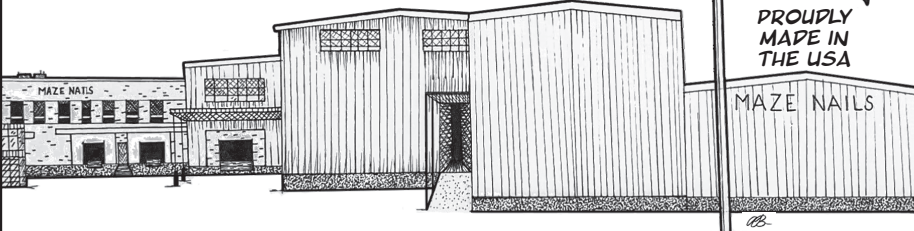
DUE TO SHORTAGES DRIVEN BY WWI



HOT DIP BY HAND

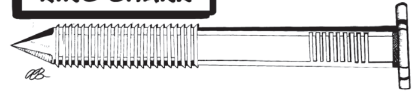
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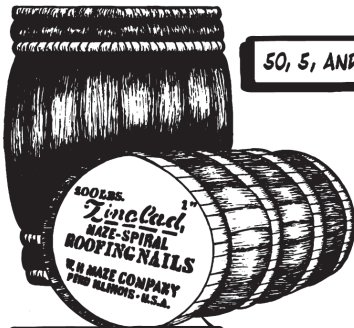


SPIRAL SHANK



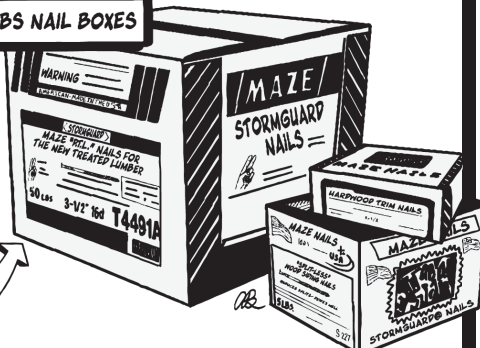
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What You Can Learn at Construction Shows

This is a show preview issue, unofficially, with wrap-ups of the Construction Rollforming Show in Cincinnati and METALCON in Las Vegas, and a preview of the Garage, Shed & Carport Builder Show in Knoxville, Tennessee, in January.

What I've learned about trade shows in my decades of running them and attending them is that less is more. Often, we set our goals really high in terms of who we're going to meet, what we're going to see, and how many connections we're going to take home.

As Randy Chaffee, who wrote about the topic on page 32, and our publisher Gary

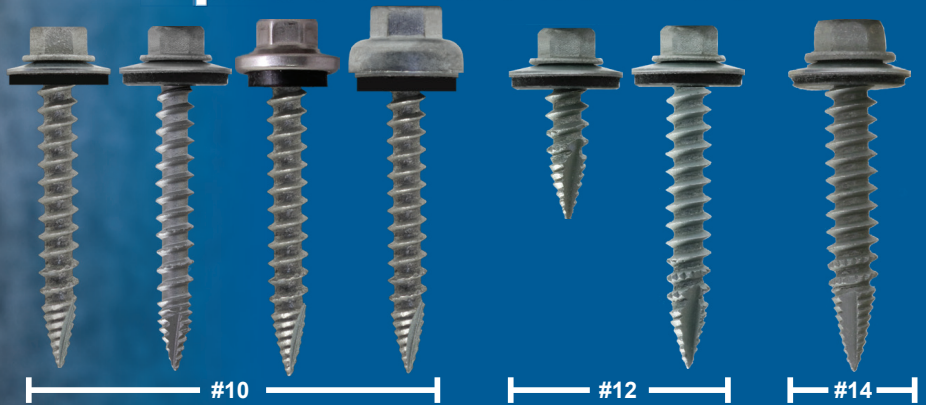
Reichert have told people, you have to prioritize by planning ahead of time who you absolutely *must* visit, and you can double back later in the show if you have time. You won't necessarily have time to do that if you're at a really big show like the International Roofing Expo.

The other key, unique piece of advice that Gary has given people is to take responsibility for contacting people after the show yourself. Often we just expect, or really we just *hope*, that the people we visited will contact us. That's not good enough. Take good notes, make a list, and contact them after the show before you forget what the two of you even spoke about.

One thing you'll notice about our Shield Wall Media shows, like the one in Knoxville in January, is that they are not very long (a day and a half). With good planning, you will have time to get a good, quality visit with those companies and people who you want and need to see.

I think Randy's article is about as good of a show preparation advice article as I've read, so I encourage you to go read that now. And we hope to see you in Knoxville and also the Post-Frame Builder Show in Branson, Missouri, in June 2024.

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GARAGE • SHED • CARPORT
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SHOW 28



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Gary Reichert,
Publisher, Shield Wall Media

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ON THE COVER:

Photo of an MWI cupola atop the Pole Barns Direct office in East Canton, Ohio. Learn more about cupolas on page 8.

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WORK ETHIC CERTIFIED

When You See a Chance – Take It!

The mikeroweWORKS Scholarship Can Help Make It Happen

BY LINDA SCHMID

Ben Connor had a plan. Growing up in Olympia, Washington, he wanted to be a firefighter. He wanted to help people, and though at a young age he didn't think in these terms, he wanted to provide a tangible service to people.

As he got older and became involved in sports, that dream faded and was replaced by a desire to be like his football coach. He loved football, and while he knew he would never have a career playing, he thought he could play at college, get a teaching degree, and coach football. This idea was reinforced by the school he attended, a prep school that didn't offer industrial arts and encouraged every student to go to college.

When college didn't work out for Connor, he remembered his old plan and looked into fire fighting. However, there were a couple hurdles; fire fighting was a very well-paid job in Washington and the competition was fierce. Connor had watched a friend work as a volunteer fire fighter while he worked a day job and all the while applying over and over for any paid fire fighting job that opened up. Further, more and more, firemen were becoming EMTs and while he knew that the service was needed, Connor was not interested in the medical side of the job; fires were the draw for him.

Connor considered lineman's work at this point; there was a line school in the area. However, everyone said it would entail a lot of travel and Connor wanted to settle down. Settle down he did. He married his sweetheart and found jobs in construction among other things.

A few years later he found himself divorced and dissatisfied with his work. This was an awakening; up to this point in his life, he had "played it safe" and it had not made him happy. He realized that there were no guarantees and maybe it was time to start taking some chances. He decided to look into lineman school.

He had met a girl from the east coast that he was interested in, so he applied to a school in Florida which is also near his parents. Connor knew about the mikeroweWORKS Foundation scholarship as he had heard about it the first time he considered lineman school. Just like the first time, he nearly didn't apply for it. He assumed that he wouldn't get it, but thankfully he did because, he says, he couldn't have gone to school without it!

He enjoyed lineman school; there was book work but there was also field work and he found it to be a satisfying experience. "The training felt very condensed. It was only 15 weeks long," Connor said.

"Everybody was there for a common purpose," Connor continued.



As a result of a collaboration with mikeroweWORKS Foundation (www.mikeroweworks.org), *Rural Builder* is featuring profiles of Work Ethic Scholarship recipients in each of its issues. Over 1,500 scholarships have been awarded to trade-school students who value hard work and taking personal responsibility. *Rural Builder* applauds these students and wants to acknowledge their choice to apply their talents to skilled trades. Thank you, mikeroweWORKS Foundation, for your continuing efforts to close the skills gap and "reconnect the average American with the value of a skilled workforce."

“They all wanted to work and make a better life for themselves. Lineman’s work is very physical and can be hazardous. The type of people who are attracted to this kind of work are generally very competitive and want to work in a challenging environment.”

Georgia Power hired Connor in March of 2023 and he loves it. “It’s challenging and rewarding and everything I’ve ever wanted in a job!” Connor said. “It’s a tangible service; it’s our job to keep the lights on for you. It provides me with a sense of purpose.”

Most of the older guys are retiring, Connor said, but although the workforce is young, they are knowledgeable. The company is diverse, though there is only one woman on the line. “She has a great attitude,” Connor said. “Anyone, man or woman, can do whatever kind of work they want, if they want it enough,” he added.

Connor’s answer to getting more people into the trades, beside



educating high school kids about the opportunities available, is to make use of social media.

“It’s kind of sad to say; I’m not a big fan of social media,” Connor said, “but it is one of the strongest tools we have to get the word out.”

He said he follows linemen on social media and he thinks it can help garner interest.

“It’s exciting to see these guys who work on big transmission lines getting flown in on helicopters to do the job. Then you see residential linemen working on job sites, and you get a taste of the camaraderie, you see that they get to be themselves instead of working in some corporate office, and they make great money doing it.”

In regard to his own future, Connor said that he wants to build a life with that girl he followed to the east coast. Beyond that, he is committed to continuous improvement and honing his craft. “I want to be great at what I do,” Connor said. **RB**

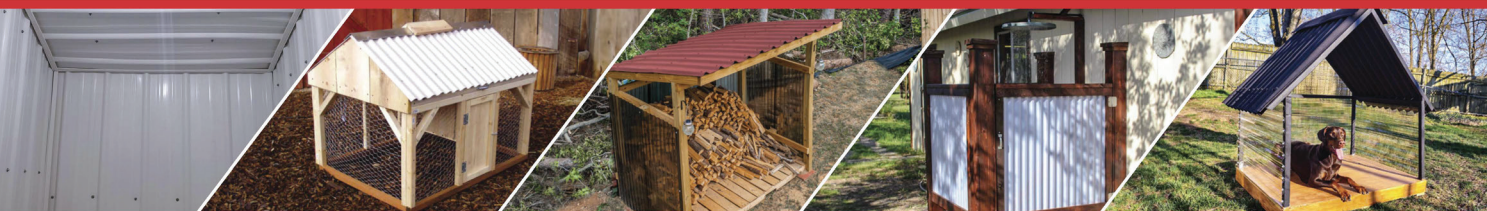
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MWI cupolas on a building by Walters

Cupola Installation

A Well-Installed Cupola Adds Accent, Aesthetics and Some Air

Cupolas can add a touch of roof elegance and a decorative accent to barns, garages, gazebos, sheds, and houses, and come in a wide variety of sizes, styles, and designs to choose from. Not just for aesthetics, louvered cupolas can deter mildew and mold by allowing any excess heat and moisture to escape, or fumes as a result of work in the underneath area.

Those with windows provide daylighting. Most common cupola materials include vinyl and wood. Copper underneath a copper weathervane can add curb appeal with shine and sophistication.

“Window cupolas are decorative in nature; however, people still used louvered cupolas for venting of spaces; some businesses use them for venting of kitchens,” said Mike Roderick, president of Cape Cod Cupola.

“Typically, cupolas are used less for ventilation purposes and more for decorative purposes,” said Tim Freehauf, plant engineer at Plyco Corp. “Certain types of cupolas are designed for ventilation. When using a cupola for ventilation, the builder must let the customer know that the cupola will let air out, but will also let wind driven rain, snow and dust into the building.”

Jay Osman, engineering manager of MWI Components Inc. agreed that cupolas play less of a role in ventilation on contemporary buildings than they did generations ago. “Ridge vents and foam ventilation products have replaced the cupola as the primary ventilation feature on today’s buildings,” he said. “Cupolas are almost entirely an aesthetic feature, adding architectural intrigue to modern building plans.”



Photo courtesy of Plyco

To attain this architectural intrigue and guarantee longevity, cupolas must be mounted and installed correctly. Are there differences in rural cupola installation?

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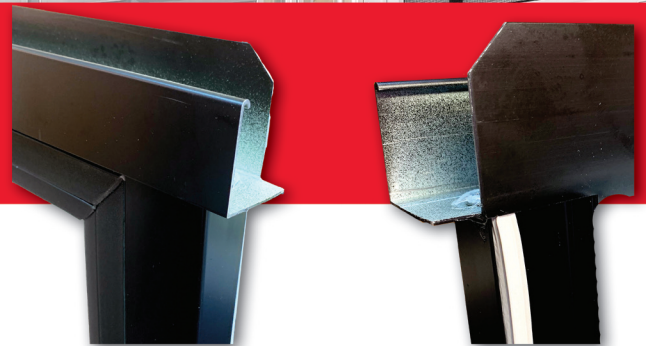


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No, Osman said, “The process for cupola assembly and installation is the same regardless of whether it is a rural or suburban application. The cupola has strong historical ties to the rural setting thus the interest for customers in a suburban setting looking for a more rural aesthetic to their building.”

In a rural setting, which tends to be in more open areas, Freehauf said cupolas can be exposed to higher wind gusts. “This goes back to the importance of a ‘foundation’ in the roof where the cupola is attached. With the cupola mounted on the top of a building, it will get the majority of the wind pressure.”

“We use the same install techniques regardless if they are being installed in rural areas,” Roderick said. “Our box truck has all the necessary tools and safety equipment except for cranes and cherry pickers, which we rent — depending on location in other states — this may take some research to find rental companies. We install cupolas all year long except when there is snow and ice on the roof and the temp is below freezing — also when the temp is above 98 degrees; it’s not good to be on asphalt shingles.”

SHINGLING, MOUNTING, INSTALLING

Osman said the most important part of mounting a cupola is proper shingling of flashing components to ensure water infiltra-



Photo courtesy of Plyco

tion integrity. “Unless the cupola is specifically fulfilling a ventilation requirement for the building, it is best not to open the mounting area to the building below and to ensure a proper water shed,” Osman said. “In the interest of time and safety it is best to assemble the sides and roof panels on the ground and carry or hoist the assembled cupola to the curb or base mounted to the building.”

MWI’s cupolas can come with curb caps, bird screens, wind kits, and custom color grids. MWI Components Universal Bases are available with an enclosed top or vents for those applications that require a functional louver cupola. “Instead of the builder taking hours to construct a wood curb and flashing, a color-matched, powder-coated Universal Base can be installed in minutes,” Osman said. “The Universal Base provides a greatly enhanced watertight system vs. the numerous potential leak paths of a curb/flashing combination. The standard MWI Universal Base is adjustable from 1/12 to 7/12 Pitch applications. MWI also offers a High-Pitch Universal Base adjustable from 7/12 to 12/12 Pitch applications.”

The necessary tools to install a cupola? Roderick said cranes, special ladder techniques, hammers, power drills and paint brushes work. Osman said, “The tools required to install a cupola are the same as those used to install roof steel, ridge cap, and flashings. Cupolas are typically installed after the building roof steel is in place and ridge vents/ridge cap is being installed.”

“Usually, cupolas will get attached to the roof by screws or nails,” Freehauf said. “Screws are the preferred method, using a screw gun, Impact driver or drill to drive the screws. Nail guns can also be used depending on the manufacturer recommendations.”

Like all construction, cupolas require a good foundation. “The preparation of the roof for the cupola is a basic essential for the longevity of it,” Freehauf said. “Mounting the cupola is going to be a function of the build style of cupola and the roof it is mount-

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ed to. A cupola that is lightweight and can be carried up the roof in two or three pieces and easily installed, makes the job easier and safer. Following the manufacturer's guidelines for support and attachment structure is critical."

STEP-BY-STEP PROCEDURES

Roderick cited the following step-by-step procedure for successful windowed cupola installation:

Get the pitch of the roof

The easiest way of doing this is by using two pieces of scrap wood, approximately 2" wide and 30" long. Place one board over the other and put one nail through both boards about 3" from the end. Bang over the nail tip. You can now the boards up like a pair of scissors.

Go to where the cupola is to go. Open the boards and drape them over the peak. If you have a ridge vent, make sure that the sticks run parallel to the roof and mark on the boards with a pencil where one board is overlapping the other, and where the ridge vent is. Guess the height of the ridge vent (1") and the shape (curve) of the top.

Make a template

Come back down and open up your sticks and place them over a 20" x 44" piece of cardboard. Trace your pitch and draw in what you think the ridge vent is like and with a utility knife, cut out your template. Bring the cardboard, pencil, utility knife and a level up onto your roof, you may need to fine tune your template.

Once you have it fitting nicely over your roof, draw a plumb (vertical) line on your template using a small level. Also, mark on your template a nearby landmark (street side, chimney side, back yard) so that when you bring your template to your cupola base, you will cut the right sides of the cupola. Note that your ridge vent may have ended up off center. When cutting the other side of the cupola, you will need to flip over the template.

Cutting the cupola

First lay the cupola on its side with the predrilled holes on the right and left. You will notice that they are pre-beveled on



CUPOLA TIPS

By Steve Fisher, Owner, Royal Crowne

Most cupolas are installed for the main purpose of adding curb appeal to your rural building. When installing for aesthetics installation is simple, cupolas are installed with 2x4 blocks attached to the building roof, and then the cupola attached to the blocks, that's it!

A large majority of cupolas are for aesthetics only. However, cupolas can be installed to offer ventilation and lighting. With this option, please make sure to follow manufacturers

install instructions and flash properly to offer a trouble free installation.

Cupolas can be installed on numerous different roof type applications. Whether it be a metal roof, asphalt roof or other roof type installation procedures are pretty much the same. Only a few simple tools are needed to install these cupolas. A cordless jig saw, cordless skill saw, and cordless drill is all you need to install a cupola. See webpage for installation videos: www.royalcrowne.com/installation

the inside of the 3/4" thick baseboard. You must first draw a plumb line up on the center of the base of the cupola. Make sure that the centerline on the cupola and the plumb line on the template are parallel. They do not necessarily line up, but they must be parallel. Keeping them parallel brings your template down to about 3/8" (depth of the bevel) in along the bottom of the base.

If your pitch is steeper than a normal Cape style house, you may want to remove the bottom screws that are located on the beveled boards, about 3/4" up from the bottom. They have been puttied over and painted so they may be hard to locate. Cutting through them is also possible with a hacksaw. Once the pitch is cut, flip the cupola (and template) over and do the same to the other side.

Bringing up the cupola

Depending on the size of the cupola, the cupola separates into either two or



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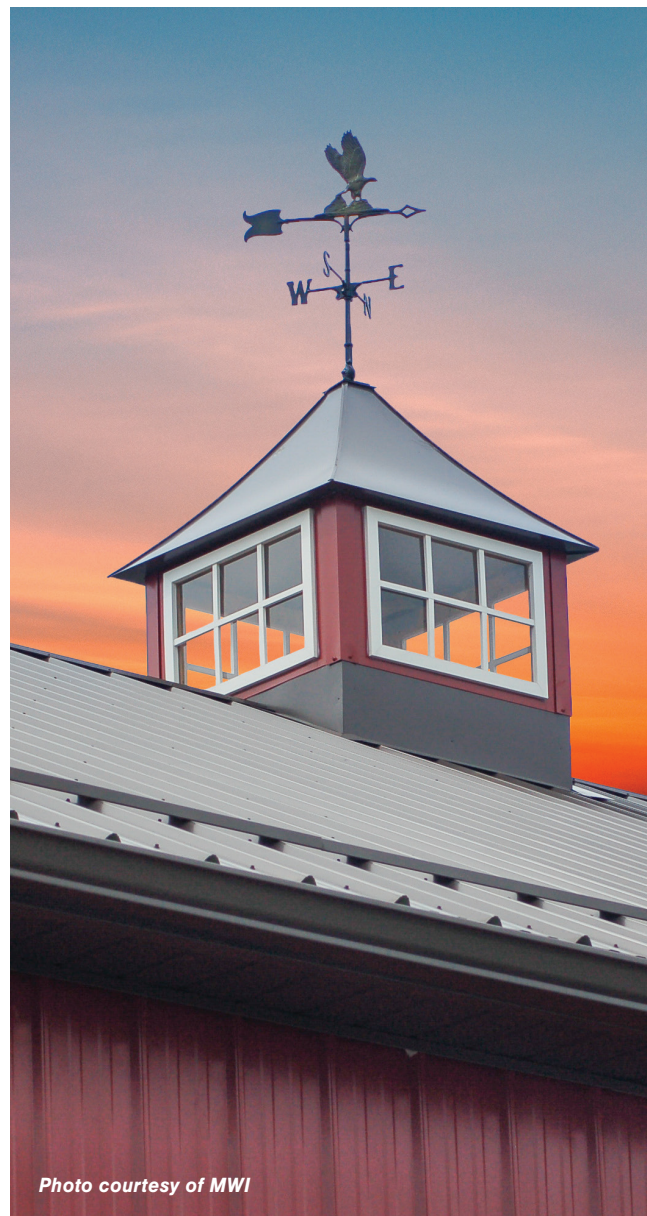


Photo courtesy of MWI

three parts, the roof and attached moulding being one piece, the base and rake moulding being the bottom piece, and the windows being the middle piece. Bring up the base and put it where it needs to be. Bring up the window section and set it into the base. Bring up the roof. There should be an X on the inside of the roof that matches to an X drawn on the top of one corner post. Match these up. If you have a lantern, it may be easier to attach to the ceiling before putting the roof on. Screw the roof onto the cupola before screwing the cupola down to the roof of the building.

Fastening the cupola to the roof

The predrilled holes are about 1 3/4" up from the bottom of the cupola and are set at a 45 degree angle. Run mounting screws in until the head of the screw sinks into the base. If you have a lantern or light socket, open up one window and drill with a 5/8" spade bit, a hole through your roof. Make sure to miss your rafters.

Feed your wire through the hole. Staple the wire along on of the corner posts. With black caulking, caulk up around where the wire goes through and also caulk from the inside of the cupola, all along the base,

leaving small weep holes on the low ends. This will stop bugs and water from getting up under the cupola and light from shining down under the cupola.

If you are in an extreme high-wind potential location, it would be wise to add four Simpson Tie-Down straps to the insides of the corner posts of the cupola, and timberloc the straps through the roofing material, hitting rafters. Now putty up all your screw holes and paint over all the puttied holes and scuffs that occurred. Gather up your tools and head on down.

Total time? Two to four hours. **RB**

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Photo courtesy of FrameCAD

BIGGER than EVER

Evaluating Your Options When You Get Asked to Build a Large Clear Span Building

Bigger is often better when it comes to buildings. When it is true that your client should build something really big — let's say 60 feet without a post — what does that mean for the typical builder and contractor?

When it comes to requests for huge clear span buildings, it can mean learning to say “Yes, we can build that,” and then figuring out how to deliver on that promise. Whether it's post-frame, red iron, cold-formed steel, or fabric, the sizes of our buildings, including agricultural, are obviously increasing.

“The benefits of larger structures to store feedstock out of the weather or enclose a feedlot for cattle are amazing,” said Brad Williams, a Building Specialist with ClearSpan, which manufactures both metal and fabric buildings. “The health and productivity of livestock is significantly increased when housed in a fabric building with cathedral ceilings, natural light, and great air quality.”

Let's look at what the options are for builders and contractors who get asked if they can create a structure that has at least 60 feet of clear space.

THE HISTORY OF CLEAR SPAN BUILDINGS

For this article, we're defining a clear span building as a building that doesn't have supporting pillars but rather uses straight-walled steel struts to support the entire structure, including the roof.

The uses of clear span buildings are obvious, but we'll list them anyway: Factories, warehouses, aircraft hangars, equestrian arenas, indoor sports arenas, ice rinks, and obviously much more.

Keith Dietzen of Keymark is most well known to the Rural Builder audience as the creator of software company SmartBuild Systems, but he also created light-gauge steel engineering software, and Keymark also owns and runs International Steel Framing. That company sells the KeyTruss, a light-gauge steel truss. There's a long case study available on the International Steel Framing website demonstrating how a company called Straight Cold Rolling, LLC built a 60'x140' pole-barn style building using cold-formed steel.

For the purposes of this article, we'll touch quickly on the evolution of wood clear span buildings using wood trusses, then move to the huge metal clear span buildings of today. We asked Dietzen,

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who's been in the industry for decades, to give us a history of large, clear span buildings. He cited the invention of the truss.

"In the 1950s, there were a couple of pioneers who invented the connector plate for wood trusses. If you look at light frame or residential up until about the middle '50s, they would be built using ceiling joists and roof rafters. That puts pretty severe limitations on what you could do architecturally and structurally," Dietzen said.

"If they were very wide buildings, they would have to have interior bearing. You're going to run out of capacity structural capacity for a 2-by-10 and you'd have to have a load-bearing wall designed."

Then in 1952, Detroit architect A. Carrol Sanford developed the forerunner of the truss connector plate, though it had to be nailed. John Calvin Jureit, founder of Gang-Nail Systems Inc. (now MiTek Industries), created the Gang-Nail plate, the first metal connector plate for trusses that did not need supplemental nail fastening, in 1955. "It was probably one of the very most significant technologies developed in the last 120 years," Dietzen said. "By the '60s and '70s, the plate industry flourished."

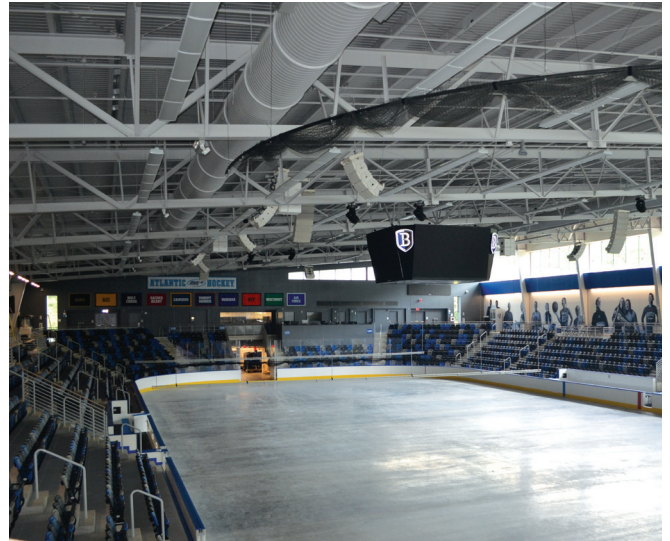
Today we have the basically the same products available for building trusses, Dietzen said. There have been some advances in designs, like scissors ceilings, but for the most part, wood trusses are similar to what they were decades ago. Among the things that are bigger and better are the cranes that can install the trusses, and with other minor improvements, Dietzen said "you can build 100-foot clear span post-frame buildings."

For most builders and contractors, that is a moot point because the materials are larger than could be shipped anyway. If you want something larger than trusses and post-frame can build, for instance a 140-foot-wide riding stable, you're going to wind up with metal. "For wider-span buildings, that's where steel will dominate the market," Dietzen said. "And that's typically a pre-engineered metal building"

CLEAR SPANS WITH RED IRON

We'll touch quickly on building clear span buildings with red iron, though if you're a builder or contractor who works in red iron, you know more about this topic than this article will touch upon. In short, if you need to build something larger than cold-formed steel (CFS) is capable, Varco Pruden and companies like it will help you build with red iron steel.

Varco Pruden works with and supports the local builders, but they don't send out their own building crews – the local builder/contractor erects the buildings. "We engineer the projects, get them drawings and everything they need to be able to construct the project in the field," said Ryan Hill, President of Varco Pruden. If a builder needs support, "We have technicians and construction consultants that we use on a regular basis to go out and help our builders, so if it's a first-time builder, then we'll always have one of our construction consultants go out, spend some time with



Bentley University Arena project by Industrial Building Systems manufactured by Varco Pruden

them, make sure they understand the product and what's going on with it."

That's not to say that Varco Pruden doesn't use any CFS in its projects, but the frame itself (the supporting structure) in a large building would be red iron. "We don't do cold-formed main framing," he said. "We'll have a rigid frame, a red-iron frame, and then span between the frames to support the roof structure. We do have some large-span cold-form members that will span up to 60 feet."

CLEAR SPANS WITH CFS

So how big can cold-formed steel clear spans get nowadays? Red iron manufacturers and builders told us they wouldn't build beyond 40 or 50 feet wide with CFS, and we're not here to create an argument. But American Building Network (ABN) is among



Photo courtesy of American Building Network



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the CFS suppliers that say they're safely and effectively now building to 80 feet.

ABN is a nationwide metal building supplier and has reached 80 feet wide with its cold-formed steel buildings. It said it is headed toward 100 feet with its cold-rolled, 54 KSI, high-strength tube steel, in either 12-gauge or 14-gauge. "We've done quite a few 80-foot-wide (buildings) and we're in the process of building 100-foot-wide clear span trusses right now that will actually be installed (in October) in Tennessee," said ABN's Mark Hiatt. "With big clear span trusses, we'll use 12 gauge on the top and bottom chords, with some 14-gauge mixed in on the interior diagonal."

Hiatt isn't sure they'll ever reach 120 feet wide; at that point a builder would likely need red iron. "I'm not saying it's not possible to go wider, but there's a slenderness factor with this tube steel," which is about 2½ inches wide, he said. "I really don't think we could get to 120 feet without having a post in the middle."

With buildings this large, ABN does a couple things that it doesn't do for "regular" sized buildings: 1) You'll get custom master plans (you won't for a typical building), and 2) an ABN crew will install the structure. They have 20 crews that travel nationwide.

"We take a lot of the headache off of farmers, builders, contractors," Hiatt said. "One of our 20 erection crews will come out and put the building up on your pad." Not all companies work that way, he added.

As a quick side note, just how does that truss get assembled? "That 80-foot-wide truss will come in two 40' triangles, and they're bolted together with .5/8 inch, high-strength, galvanized bolts," Hiatt said. They do use a crane and most of their business to date has been commercial, not ag.

FrameCAD has been in the U.S. for 10 years but is new to residential. It is similar to Howick and several other companies that have frame-building machines and the software to go with them. FrameCAD's cold-frame steel frames that come out of that machine have reached 80 feet, said Curtis Edgecombe, Executive Vice President for FrameCAD North America.

"Engineered cold-formed steel systems are versatile, very effective, and efficient for producing wide-spans for many applications," Edgecombe said. "FrameCAD's engineering and detailing software and automated roll-framing machines can produce wide open-span floor joists and roof trusses up to 80 feet. Wide-span floor joists can be deep C-joist or webbed joists depending on the required span. The long truss spans are typically produced with 54 mil thick C-shape profiles rolled from 50 to 70 ksi steel coils. The truss chord and web profiles are fastened together with #10 or #12 screws at predetermined hole and dimple locations."

TRENDS IN CFS

ABN mentioned two trends: Single-slope trusses to add large sizes to existing buildings, and an increase in overall demand for large clear span buildings. Hiatt said the company has started creating single-slope trusses that can basically be hung on the



Photo courtesy of SmartBuild Systems

low eave of an existing building, or you could build a wall (brick or otherwise) and use that to hang and slant the truss. He said they've installed some that were 60-feet long.

Hiatt added that there has been an increase in demand for wide-span buildings, though he's not sure why, and we shouldn't guess at possible reasons. "Our dealers send in those requests because they're larger than our software can quote, so we see them, and in commercial construction, there's definitely been an influx of quote requests and orders in the past 90 to 120 days."

Another trend in CFS and in clear span buildings overall is what Dietzen called "the tremendous growth in demand for barndominiums or shouses. With their wide open interiors, these buildings afford architects, builders, and DIYers the ability to design and build fairly involved interior spaces without concerns for having to force interior load bearings walls. We see barndominium demand impacting all the markets mentioned including wood post-frame, red iron, or cold-formed steel."

EDUCATING ARCHITECTS

One common theme when it comes to CFS and large-span buildings is that architects don't necessarily understand that it's an option for them. "We're educating architects," Hiatt said. "I'm sharing our frame profiles and our design criteria and they're literally integrating this into their wall sections and their building cuts on construction plans. So they're excited to be able to have another option that's readily available."

That's in part because red iron often has a six-month lead time, and CFS is typically only weeks to delivery. "We're more flexible than some of the other metal building manufacturers in the sense that we have our materials," Hiatt said. There's still a lot of learning curve left in that regard, though. "A lot of architects don't like stepping outside the box that they've been in for 15 or 20 years," he said. **RB**

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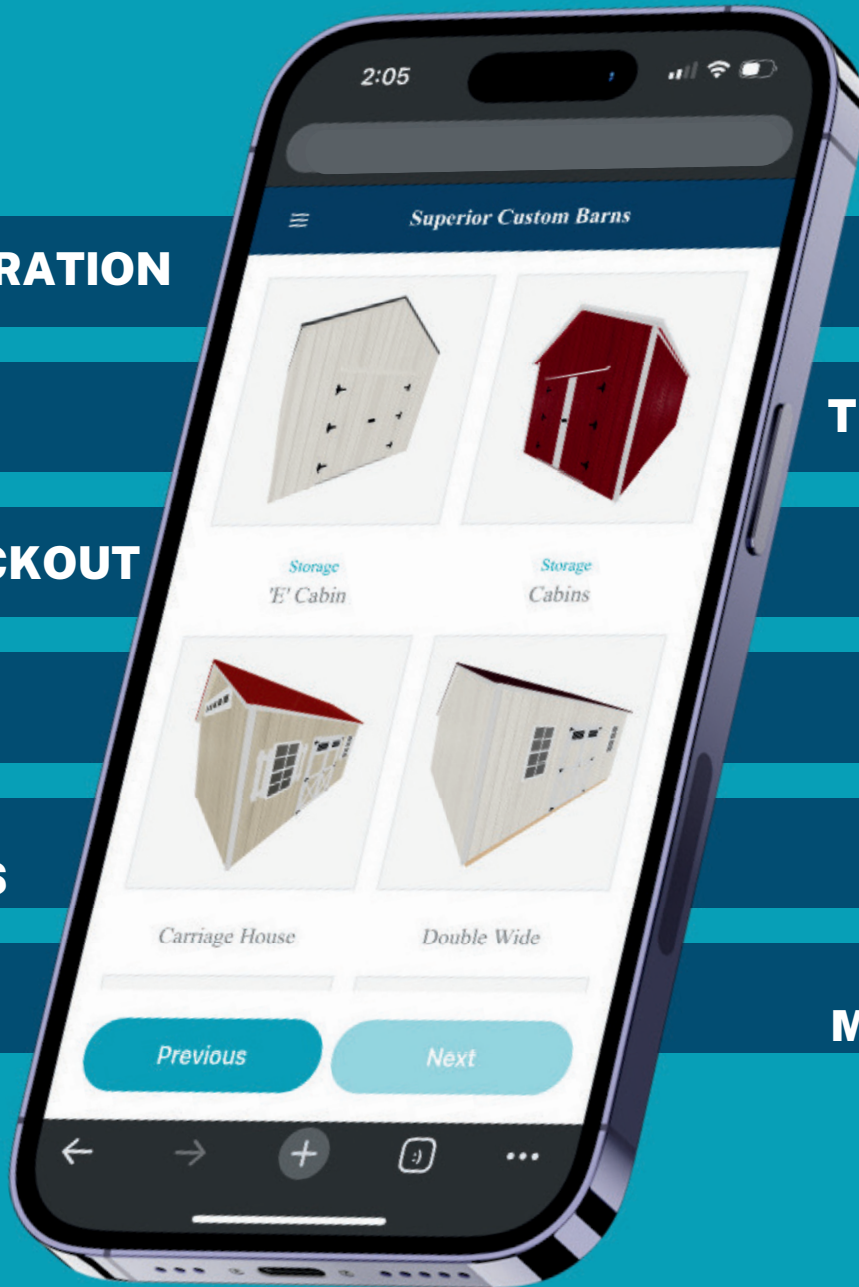
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Another Clear Span Option: Fabric

Fabric buildings are often a good option for big clear spans, depending on the situation. There are several providers of huge fabric-covered buildings. We asked Legacy Building Solutions to tell us about their products. Here's what General Manager and VP of Sales Eric Donnay had to say.

How big can you engineer a building?

Legacy is able to engineer structures that span over 300 feet without any interior columns.

What do these buildings and their enormous size mean in terms of opportunities, not just for ag companies or farmers but their builders and contractors?

Clear span or free span buildings in the ag building allow for increased tonnage capacity for flat storage buildings. The rigid frame design is free of interior columns, which can take up valuable floor space or create operational obstacles for equipment maneuvering. In other industries, the clear span/free span space allows for more operational efficiencies.

What is allowing us to build stuff so big?

By utilizing tapered rigid I-beam frames, Legacy is able to engineer structures that have the ability to span much farther than other types of construction.

Are there wind restrictions or places in the country where you might not do this?

Our engineers and designers do a lot of work to make sure our buildings stand up to the elements — wind, snow and seismic activity. We follow the International Building Code and engineer our structures to the local code, making sure to account for all the environmental and structural loads.

Legacy makes some very large tension fabric structures, so we pay a lot of attention to local wind conditions. We achieved Florida Product Approval a few years ago, meaning our buildings have passed rigorous testing standards set by the state of Florida. Legacy buildings are approved for use in High Velocity Hurricane Zones (HVHZ). Our fabric is tough, but it's the combination of our solid steel rigid I-beams, our tough fabric and our patented fabric attachment system that makes our structures so resilient. The steel provides all the structural support in our buildings, while the fabric keeps the wind and weather out.

We recently installed a structure at a military base in Guam that was rated to withstand winds up to 195 mph.



Fabric-covered building from Legacy Building Solutions

What installation or construction advice do you have for our builders and contractors?

Our fabric needs to be installed using a patented process, so having a crew trained by us is vital to the proper installation and longevity of the building. Our Legacy crews are trained professionals and the very best in the industry at what they do. This means less time from start to finish for constructing the building with technicians in the field who can troubleshoot challenges. It is unique in the building industry to have a direct link between installation crews and the manufacturer — but what this ultimately means is direct accountability and increased responsiveness, both invaluable when in the middle of constructing a project.

We also train our crews in our own safety protocols, as well as the safety requirements of the building owner for each project. Finally, our crews have a great work ethic, often working through weekends and less-than-ideal weather to finish the project.

What kinds of equipment and expertise must a builder/contractor have if they're going to build a building this large?

It is important that the erector is experienced in putting up large structures. There is a lot of coordination and planning that takes place. Large cranes are typically used in the construction, so a crew must be trained for this type of work environment including proper rigging. The buildings can also reach heights of over 100 feet and the workers will need to be in lifts to reach these heights, so being trained in all the proper OSHA standards that are related to the scope of work is critical.

Can builders/contractors who are capable and have a big enough crane install these themselves?

We primarily use our own crews for a lot of reasons including proprietary installation procedures that require extensive training, skills, and experience. We also have very high safety standards and our teams are committed to safety. Even though every building is custom designed, our crews know the way we do things and that expedites construction, which becomes a cost savings for our customers. Our crews typically show up, work long days, through weekends, until the building is done. **RB**

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Gravel Flooring for Outbuildings and Sheds

Gravel can make a great floor for an outbuilding, and in order to get the best option for your intended use, it helps to have a basic understanding of materials and how they ultimately perform.

The first thing to consider is size and size distribution, then shape, and then type of gravel. Now a little context will help, too. There may be some differences in what and how you lay a gravel floor if it is for a new building versus an addition to an old building. In either case, one must have built up a pad for the building and graded the land surface to shed water away from the building for best results. A dirt floor in a building with a nicely made pad and good grading surrounding it will outperform a nice gravel floor in a building that wasn't set up well from the start.

SIZE MATTERS

Of course size matters. Technically anything larger than 2 mm is gravel, and yes that is practically sand size. Of course 3-4 mm material is going to act very differently than 3-4 inch gravel. So what is best big or small?

First, let's dig into what size affects. The smaller the material the less efficiently it will drain. Connected to this is the ability to wick moisture up, as well. Smaller material is more able to wick moisture up from the compacted soil below in your buildings pad than larger aggregate is.

Large aggregate is going to be more problematic for small wheels and more likely to rut up with heavy equipment. Large aggregate may also be more difficult to compact. Size distribution comes in when compaction needs to be considered. If you want a hard-packed gravel floor, then you need aggregate that has a size range (big to small with stuff in between). It could be 1 inch and smaller for instance. Having a range of sizes versus all one size allows small pieces to fit in the spaces between larger pieces, creating a greater density with more internal contact points and thus a stronger more compact material.

If instead the material is all one size, then it will always seem looser and will more easily move and rut with wheels and tires on it particularly when turning and maneuvering machinery. If you want the material to pack really tightly, then get something that includes the "fines" or sand and smaller material, too. Generally speaking, you can use larger aggregate to good effect for bigger and heavier equipment. Just remember that if you opt to make it tightly compacted with the fines in there, it will not drain as well and will potentially wick some moisture up from below (the bigger the building and better the exterior grading the less this matters).

SHAPE MATTERS

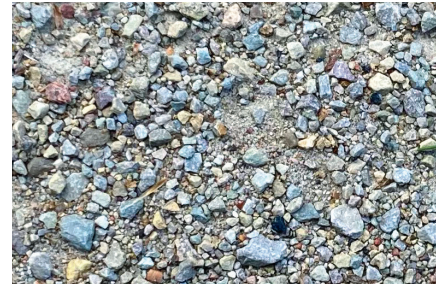
Tumbled river rock looks nice and can pack pretty well, but it may not pack as well as more angular material. That river rock will maintain a more open pore space and wick less moisture and drain better



Crushed stone, same size.



Crushed red granite.



Crushed stone including fines.

than the angular material on average though. The more angular material, particularly if it includes some smaller aggregate and fines, will pack really tightly and can eventually create a concrete like surface with a material such as limestone if fine material is included.

TYPE MATTERS

Most of the time it is most cost-effective to use what is locally available for aggregate, but there are some things to consider. **Crushed granite** — or at least the crushed red granite in my area — can work really well, but don't count on it staying the size it

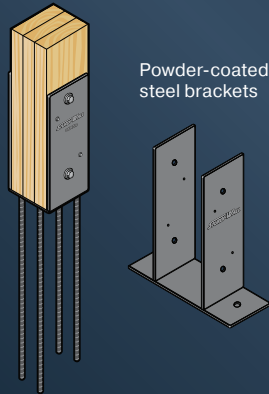
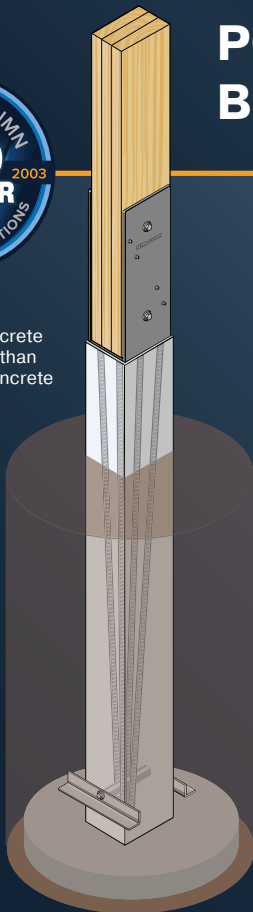
started. Granites are made of lots of minerals bonded together into a rock and they break and fracture along the edges of those minerals as those minerals weather at different rates and break down. So crushed red granite will slow break into smaller pieces and compact more. This may be just the ticket if that is what you are looking for.

The previously mentioned **river rock** isn't likely to break apart or breakdown as it has been abused by moving water for quite some time and the parts that were going to fracture or breakdown have long since done so. **Crushed stone** can be a great option and can come from a variety of different types of rock, some of which are

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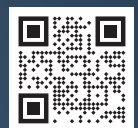
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much less likely to further fracture and break apart than red granite.

Last but not least is **limestone gravel**. This can either be a great choice or not-so-great choice and part of this depends on what matters most to you. Limestone gravel with a range of sizes and some fines in it can be highly compacted and if you occasionally wet it down, it will slowly become an incredibly hard flat surface that approaches concrete-like qualities. There is always a but ... and for limestone that "but" is that it is dusty. You will end up tracking dust around and having some that settles on whatever is in your outbuilding.

MACHINES OR LIVESTOCK?

Most of the above was in consideration of having machinery in your building. If you are going to use gravel in a livestock building, the same things apply, along with a few others.

First, don't do it ... gravel is really difficult to keep clean from manure and animal bedding and you will be perpetually scraping some out along with manure and then having to put in more gravel to replace what you scraped out. That said, gravel can make a nice alley or aisle in your outbuilding with stalls along the side(s). In the



Using the same size of stone can result in rutting like this.

case of an aisle, there isn't a lot of manure accumulation as animals are only coming and going there and not spending lots of time in that aisle. Using gravel, probably small size and rounded to avoid issues with hooves and traction, in an aisle in conjunction with some other flooring for stalls can work nicely as the gravel may be easy for animals to walk on and provide better traction even than grooved concrete. **RB**

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2024
GARAGE • SHED • CARPORT
**BUILDER
SHOW**

JANUARY 24-25, 2024
Knoxville Convention Center, Knoxville, TN
garageshedcarportshow.com

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For More Information Contact Missy Beyer:
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GARAGE • SHED • CARPORT
BUILDER
SHOW
JANUARY 24-25, 2024

BUYERS AND SELLERS TO MEET IN KNOXVILLE

Manufacturers, suppliers, and companies dedicated to all things regarding the construction of small residential buildings will be gathering January 24-25, 2024, in Knoxville, Tennessee, for the third annual Garage, Shed & Carport Builder Show.

As a business-to-business show, the Garage, Shed & Carport Builder Show brings the industry's finest companies together in one 15,000-square-foot space, pairing them with qualified attendees looking to network, learn, and do business.

In addition to hosting over 60 exhibitor booths, as well as educational seminars and demonstrations, this year's Garage, Shed & Carport Builder Show has invited Shed University to present its programming on January 23-24. All registrants for Shed U will receive complimentary admission to the Garage, Shed & Carport

Builder Show, giving them the chance to meet the premier vendors in the shed and residential construction industry and to attend the educational classes and demonstrations provided by the industry's premier business-to-business small residential building show.

FOR ATTENDEES: ABOUT THE EXHIBITORS

There will be more than 50 exhibitors displaying products and services that could change your company. The show floor is nearly sold out and the list of exhibitors is available on the show's website. The list of things to see and companies to meet includes metal and other suppliers of products like insulation, poly/plastics, and screws and connectors. There will be business and marketing companies on hand, as well.



ABOUT THE EDUCATIONAL PROGRAMMING


There will be an educational program for show attendees (different from Shed U's events) that is worth the price of admission alone. Classes are expected on such things as marketing and running your business, making buying decisions on materials and machinery, working with different communities, condensation prevention and control, fastening systems, financing, and taking advantage of PR to advance your company footprint.

Look for programming updates on the show's website. There will be lists of speakers and topics available by mid-November. As noted in our articles about "how to attend a show," such as the one in this magazine issue, education can be one of the best reasons to invest your time and money into visiting a trade show, and you'll often learn from your fellow exhibitors' questions as well.

FOR EXHIBITORS: ABOUT THE ATTENDEES

All Shield Wall Media shows are intended to bring together buyers and sellers. Attendees are typically business owners and those who have the ability to make business decisions. From an exhibitor standpoint, that means the people walking by the booth aren't there to browse; they're going to be interested prospects. Exhibitors at the company's previous events have consistently commented that the attendees of SWM shows are decision-makers. Here's sampling of post-show quotes from last year's Garage, Shed & Carport Builder Show event:

- "There was an appropriate audience that included decision makers from the shed and carport industries."
- "A nice crowd of quality attendees that were actually looking to buy products."
- "The Garage, Shed & Carport Builder Show allows us to connect with existing and potential customers in this targeted industry. We received quality leads."



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SHED U PRESENTS "THE ROAD TO SALES"

Shed University (www.thesheduniversity.com) is the brainchild of Matthew Black of Black's Buildings. Black has been in the industry for decades and launched this new educational venture because of a lack of sales education in the shed industry.

"There are a lot of customers who aren't buying sheds because the sales process isn't what it should be," Black said. "The best way to make our industry bigger is at the dealer level, versus building more sheds and putting them on lots."

Black has been joined in the new venture by Christopher Pittman, a business and sales trainer who runs the Pittman Academy.

Shed U will not only be running online events, but also brings its staff to live shows, the first being the Garage, Shed & Carport Builder Show in January 2024. Shed U will present "The Road to Sales" on the day and a half leading up to the show's opening — January 23 is a full day of programming, and January 24 will be a half day, leading into the opening of the show.

In addition to Pittman, other speakers at Shed U will include Jonathan Ulrich, the owner and CEO of Ulrich Lifestyle Structures, which has been manufacturing backyard structures for 20 years; and marketing expert Jim Mosier. All registrants for Shed U receive complimentary admission to the Garage, Shed & Carport Builder Show, January 24-25.

Learn more about Shed U at thesheduniversity.com/our-events.



Garage, Shed & Carport Builder Show

- Jan. 24-25, 2024
- Knoxville, Tennessee
- **Attendees:**
Learn more at: garageshedcarportbuilder.com/show-registration/
- **Exhibitors:**
Call or email Missy Beyer (missy@shieldwallmedia.com or 920-216-3007)



- "It's big enough to attract, small enough to have quality conversations."

ABOUT KNOXVILLE

The Garage, Shed & Carport Builder Show is a family-friendly event and happily accommodates the families of attendees. Show attendees and their families are encouraged to not only enjoy both events but to stay an extra day or more to take advantage of all that the Knoxville area offers.

The beautiful historic Knoxville area has many attractions, including the Knoxville Zoo and the Knoxville Museum of Art. The Sunsphere is a favorite tourist destination. Built for the 1982 World's Fair, the Sunsphere is one-of-a-kind structure that includes an observation deck that offers a view stretching from downtown to the

Great Smoky Mountains.

Knoxville offers fine dining and nightclubs for those looking for a bit more adventure in the evenings after show close.

While at the show, plan on arriving early to attend the educational seminars each morning while the family enjoys continental breakfast. On Wednesday as the show wraps up, be sure to join us for a complimentary Happy Hour with food and refreshments, allowing a perfect opportunity to network with exhibitors and other attendees.

WHAT TO DO NEXT

For more information visit garageshedcarportbuilder.com/show-registration or contact the event director, Missy Beyer at missy@shieldwallmedia.com, phone 920-216-3007. **RB**

Rosie The Riveter says:

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Maximizing Your Trade Show Experience

We are in the middle of trade show season. For our industry that starts in late September and runs well into the spring.

Trade shows offer an abundance of opportunities for attendees to network, gain insights, and further educate themselves in our industry. However, making the most of these events requires careful planning and strategic execution.

In this article, let's take a look at some proven ways to get the most out of your trade show experience, from pre-show preparation to post-event follow-up.

1 LAY THE GROUNDWORK

Before you even step foot on the trade show floor, put some time into researching the event, exhibitors, and speakers. Create a list of specific objectives that interest you for the show.

Is the discovery of new products and/or services on your list? How about networking with other industry professionals? Gaining knowledge from expert presentations is always a highlight.

Clearly defined goals will guide your activities throughout the event.

This process is equally important for exhibitors as well. What is our team's plan? Have we scheduled coffee or breakfast meetups? What about lunch or even a quick meet up at a show venue pub?

Another key for exhibitors is to not schedule dinners too early. The host hotel(s) bars are one of the best opportunities available to see and be seen. So many attendees in one location makes this a "must-do" part of our after-show floor activities.

2 PLAN YOUR SCHEDULE

Trade shows are typically packed with activities, from keynote speeches and panel discussions, workshops, and networking events. Review the event schedule in advance and identify sessions that align with your objectives. Prioritize those that offer the most value to your goals.

Many of these opportunities fall outside of the exhibition floor hours, but some may not. This makes it important to plan your time before arriving so that you may attend these events and still have plenty of time to visit with the exhibitors. A key strategy is to always choose quality vs quantity.

3 STAY ORGANIZED

Many trade shows provide mobile apps that offer event schedules, exhibitor lists, maps, and other impor-



Research the educational sessions ahead of time because some of them can be business-changing, like this presentation by Thomas Schwarzer of ASC Machine Tools at the 2023 Shield Wall Media Construction Roll-forming Show in Cincinnati in September.

tant information. Download and use the app to keep track of your schedule, navigate the venue, and receive real-time updates.

Once you arrive at the show hall, I suggest you walk the whole show floor first. Stay laser-focused on the first initial walk-through as much as you can. The goal here is to minimize distractions later as you really get down to business with the exhibitors you have preplanned to see.

Once you've done your reconnaissance by walking the floor, take a few minutes to create your "must-see" booths. By taking this walk-through and then going on a planned visit route, you will make sure to spend the time with those of most importance and hopefully not leave the show feeling you missed some opportunity.

A note to us exhibitors. While we are there to meet old customer friends and make new ones, let's be cognizant of our attendees' time. They have much to accomplish and will appreciate that we honor their time. If we have a really good meet-up which could use some additional time, then let's see if the customer friend or prospect has a few minutes after the show ends or even the next morning ... can we say "coffee or breakfast?"

4 BE STRATEGIC IN BOOTH VISITS: QUALITY OVER QUANTITY

The trade show floor can at times be intimidating. It can appear daunting. Believe me, with large shows, it will be an undable proposition to visit every booth. Instead, focus on those that align with your interests and goals. Engage exhibitors in meaningful conversations, learn about their products or services, and

ask meaningful questions. It's back to the idea of thinking quality interactions rather than the quantity. This will provide you with deeper insights and potentially valuable connections.

5 NETWORK WITH PURPOSE

Networking is a central aspect of trade shows, but it's not just about collecting business cards. Set your goal to build meaningful relationships. By developing your pre-show itinerary, you will be better positioned to meet all your goals. You will attend the events and visit the exhibits most important to your business.

Be sure to be an open networker. Show an interest with other professionals in our industry. Share your experiences and listen to theirs. Engage in conversations that go beyond surface-level interactions and remember to follow up with contacts after the event.

While I've said to be a bit laser focused, I do not want to suggest we don't keep our head on a swivel. If we remain in an opportunity-seeking mode, we will be open to some very beneficial contacts which might otherwise escape us.

6 EXPAND YOUR KNOWLEDGE

Trade shows often feature educational sessions led by industry experts. These sessions provide valuable insights into current trends, best practices, and emerging technologies. Attend talks and workshops that align with your objectives to gain a broader perspective on our industry. Most of these educational sessions will offer a time for questions. Have some prepared if you can.

Don't be shy ... ask questions. I can almost guarantee someone else in the audience will have the same or similar questions.

7 TAKE NOTES

With so much information to absorb, it's easy to forget key takeaways from sessions and conversations. Bring a notebook or use your mobile device to jot down important points, ideas, and action items. These notes will serve as a valuable resource after the event.

As an attendee, I cannot stress enough that you want to take control of your own destiny. Find a product or service that is important to you. Own this! Take responsibility yourself to get the rep's card. Ask for a follow up. Make notes. Most of us exhibitors will want to follow up, but I suggest you don't leave it to chance. We get a lot of people through our booths at times and while it would be unintentional, mistakes or misses can happen.

As an attendee, do your part as well. As an exhibitor let's make sure we maintain a good follow-up system and properly prioritize our "after show" follow up. Make the necessary notes while with the customer or prospect while the discussion is fresh. This always indicates you take them seriously.

8 BE AN ADAPTER. EMBRACE THE UNEXPECTED

While it's important to have a plan, don't be afraid to

deviate from it if unexpected opportunities arise. Many of the best interactions are the chance encounters or impromptu sessions which can lead to valuable insights and connections you might not have anticipated. While this sounds counter to what I've said earlier, it's really an important aspect of making this a successful experience.

Plan ahead. Work the plan. Adapt when a real opportunity presents itself.

9 ENGAGE ON SOCIAL MEDIA: EXTEND YOUR REACH

Social media is a powerful tool for extending your trade show experience beyond the event itself. Use event-specific hashtags to share your insights, connect with other attendees, and follow up on conversations. This also allows you to engage with speakers, exhibitors, and fellow attendees on a digital platform.

As attendees or exhibitors, we should strive to extend the benefits of the show beyond just the few days in the host city. We all spend valuable time and monies attending which makes it imperative that we make this a high value proposition.

10 FOLLOW UP AND SOLIDIFY YOUR CONNECTIONS

After the trade show, take the time to follow up with the contacts you've made. Make a phone call, send personalized emails, texts, or direct message to those you've connected with, expressing your appreciation for the interaction and continue the conversation. This helps solidify the relationships you've established.

11 REFLECT AND IMPLEMENT

Once the trade show is over, reflect on your experiences and the insights you've gained. Identify actionable steps you can take to implement what you've learned into your everyday endeavors. This can include adopting new strategies, exploring partnerships, or integrating innovative technologies. Applying your learnings is key to deriving long-term value from the event.

In conclusion, attending a trade show is more than just showing up — it's about intentional planning, active engagement, and purposeful follow-up. By setting clear objectives, planning your schedule while being adaptable, networking strategically, and documenting your learnings, you can ensure that your trade show experience is both fulfilling and valuable for your personal and professional growth.

Remember, the value you extract from the event coincides with the effort you invest in preparation and execution. Now go have some amazing shows! Hope to see you there. **RB**

Randy Chaffee brings four-plus decades of experience to the construction industry. A board member for the Buckeye Frame Builders Association and the National Frame Builders Association, follow his podcast at [facebook.com/BuildingWins](https://www.facebook.com/BuildingWins). No web access? Call (814) 906-0001 at 1 p.m. Eastern on Mondays to listen.

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Shield Wall Media!



Have a Happy and





Healthy New Year!



BY LINDA SCHMID

Volatility in the Market?

Partner With Your Customers for Mutual Benefit

Michael Tichenor worked in the wholesale building industry in 1981 when he saw a gap in the market; he realized that the market needed another distributor and he set out to fill that gap. Tichenor knew that success in business is based on the relationships you develop with people in the industry, so he set about developing relationships with quality suppliers, sourcing and engaging strong salespeople, and developing a loyal customer base.

A NEW ENTERPRISE

The company is based out of Annapolis, Maryland, and they serve the New England area and much of the east coast. Their offerings are primarily exterior building supplies including roofing and siding, shed, barn, and garage products, flooring, trim and decking. New panel and flooring specifically for sheds, garages, and barns are coming soon.

Most of their products are based in lumber with supplies coming from Europe, Canada and across the U.S. Other items



Capital grades and sorts lumber to ensure their customers receive a quality product.

include mulch, soil, fencing products, and seasonal items; these products are sourced from across the globe.

CHALLENGES AND OPPORTUNITIES

Everyone involved in the industry has seen the recent volatility in the lumber market. Scotty Scott, Marketing, says that since the pandemic it's been rollercoaster-like. However, the company has used this experience to strengthen their relationships with customers. They accomplished this by watching the market carefully, analyzing, and trying to stay a step ahead of changes in the market, in turn keeping their customers apprised of the situation.

"If the prices are going up, we want to offer that insight to our partners," Scotty Scott, Marketing, asserted. "We want to ensure that our partners are successful"

But it's not enough to simply guide customers through the dangers of a capricious market, Scott says, one must also listen to customers to truly understand what they need, what their challenges are. After communications, he cites consistency as



The Annapolis Team

one of the most important qualities they offer customers, ... “consistency in quality products, timeliness, and pricing,” Scott said.

A POSITIVE MINDSET

“Open minded” is how Scott describes Capital Forest’s culture. “We encourage new ideas and product suggestions, small ideas and big ideas,” Scott said. “We start from a place where every idea has potential. The people are all very collaborative.”

Since October 1, 2021, the company has been 100% employee-owned, a goal that Tichenor had entertained to ensure that the company would survive and flourish. Not only has it kept the company going, it seems to energize the employees.

“Being part owner makes people feel engaged and very aware of how everything they do affects the whole company. It helps people take ownership of every action.”

MOVING FORWARD

The company expects growth in all their markets and westward expansion in the coming years. Their focus on relationships:



Aerial of Capital Forest Products, Leola, Pennsylvania

vendors, employees, and especially customers is the propellant that will make them successful.

Scott said, “We’ve had 40 years partnering with our customers; we’re looking forward to another 40.” **RB**

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Building Will House 1 Million Cattle a Year

By Frank Lessiter



Cover of *Farm Building News*, Jan/Feb, 1976. The cover was explained in the magazine; we've included the condensed version below.

ANATOMY OF A COVER

If you think that's a bonafide band on the cover that can really belt out a beat, you're way out of step ... more than one member of this "ragged time band" asked the photographer, "How the heck do you hold this thing?" referring to the musical instrument he'd just been handed. Only one of these "musicians" had ever played a musical instrument in his life (although another remembered playing a kazoo at a New Years party.) As most regular FBN readers, and those who regularly attend our Farm Builder Shows likely recognized, that's the FBN staff blowing up a storm in the picture, as a sneaky way to get builders and suppliers in a "Dixieland mood" for the FBN Show in the heart of New Orleans.

— FBN Editor, 1976

This contractor put 12.1 acres under a single roof. The resulting new Sioux City Stockyards cattle barn replaced 40 acres of outside pens and solved serious pollution problems.

A giant cattle barn — the size of 17 football fields — has solved a serious pollution problem the Sioux City Stockyards faced in 1970. That's when the Environmental Protection Agency got tough on waste water flowing into the nearby Missouri river.

The new cattle barn, measuring 506 x 1,043 ft. and all under a single 12.1-acre roof, was constructed by Henkel Construction Co. of Mason City, Iowa. It went into operation last May as a replacement for more than 40 acres of open, outside traditional stockyard cattle pens.

While the barn will hold 10,000 head of cattle at a time, stockyard officials expect that close to 1 million cattle a year will walk through the building on their way to market.

In business since 1887, the Sioux City Stockyards handled 2.1 million hogs, 881,454 cattle and 95,550 sheep last year. Total market value of these 3.1 million head of livestock from area farmers was over \$600 million.

ACTION WAS NEEDED

Back in 1970, EPA's concern was the quality of better than 6 million gallons of waste water flowing from the stockyards into the Missouri River each business day. EPA officials were convinced pollution was a major problem — one that could even force complete shutdown of the stockyards if something wasn't done.

One of the first steps in solving the pollution problem was a decision to separate clean rainfall from the pollution residue in



Henkel Construction Co. crewmen at work on the heavy steel beam framing stages.

waste water resulting from hog and cattle pen flushing.

A separate drain system was installed to collect rainfall from the stockyard's 14-acre, two-story "hog hotel." This permitted direct discharge of this clean rain water into the river.

Next came the major decision to replace the 40 acres of outside cattle pens with the new 12.1-acre covered cattle barn.

Rain water collected from the 12.1-acre (539,736 sq. ft.) roof on the cattle complex is now diverted directly into the river.

"As a result, both divisions now have a system whereby rain water is directed to storm sewers. Animal wastes are screened and directed to the city sanitary sewer," says L. Van Kuhl, president and general manager of the stockyards. "In other words, we have our ultimate goal of pollution control."



Largest and most modern facility of its kind, the Sioux City stockyards has this building covering 12.1 acres. Rainwater is collected from the roof and diverted to the river.



Cattle pens in an area the size of over 17 football fields allow for straight movement as they are received, weighed and moved out. Each pen has an automatic waterer and feeder.

CONSTRUCTION DETAILS

The project took over two years from demolition of old pens to completion of the new cattle barn. As many as 100 men worked on the job. Henkel Construction was the main contractor on the cattle barn, with the help of many sub-contractors.

To give you an idea of the vastness of this project, consider these figures:

- The roof and 420 support columns for the new building weigh 1,185 tons
- The roof slopes from 14 ft. at the eaves to 31 ft. at the ridge.
- There are 1,056 2x10-ft. skylight panels
- Some 853 mercury vapor lights provide night-time lighting for the livestock marketing complex that operates 24 hours a day.
- Electrical service runs through 10-1/2 miles of electrical conduit.
- Some 54 miles of copper wire were used.
- There are 1.3 miles of sanitary sewers and 1-1/2 miles for water mains and lines.
- A total of over 10,000 cu. yds. of concrete were used in the structure.
- There is a total of 141 automatic waterers from Peterson Mfg. and 262 feeders from Power River MFG. in the cattle barn.

• There are over 5,000 steel panels and gate from Amarant MFG. Co. in the building's cattle pens.

And get this: Someone took the time to figure out that a total of 390,000 metal screws were used in the roof alone!

A continuous ridge ventilator with a minimum throat diameter of 48 inches provides ventilation.

Each cattle pen is equipped with feeders and automatic waterers which reduce the amount of waste water that has to be treated to meet EPA regulations.

MOST EFFICIENT AROUND

“There are many things about our new market center that make the covered cattle division the most modern and efficient in the country,” says Kuhl. “The new facility should benefit both farmers and livestock marketing interests operating in the yards.”

Construction methods and materials used by Henkel Construction were designed to reduce livestock injury and bruising. Animal safety was an important consideration in planning and designing chutes, pens and flooring. Scored concrete was used to give livestock surer footing, thereby reducing cattle injuries. **RB**

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BY RURAL BUILDER STAFF



■ NEW DRIFT SOLAR SNOW FENCE SYSTEM FROM ROCKY MOUNTAIN SNOW GUARDS

People are increasingly moving to capture the sun's energy with roofing solar panels. But when the weather turns colder, the new Drift Solar Snow Fence System from Rocky Mountain Snow Guards, Inc. will be ready to carefully handle the melting conditions of fallen snow.

Designed specifically for snow retention below solar panel installations on shingle roofs, the 12" tall, 4-pipe aluminum Drift Solar snow retention system ensures no snow slips past the snow fence. It serves as a "catch basin" for snow. The system comes in Mill Finish Aluminum or Coated Aluminum.

Said Lars Walberg, president of Rocky Mountain Snow Guards, "With the Drift Solar Snow Fence System, the snow is held back and released gradually."

Suitable for both new roof and retrofit roof applications, the brackets must be bolted down to the roof support structure. Installation should be such that there is a minimum of 12" between the bottom of the solar panel and the snow fence tubes. The bracket can be flush at the eave with the tubing side facing down-slope (reversed installation compared to other snow fence installations).

Five ½" x 3.5" lag bolts (not included) and the individually sold Ice Screens must be installed with the Drift Solar snow fence system to impede the movement of snow between the tubing. Drift Solar 4-Pipe Fence-Style Snow Guard Bolt-Down Brackets are also available for end placements on the system.

www.rockymountainsnowguards.com

■ LAKESIDE PRO-SERIES SELF-DRILLING FASTENERS

The new Lakeside Construction Fasteners Pro-Series PRO-TEK™ self-drilling fastener is developed for metal-to-metal building applications. The innovative Pro-Series PRO-TEK™ with a larger head diameter limits wind uplift, and the concealed EPDM tubular washer system allows for a weather-tight seal.

The engineered flat surface area on the Pro-Series PRO-TEK™ also provides positive nutsetter engagement, preventing wobble during fastener install. Deep root cut threads give the Pro-Series PRO-TEK™ Maximum Holding Power when installed into metal building panels.

The fasteners are engineered to prevent wobble and have deep root threads and a concealed washer.

lakeside-fasteners.com



protection, and a high degree of dexterity.

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

www.brassknuckleprotection.com

■ SMARTCUT GLOVES FROM BRASS KNUCKLE ADD GRIP, PROTECTION, DEXTERITY

Application-specific cut standards remain the only way to specify cut-resistant protective gloves. However, A4 cut resistance has quickly become the de facto minimum standard for work gloves used in many applications. Foremen and plant managers alike trust its performance and feel confident putting their people in it when setting out for another hard day at work. Brass Knuckle SmartCut (BKCR4420) offers this highly desirable A4 cut resistance plus a whole lot more, making it a value-added glove with plenty of upside.

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

■ GRAY TOOLS INTRODUCES MADE-IN-USA INSULATED SOCKET SETS

Gray Tools offers two new insulated socket sets, available in 1/4" and 3/8" drive sizes. Made in the USA, each set contains a 42-tooth round head ratchet with two extensions and a variety of SAE and metric



sockets. Each piece is individually insulated to 1,000 volts and tested to 10,000 volts in compliance with ASTM F1505 standards.

The 1/4" drive set includes 25 pieces and the 3/8" includes 24 pieces. The pieces are neatly stored in a dual-color foam organizer with imprinted size markings on the top layer for quick identification. They are contained in a light, yet durable carrying case with metal latches that is convenient for either storage in a toolbox drawer or transport to a jobsite.

Every piece in the set undergoes a rigorous multi-step insulation process to meet compliance and ensure quality. When the process is completed, each tool is charged with 10,000 volts of energy for 180 seconds to ensure its insulation resists potential electric shock. Other tests are performed to verify the flame resistance and durability of the insulating material.

shopdynamictools.com

■ BITEC LAUNCHES ELASTOTHERM LINE OF POLYISO ROOF INSULATION

Bitec, Inc. recently launched a versatile family of closed-cell, polyiso roof insulation panels, providing roofing contractors with a zero-ozone-depletion (ODP) option for insulating Bitec's APP- and SBS-modified roofing assemblies. The ElastoTherm™ family includes:

- ElastoTherm B flat or tapered insulation panels, featuring an integrally bonded fiber-reinforced facer

- ElastoTherm E flat or tapered insulation panels, featuring an integrally bonded non-organic glass-fiber-reinforced facer

- ElastoTherm Max flat or tapered insulation panels, featuring a reflective foil facer

- ElastoTherm Nail Base insulation, combining either ElastoTherm B or E with min. 7/16" APA/TECO-rated or OSB or min 19/32" CDX plywood

- ElastoTherm Vented Nail Base insulation, combining ElastoTherm B with a min. 7/16" APA/TECO-rated or OSB or min 19/32" CDX plywood, and with each panel separated with and bonded to five individual 1.0", 1/5", or 2.0" spacer strips

All members of the ElastoTherm family are available in Grade 2 and Grade 3 compressive strengths, are UL 1256, UL 790, UL 263, UL 1897, FM 4450/4470, and FL17989 approved, and are fully compatible with all APP- and SBS-modified Bitec roof membranes. The product line also includes a roof recover board with an integrally bonded inorganic glass fiber-reinforced facer.

www.bi-tec.com



■ NEW YANMAR MINI EXCAVATORS BRING POWER, SERVICEABILITY, COMFORT

Yanmar Compact Equipment introduced new generation ViO80 and SV100 mini excavators. The ViO80-7 and SV100-7 feature significant improvements to hydraulic efficiency, cab comfort, and ease of maintenance. The models are the largest in Yanmar's mini excavator line and ideal for fleets and work in utility, construction, demolition and landscaping applications, to name a few.

Operators will see the biggest differences from the previous models in the newly designed cabins. Each is built for comfort and operator experience. The upgraded space in each includes a new suspension seat, more foot space, ergonomic foot pedals and a wider cabin for easier entry and exit. Operators can survey the worksite more easily with increased cab glass area. Hot days are more tolerable with the included automatic air-conditioning, the cab is quieter and additional USB ports allow for convenient phone charging.

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BY RURAL BUILDER STAFF

■ DELMARVA VETERAN BUILDERS HELP VETS AND KIDS FIND THEIR WAY

By Linda Schmid

Delmarva Veteran Builders has a unique mission. Of course, as a building company they are focused on quality construction and building relationships with customers, vendors, manufacturers, and sub-contractors. But above and beyond these important business goals, they work to provide a transition from military life to civilian life.

Chris Eccleston, Delmarva's CEO and founder is a Navy veteran who saw the struggle that many veterans experienced, and he realized that military training would be very useful in the building trades. "The veteran mindset lends well to construction. Military members are trained to show up; they want to serve. It's all about teamwork and moving towards a clear goal," Eccleston said.

Eccleston made employing ex-military a priority for his company, and it has paid off for the Salisbury, Maryland-based \$30 million construction company. However, regardless of success and awards the company has earned, including the Secretary of Defense Employer Support Freedom Award, Eccleston felt that he could do more to help the industry as a whole.

He and Jenny Kerr Schroen, DVB's creative developer, collaborated to write a book based on Delmarva's tagline: "Grit Leads To Greatness". The story is about two children, Trig and Tegan who go on an



epic adventure through a dystopian society in which they learn lessons about grit and the transformative power that trade skills provide.

Eccleston and Schroen believe this book can be a powerful tool to ignite the interest and passion for the trades in kids from a young age. To get the story out to the kids, they have planned a Read Across America Week, March 4-8, 2024. To participate, support the industry and their own brand companies are invited to purchase books and donate them to local schools. They are also encouraged to send employees to read the book to elementary school students in grades 2-5. Providing a copy to each child to take home will give the idea a good chance to germinate and inspire a new generation of workers.

If you'd like to participate in Read Across America Week, email Eccleston at chris@delmarvaveteranbuilders.com for more information.

delmarvaveteranbuilders.com for more information.


■ JOEL VOELKERT RETIRES FROM VULCAN STEEL AFTER FIVE DECADES IN INDUSTRY

Business leader Joel Voelkert is retiring after more than five decades of service to the metal building industry. Most recently, he served as vice president of sales and marketing for Vulcan Steel in Adel, Georgia. "Joel's metal building career spans an impressive 51 years and is marked by a legacy of exceptional contributions and unwavering dedication to this industry," said Steve Browning, Vulcan President/CEO. "His commitment to excellence and his leadership have played a pivotal role in our company's growth and success. Throughout his 10-year tenure at Vulcan, Joel has led our sales and marketing efforts to a new level. His strategic vision and disciplined approach to the execution of it have been instrumental in elevating our brand and expanding our market presence."


Voelkert's professional associations are many. He served as chairman of the Metal Building Manufacturers Association (MBMA) and he has remained extremely active in MBMA through the years, serving repeatedly on the board and chairing the marketing committee. "Joel was MBMA's Chairman in 2002, and has served the association in many key roles through the years," said Tony Bouquot, MBMA general manager. "We so appreciate all of his service and wish him well."

Voelkert was also a leader in The Metal Initiative and a board member for the Metal Construction Association.


In 1976, Voelkert joined American Buildings Co. where he was responsible for sales in Florida and the Caribbean. In 1996, he was named president of the Construction Products Group and in 1999 promoted to president. When American acquired Associated Building Systems in 1999 he was named president of the group, which included American Buildings Co., Kirby, Gulf States and CBC. In 2003, Voelkert ventured into serving as a consultant.




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The *Rural Builder Source Book* is published by the team at *Rural Builder* and mailed to more than 31,000 subscribers.





Post-Frame Man-Caves

Dake Contractors Builds Development With Burrow's Post-Frame Packages

Dake Contractors of Shawnee, Oklahoma, builds high-quality post-frame structures in Oklahoma, Texas, Kansas, and Arkansas. Jake Clanin, owner of Unlimited

Design Custom Homes, and Darr Freeman, a business owner with an oilfield background, turned a lifelong friendship into a thriving post-frame partnership and business venture.

The two Shawnee, Oklahoma, friends know a thing or two about construction. Clanin has been building and framing custom homes for several years; he purchased a very successful framing com-





THE DETAILS:

Builder: Dake Contractors, Shawnee, Oklahoma

Building Package Supplier: Burrow's Post-Frame Supply, Ft. Gibson, Oklahoma

Dimensions: 40' x 60', 16' ceiling height

Doors, Cupolas, Fasteners: Plyco

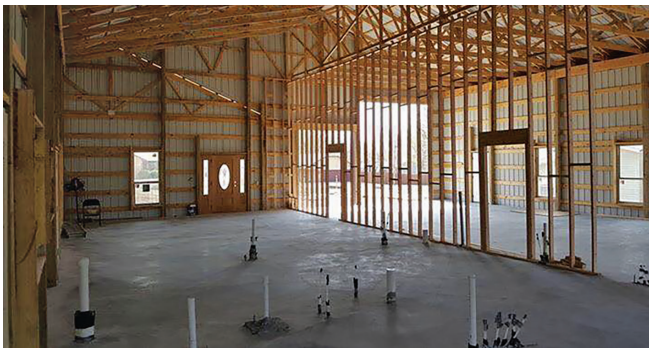
Painting: Overhead doors, windows, ductwork and trusses painting by Gonzalez Painting LLC

Overhead Doors: Raynor and CHI, installed by Winkler Garage Door, Shawnee, Oklahoma

Insulation & Spray Foam: IDI Distributors Natural Polymers Spray Foam Insulation. Installed by Keith Wendt of Cruz Insulation & Spray Foam

HVAC: Armstrong, installed by Tri-County Air Solutions

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All photos by Bailey Harman of Burrow's Post-Frame Supply

pany and has built on that company's success. Freeman found success in the Oklahoma oil-field industry, and they were interested in partnering up and starting a development in the Bethel Acres area of Shawnee.

When they broke ground on the Cedar Creek Development, they chose Burrows Post-Frame Supply out of Ft. Gibson, Oklahoma, to create an important piece of their plans: the man-cave, post-frame buildings that serve multiple uses. They contacted sales representative Bryan Tucker and the team then built multiple buildings at the development.

"They are basically shop buildings with framed-out rooms and bathrooms," Tucker said. "They are really man-caves. Some have gun rooms built in; each one is a bit different as far as the inside goes but all have the same general purpose."

The photos shown all have the same materials and layouts, with only slight derivations except the colors. These are high-end, exclusive, 5-acre tracts and there are four homes built thus far. **RB**



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CSI: Construction Survey Insights – The Annual

This November, Shield Wall Media will release our third State of the Industry Survey.

The markets our magazines serve are notoriously difficult to quantify and generally overlooked. The data itself is typically questionable, from sample bias and small sample sizes. We have been working with the Metal Construction Association, METALCON, and several manufacturers to improve the scope and quality of the metrics available.

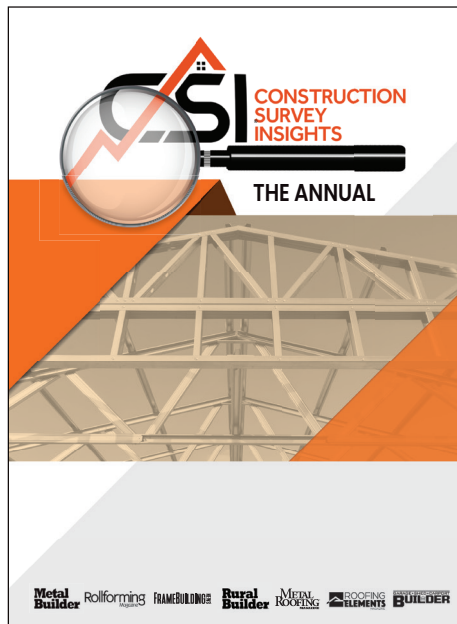
We will continue the CSI columns in our issues throughout the year, but we have an announcement.

In April 2024, Shield Wall Media will launch our first CSI: Construction Survey Insights Annual. This annual will print 80,000 copies and mail free of charge to all subscribers of our publications.

We have engaged Paul Deffenbaugh to help us launch the first CSI Annual. His extensive industry experience uniquely suits him for this task. His knowledge will be instrumental for our next step in data generation.

The Annual will cover the macro-economic factors affecting construction

in general and take a deep dive into the survey data and expert opinions related to the specific markets we serve.



A rough outline of the content follows.

Section 1 – General economy trends and data

Section 2 – Construction-specific trends and data

Section 3 – Rural Builder target audience
Low-rise construction outlook and data including but not limited to:

- Agricultural
- Residential
- Light commercial

Section 4 – Frame Building News audience target (post-frame construction)

Section 5 – Metal Roofing and Roofing Elements audience target

- Primarily residential, some commercial
- Metal roofing specific including metal market share and market forces

Section 6 – Rollforming audience target

- Metal and manufacturing focus, including steel and aluminum forecasts, etc.

Section 7 – Garage, Shed & Carport Builder target audience

- Portable sheds and small buildings
- Include consumer financing data and rent-to-own stats

Section 8 – Metal Builder target audience

- Primarily light-gauge, cold-form metal buildings

RB



Paul Deffenbaugh
Founder, Chief Content Officer
Deep Brook Media LLC

Paul Deffenbaugh has more than 30 years of experience in construction as both a contractor and an industry thought leader. He is founder and chief content officer for Deep Brook Media, which provides editorial and marketing services to the construction industry.

In his unique career, he has led media covering both the residential and com-

mercial design and construction industries. Among the titles he has directed are Metal Construction News, Metal Architecture, Professional Builder, Custom Builder, Housing Giants, and Remodeling.

An award-winning writer and editor, Deffenbaugh has witnessed firsthand the birth and growth of digital media, and he is clear-eyed about its strengths and weaknesses in serving a trade audience. He also is a strong advocate for encouraging young people to find careers in the trades.

Metal Builder

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Act Now If You Like Metal Builder

Metal Builder has been a quarterly supplement to Rural Builder for over a year now, and Rural Builder subscribers didn't have to do anything to receive it. It just magically appeared on the back of your regular issue, four times a year.

That is changing in 2024. If you like Metal Builder, you need to sign up for it now. This is your last installment to be included in Rural Builder. Metal Builder is not yet becoming its "own" magazine. That is the plan, someday. But for now, it is moving to a different magazine and will now be a flip-cover within Garage, Shed & Carport Builder magazine. Both deal largely in metal structures.

Metal Builder will still be free and you only have to take 5 minutes to sign up. You can do that in a few different ways, but what we recommend is simply visiting Metal Builder's new website at www.metalbuildermagazine.com because you should bookmark our new website either way. Look for "Free Magazine Signup" at the top, or a popup will also appear with yellow letters so you can also just click on that.

Not sure if you need Metal Builder moving forward? Here's a sampling of the 2024 editorial calendar to help you decide.

- Metal Buildings & Codes
- BIM/3D
- Helping Customers Finance
- High-End Barndos
- Fasteners
- Welding Basics
- Europe vs. US: What Can We Learn?

- Printed Light Gauge Steel
- Tips to Improve Profitability
- Onsite Prefab
- Curving Metal Panels

Rural Builder will continue to cover all things rural, including agricultural buildings, and that obviously includes metal buildings. But if you work heavily in metal, or want to learn how, you should take 5 minutes and sign up today. Also see the ad on page 5.

— Rocky



Hanging With Style

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BY ROBERT WELLS
AERIAL PHOTOGRAPHY BY MICHAEL TAYLOR
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1 METAL BUILDER / A SPECIAL SECTION TO RURAL BUILDER / JULY 2023



METAL: The Material of Choice

With its continuous superior strength, this system provides construction to provide an extended product life. The crew had not previously installed a ThermiCheck system, so the group gained experience as the project progressed. The structure is a mission-critical facility. Michael, director of metal buildings at Pioneer, Inc.



2 www.metalbuildermagazine.com

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Show Review Issue
Construction Rollforming Show
in Cincinnati

PAGE 4

METALCON in Las Vegas

PAGE 10

10 Ways CFS Framing
Can Lower Costs

PAGE 16



On the cover: Deals were made and hands were shaken at the Shield Wall Media Construction Rollforming Show in September in Cincinnati. Learn more about that show on page 6 and about the METALCON show on page 19. Metal Builder Staff Photo.



Roll With the Changes

Shield Wall Media's Construction Rollforming Show in Cincinnati Connects Roll Formers With Products, Services

The 2023 Construction Rollforming Show closed with many happy attendees and exhibitors. It was held once again at the Duke Energy Convention Center in Cincinnati, Ohio, which many attendees and exhibitors expressed

was their favorite location. The September 27-28 event saw attending roll forming professionals keeping more than 60 industry suppliers extremely busy.

Shield Wall Media Show Director Missy Beyer explains, "The goal of the Construc-

tion Rollforming Show, much like all of our shows, is to put qualified buyers in the room with the industry professionals that are there to sell. The key is we're bringing qualified buyers into the space so they can make connections and build their businesses. Attendees can see everyone they need to see in one room, and the exhibitors can expand their footprint by seeing buyers from all over the US."

For the 2023 show, exhibitors and attendees came out in force. "It is great to see the Construction Rollforming Show mature," said Gary Reichert, Publisher/CEO of Shield Wall Media. "This year, attendance and exhibitors increased by more than 20%. Multiple exhibitors stated they did not have a second on the first day when they were not engaged with a legitimate prospect. We are going to have to add hours to the first day of next year's show to accommodate the growth."



SWI Machinery's Jason Smoak gives a demonstration to interested roll formers.

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Dear Readers:

A couple years ago, we added a new section to this magazine called *Metal Builder*. It has been a “flip section” of *Rural Builder* and has included articles specifically about building with metal.

We’ve been very encouraged by the reaction so far and continue to have plans to take this new brand to its own magazine someday. In fact, it has a brand-new website at metalbuildermagazine.com where you can read our back issues and the articles that were in them.

Here’s what you need to know today: *Metal Builder* is moving to another magazine so if you want to continue to read it, you need to sign up for it today. It will continue to be a flip section, for the near future in our *Garage, Shed, Carport Builder* magazine. Signing up for it using this form or the website address at left will ensure you receive *Metal Builder* in the near term, and when it becomes its own magazine someday.

Thank you to the advertisers and subscribers who have made this growth possible. We hope you have liked our *Metal Builder* content enough to take advantage of this free offer today.

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| <input type="checkbox"/> Post Frame | <input type="checkbox"/> Residential | <input type="checkbox"/> Metal Roofing | <input type="checkbox"/> Rollforming |
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| <input type="checkbox"/> Fabric | <input type="checkbox"/> Equine | <input type="checkbox"/> Foundations | <input type="checkbox"/> Insulation/ |
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MAIL TO:
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Ryan King of Cidan Machinery, shown here at the booth, also ran two educational seminars.

forming Show recognize the benefits to be gained by attending. For the price of admission, attendees received personal, one-on-one connections with leading industry manufacturers and suppliers, relevant educational presentations, a five-star social event that included an authentic German food buffet and drinks galore. The event even included an “oompah” band, the Trans Am Euro Mutts, which performed while attendees and exhibitors enjoyed the catered dinner buffet.

They also had the opportunity to see first-hand new products and develop-

ments. New products unveiled included the Ridge RAT (Roof Access Tool) ladder tool that provides a new and unique way to work on a roof, which was introduced in the Formwright booth; the new Plyco window that has a scratch-free acrylic finish; and new Firm Grip gloves that are cut-free not only on the palm side but also on the back, which were at the ST Fastening Systems booth. Northern Building Components introduced a new door that has a fiberglass panel that doesn’t need to be painted, and a new door jamb that can be painted.

Educational presentations were given by industry insiders. Topics included, but were not limited to: roll former maintenance, presented by Frank Schiene of Metal Rollforming Systems, followed by Thomas Schwarzer, ASC Machine Tools, who spoke about considerations when choosing a panel roll former. Ryan King of CIDAN Machinery gave presentations on the benefits of professional associations and making the right buying decisions on trim bakes and folders. Additional sessions included Building Wins podcaster and Source One Marketing product rep Randy Chaffee, who spoke about working trade shows from both sides of the aisle and hybrid selling; Brad Shreve of AkzoNobel, who spoke about coatings and warranties; Royden Wagler and Keith Dietzen of SmartBuild, who lead a session about the pros and cons of automated versus manual material take-offs; and Adam Buck, 3GM, who educated the audience about coil basics.

A brand new and unique show feature this year was the Rest Stop Retreat, which was sponsored in part by Acu-Form. “The Rest Stop was a big hit,” Beyer recalls. This unique show feature included a dedicated rest area, complete with seating and activities for families. “Our show management recognizes that families attend this show



together, and often families need a time-out from walking the show floor.

“Also new this year is the mother’s room,” she continues. “The mother’s room was a quiet, private place for mothers with infants. Although some industry shows make an effort to discourage family members under the age of 18, likely due to liability, Shield Wall Media shows strive to be family friendly and to occur in locales that are also conducive to wholesome family fun.”

THE MEASURE OF SUCCESS

When asked how she measures the success of a show, Beyer explains, “I measure the success of a show by the feedback from exhibitors and attendees. I want it to be a positive experience for all involved, whether that be from the standpoint of business done on the show floor or simply contacts made for future business. Feedback from the show was more positive than any previous Shield Wall Me-



Thomas Schwarzer of ASC Machine Tools gave a talk about choosing a panel roll former.

dia shows, with increased attendance for exhibitors and more booths on the show floor for the attendees to do business with.”

EXHIBITOR FEEDBACK

There were more than 60 exhibitors from whom attendees could get the information they needed to make educated



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Wayne Troyer gives advice and tips at the Acu-Form booth.

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Shield Wall Media produces Rollforming Magazine for builders and contractors who own a roll forming machine or are seriously considering getting one. If you want to learn more about how to expand your business in this area, sign up free at shieldwallmedia.com or rollformingmagazine.com.



buying decisions. Meaningful connections were made throughout the duration of the show. “I cannot speak highly enough about this year’s Construction Rollforming Show,” enthuses Randy Chaffee, Source One Marketing, who sells components throughout the construction industry and did live webcasts over the course of the event. “First class all the way! Great attendance with outstanding networking opportunities. The Shield Wall Media folks were spot on in every aspect. This show is a real winner and one that I will be thrilled to attend every year.”

ASC Machine Tools’ Thomas Schwarzer was equally pleased. “The attendance of the show on Day 1 was really great,” he says. “At times we hardly had enough time to talk to every customer that stopped by our booth.”

Hershey’s Metal Meister, which offers metal-shop machines, has exhibited at all four Construction Rollforming Shows. Spokesman Zach Harvey was also enthusiastic about the most recent show in Cincinnati: “We really enjoy the way we are treated at [Shield Wall Media] shows; the hospitality is unmatched compared to other expos we attend, as well as not

being nickel-and-dimed for every service you offer with your event ... We’re looking forward to next year!”

Building material supplier Graber Post Buildings, too, has exhibited at every Construction Rollforming Show. “The 2023 CRS show in Cincinnati was a well attended event for the metal roll-forming industry,” GPB’s Trent Wagler recalls. “It’s always great putting faces to names and making connections. The floor traffic was great both days and the exhibitors displayed a wide range of machines, products, and services that added a nice variety. We look forward to the show next year in Grand Rapids and highly recommend that each of you put this one on your radar.”

ATTENDEE FEEDBACK

Attendees appreciated the ability to speak directly with vendors, get the information they needed, and not be rushed through the process. Albert Schrock, owner of Cherry Fork Metals, said he’s been to all three of the Construction Rollforming Shows that were held in Cincinnati. Schrock said the shows were all wonderful, but he really enjoyed this one. “It’s close to home and it’s a nice central location; it’s a good location for a lot of people.”

Anthony Heggie, Customer Service Representative for coil distributor Mid-South Aluminum, states: “This was my first industry trade show, and I was impressed with the number of attendees and exhibitors for such a focused show. I also really enjoyed getting to meet all of the various Shield Wall Media members that I have previously only had email interaction with. It was easy to see how the entire team was dedicated to this show being a success. Wednesday was the day that I got to walk the floor the most, and I was also impressed with the rollforming machines that were on display. Thursday was when I got to attend a few of the sessions, and I brought that information back and shared it with members of our upper management. The session on the importance of associations was eye opening as far as just how important various trade associations are for the industry. The session on how to get free media



New products unveiled included a ladder called the Ridge RAT at the Formwright booth.

coverage was also an avenue that I had not previously thought of, but I am very glad that I attended that session as well and was able to get very valuable information.”

GIVING BACK

Wildfires ravaged portions of Maui and Hawaii from August 8-11. Moved by the devastation, Reichert made the decision to donate all admission fees received from Sept. 1-28 to help those in need. That record-setting, increased attendance meant putting a record number of buyers in front of sellers ... It also made it possible for Shield Wall Media to donate \$11,000 for Hawaiian wildfire relief.

FUTURE SHOWS

Shield Wall Media events are produced like none other; they are about connecting buyers with the supplies and services they need to operate successful businesses. If a company is not relevant

to the industry that the show serves, it is not allowed to exhibit. (You won't find a consumer knife company exhibiting at a Shield Wall Media show.)

“What makes our shows unique is the specific focus on a qualified audience,” emphasizes Reichert. “We are growing our shows but we will never have a show with 400 exhibitors and 10,000 attendees. We will maintain the focus and quality of the audience over sheer numbers. Shows are not about the number of exhibitors or attendees – they are about the number of people there you actually want to talk to.”

Next year's Construction Rollforming Show will take place September 18-19, 2024, at DeVos Place in Grand Rapids Michigan.

Visit www.constructionrollforming-show.com to stay up to date on event updates. Contact Missy Beyer at missy@shieldwallmedia.com if you are interested in exhibiting. **MB**



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METALCON 2023

Ken Simonson's Keynote Speech Predicts Unpredictability

Ken Simonson, chief economist for Associated General Contractors of America (AGC), gave the keynote speech titled "Construction '24: Forbidding or Reason for Cheer?" at METALCON 2023 on October 18-20 at the Las Vegas Convention Center.

There were more than 200 exhibiting companies plus interactive demonstrations and hands-on training. There were 35+ immersive workshops, free learning sessions, and inspiring keynotes providing access to expertise most attendees couldn't get anywhere else. One of those talks was by Simonson, who is the Chief Economist for The Associated General Contractors of America. In summary, he said, construction is in transition and a slowing economy and rising interest rates are threatening private investment. He also predicted that construction companies were going to need to continue to raise their wages. Overall, he wasn't predicting gloom and doom, though he couldn't rule it out, either.

The total nonfarm & construction employment year-over-year change, seasonally adjusted between February 2020 through September 2023 is as follows.

- The percent change of nonresidential construction from February 2020 is +1.6%, and since September 2022 is +3.5%.

- Total nonfarm from February 2020 is +3.0% and from September 2022 is +2.1%.

- Residential construction from February 2020 is +11% and from September 2022 is +1.7%.

Those percentages are seasonally adjusted.

Construction job opening and news hires from August 2001 to August 2023, not seasonally adjusted, is as follows.

- New hires in August 2023 is 361,000; a -7% change from August 2022.

- Job openings in August 2023 were 360,000; a -0.6% change from August 2022.

According to a 2023 AGC of America/Autodesk Workforce Survey, there are two workforce challenges of hourly craft workers. A total of 85% of contractors say they have openings and 88% of contractors with openings report difficulty filling positions.

The following lists the change in construction spending from August 2023 vs. August 2022 in year-over-year % change in current (not inflation-adjusted) dollars, seasonally adjusted:

- Total construction: 7%
- Private residential: -3%
- Nonresidential: 18%
- Highway and street: 13%
- Health care: 12%
- Education: 14%
- Office: 9%
- Transportation: 9%



Economist Ken Simonson made news by not making news. He did not predict a recession or serious construction slump, but he didn't guarantee against them, either.

- Power: 10%
- Commercial: 5%

Simonson said the medium-term outlook is that the economic recovery should continue but the risk of recession remains. Homebuilding appears poised for slow recovery. Multi-family, warehouse, retail, office, and lodging may face a slowdown due to rising rates. Data center and manufacturing construction should remain good; he particularly likes the data center outlook.

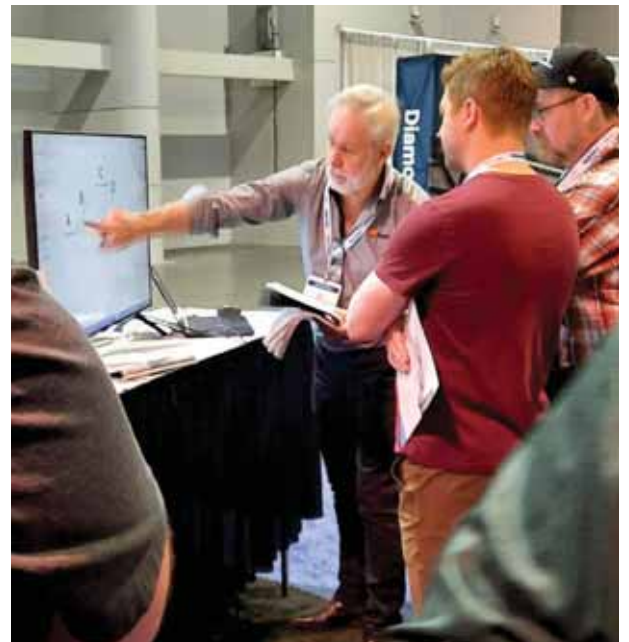
The long-term outlook for construction is as follows.

- Finding workers will be a challenge for much longer than materials costs or supply. He added that there's been a surge in immigrants, but many do not have work papers.
- Slowing demand for K-12 and higher education construction.
- There will be a permanent shift from retail to e-commerce/distribution structures.
- There will be more specialized and online healthcare facilities; meaning few hospitals and nursing homes.

Some of Simonson's other key takeaways, forecasts and predictions regarding construction trends included:

- Existing home sales have fallen to a 13-year low
- New home sales have fallen to a 13-year low
- In terms of state-by-state employment, 45 states are up from August 22 to August 23
- The construction employment rate fell below 4% between September 2022 and September 2023; it's now 3.8%
- The industry continues to see job growth.
- Wages are going up faster than inflation.
- Simonson is not optimistic about inflation, saying it's probably not going to drop from 3% to the target of 2%
- Overall "the balance of risks is for further growth." **MB**

METALCON Photo Gallery



Left column, from top: AkzoNobel had a beautiful display and unveiled several new products and programs at the show. Middle left: METALCON Training Zone, sponsored by Sherwin-Williams. All attendees could receive hands-on training and instruction. Bottom left: S-5! had a big display and also won an award. Right column, from top: AppliCad had a busy time showing its software to METALCON attendees. Above: Metalforming shows off one of its Schechtl machines.

New Product Highlights



Malco Products (above) was prominent at the show from a new products standpoint, unveiling several cool tools.

- **Power Assisted Seamers:** This is the fastest seaming machine in the world (max speed of 98 feet per minute), driven with a cordless drill from a standing position for effortless and ergonomic seaming of single and double mechanical lock standing-seam panels.

- **Power Assisted Cutters:** Demo single or double mechanically locked standing-seam metal roofing panels, operated with a cordless drill from a standing position.

- **1-Station and 2-Station Metal Disc Benders:** Finish custom straight or curved metal roofing details like open hems and HVAC ductwork. Available in both large and small models.

- **2-Station Benders:** Form 0-100° bends in standing seam roofing. Best for long, continuous straight bends of infinite lengths. Available in 150mm, 200mm and 350mm models.

These products join Malco's Modular 1-Station Metal Bender, which launched in spring 2023.

AkzoNobel CERAM-A-STAR Frost is a tough and durable two-coat exterior finish based on the superior performance

of CERAM-A-STAR 1050, the company's silicone-modified polyester (SMP) paint systems in North America.

This unique chemistry, using AkzoNobel proprietary resins and special additives, creates a textured coating surface that is not only durable, but easy to apply, fabricate and install. CERAM-A-STAR Frost was formulated in North America and is designed to endure the extreme North American climates.

The Frost product will soon be part of the new Select program, which means it's part of a standard color palette, allowing for standardizing in the distribution chain and thus faster deliveries.

AkzoNobel also announced the company is upgrading its dealer app and will soon be making it available on Android. We'll feature the new app in a future issue of the magazine.



Beck Automation booth, left, and at right, the Wuko team gives the show a thumbs-up.

Framing Machines Abound

There were more than five cold-formed steel framing machine companies on hand at the show and several are either new or at least not yet well-known to the American market.

Howick, shown at right, is known by most builders for its machines and software that create light-gauge steel metal building frames. Newer to the American market are Framecad (see several photos throughout this issue of the magazine), Livio Metal Building Systems, and Arkitech. Metal Building Software was also on hand with a framing software upgrade that now supports rigid frames and mini storage, and can run on dealer/contractor websites. More on these machines and their software in future issues of Metal Builder.



Education Sessions



Education sessions included Kiki Redhead and Brynn Wildenauer of Sherwin-Williams (above) presenting the company's color forecast. Top left is the State of the Industry panel discussion. Bottom left, S-5! Director of Sales David Stahler gave a presentation on sales, including how to upsell and cross-sell. It will be featured in a future issue of the magazine.



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2023 METALCON TOP PRODUCTS AWARD WINNERS

This year's METALCON Top Products Award winners were invited to nominate their top metal products in one of 15 product categories. To be eligible for consideration, a product must have been introduced to the market after Jan. 1, 2022, and its manufacturer must exhibit. Winners were determined by an electronic vote.



S-5! and its solar-mounting product.

Accessories: S-5! - PVKIT HUR

The S-5! PVKIT HUR is the newest version of the PVKIT solar mounting attachment for metal roofs. It is specifically designed to withstand extremely high wind uplift forces such as hurricane-force winds and is the first metal roof PV mounting system certified to FM4478, FM Approval's toughest PV Standard. It was tested and certified along with Butler's MR24 standing seam roof and JA Solar's module up to 105 pounds per square foot uplift forces and has passed many other stringent tests required for FM4478.

Contractor Tools & Equipment: Wood's Powr-Grip - MTEX-DC3 Vacuum Lifter

The WPG MTEX-DC3 Vacuum Lifter allows for the safe and efficient installation of oversized and regular insulated metal



Wood's Powr-Grip.

panels. It allows installers to reconfigure the pad-frame tubes tool-free for either a vertical or horizontal panel project with a load capacity of up to 1200 pounds and panel lengths of up to 50 feet. Available in two versions, an "entry-level" 4-pad model (600-lb load capacity) and an 8-pad version (1200-lb capacity).



PAC-CLAD won for its HT insulation.

Insulation & Weather Barriers: PAC-CLAD - PAC-CLAD HT

PAC-CLAD HT high-temperature, self-adhering roof underlayment, is designed to provide premium waterproofing protection

for a variety of roofing applications. This strong, 40-mil, skid-resistant, high-tensile-strength rubberized asphalt membrane is designed to withstand temperatures up to 250°F and is available in either black or white. It will not crack, dry out or become brittle, even under the most extreme weather conditions, resulting in permanent protection and low lifecycle costs.

Paint & Coatings: Chemcoaters - FeGuard

FeGuard is an innovative thin-film, corrosion-inhibiting coating, specifically designed for use on hot-rolled (P&O) and cold-rolled steel substrates. It offers an alternative to galvanized coatings, with performance properties to match. FeGuard's corrosion-inhibiting package provides a clear, high-gloss finish that allows the brightness of the underlying metal to shine through, while simultaneously slowing corrosive forces.

Rollforming Equipment: Cidan Machinery Group - XTAP & XSpace

The XTAP feature revolutionizes conical bending, allowing automatic angled positioning of back gauge fingers with the Pro-Link control system, ensuring seamless production of gutters and copings, perfect for high-speed manufacturing. For challenging profiles, the XSPACE offers flexibility and convenience. Recessed beneath the bending point, it provides 15mm of additional space, enabling secure folding of hat channels, gutters, and high-pitch drip edge profiles. Equipped with crowning, it guarantees zero angle deviations for long profiles, ensuring precise and consistent folds. The XSPACE handles complex geometries effortlessly, providing safe and accurate results. Compatible with F-, FS- or FX-Series machines.

Roofs: Isaiah Industries, Inc. - Anodized Aluminum Oxford Shingle

Together with Lorin Industries, Isaiah Industries introduces the Anodized Aluminum Oxford Shingle. Each panel is anodized, resulting in an incredibly durable protective finish with dozens of possible

colors and textures. According to Lorin, anodizing is “an electrochemical process where we grow the anodic layer from the base aluminum.” This newly formed protective layer seals the metal from the elements, improving corrosion resistance and longevity in roofing applications. The new finish, combined with Oxford Shingle’s interlocking panels and hidden fastener system, is a bold new step for residential metal roofing.

Technology: MetalCoffeeShop - MetalTalk

MetalTalk™ is a webinar series that delivers in the Read, Listen or Watch (RLW) format with content being presented to RLW; the only event in the metal construction offering all three platforms. MetalTalk features industry thought leaders, including progressive manufacturers, technology and more.

Walls: Steel Dynamics, Flat Rolled Group - TruSteel HD

TruSteel HD is the first and only continuously digital printed steel available in

North America, using real wood images that are printed on coils of Galvalume or Galvanized and rollformed into various panels, providing the beauty of wood with the durability and ease of installation of steel. While there have been prints in the past, the image would repeat every 28-30 inches. With TruSteel HD, the images actually look like real wood and do not repeat for up to 32 feet. This groundbreaking technology has grown and is now used for building siding, interior applications, garage doors and more.

Other: Accurate Perforating - The Essential Partition

Starting with high-quality galvanized steel that is formed and punched to provide a unique look to any outdoor space, the Essential Partition offers the same flexibility as the original SelectSpace line at a lower price. Each panel quickly connects to base plates that allow you to secure it to the ground or leave it as is for maneuverability.

MB

People’s Choice Award Winners

The METALCON People’s Choice Award winners are selected by attendees who voted on site for their top three choice products (among the category winners who were listed on these two pages). The People’s Choice Award winners:

First Place: MetalCoffeeShop - MetalTalk™

MetalTalk™ is a webinar series that delivers in the Read, Listen or Watch (RLW) format with content being presented to RLW; the only event in the metal construction offering all three platforms.

Second Place: S-5! – PVKIT HUR

The S-5! PVKIT HUR is the newest version of the PVKIT solar mounting attachment for metal roofs. It is specifically designed to withstand extremely high wind uplift forces such as hurricane-force winds and is the first metal roof PV mounting system certified to FM4478, FM Approval’s toughest PV Standard.

Third Place: CIDAN – XTAP & XSpace

The XTAP feature revolutionizes conical bending, allowing automatic angled positioning of back gauge fingers with the ProLink control system, ensuring seamless production of gutters and copings, perfect for high-speed manufacturing.

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Considering CFS

10 Ways Cold-Formed Steel Framing Can Lower Your Total Construction Costs

Photos courtesy of FrameCAD

Selecting the right material for your project can significantly reduce costs while maintaining (or even improving) work quality and output. Cold-formed steel (CFS) framing has a proven track record of providing cost-effective and sustainable benefits for mid-rise buildings, and offers significant cost benefits over competitive building materials when the total cost of construction is considered. Here are 10 ways that CFS framing systems can lower your total construction costs.

You're a building owner with an upcoming project. Would you like to cut your construction costs while maintaining work quality and output? Of course you would. But how?

One answer involves material selection. Cold-formed steel (CFS) framing has a proven track record of providing cost-effective and sustainable benefits for mid-rise buildings. For example, cold-formed steel framing was chosen for an office renovation at the Chart Industries, Inc., manufactur-

ing plant in La Crosse, Wisconsin, for its cost benefits and flexibility to integrate with other systems. Compared to masonry wall construction, the CFS system saved about \$2.50 per square foot on the exterior walls.

Additionally, steel is resilient, adaptable and durable, which reduces life cycle costs. Steel framing systems can be readily and economically adapted to cope with the changing requirements of occupants, avoiding functional obsolescence and the high cost and disruption of refurbishment, redevelopment or demolition.

Steel building systems offer significant cost benefits over competitive building materials when the total cost of construction is considered. Here are 10 ways that CFS framing systems can lower your total construction costs:

1. High strength-to-weight ratio

Steel framing's strength-to-weight ratio significantly exceeds that of wood or concrete. Being strong and relatively light-

weight, CFS systems reduce a building's total load which, in turn, allows the owner to save costs beginning at the foundation.

2. Panelization

Panelizing CFS wall panels off-site reduces on-site labor costs and construction waste. It cuts the total project cycle time and improves quality control, since CFS components can be created to exact measurements.

3. Shorter project cycles

The predictability and accuracy of steel components speed up the process and allow follow-on trades to get to work sooner. The shorter construction timeframe reduces interim financing costs for projects. It also narrows the window of construction-related liability and allows for earlier building occupancy, as was the case with a CFS project for student housing at California Polytechnic State University. The project was completed six months earlier



than what was predicted for a concrete structural form, saving the university's budget.

4. Better results during winter time

Ready-mixed supply of CIP concrete during winter construction can add cost to a project and concrete requires artificial heat in order to cure during cold temperatures. Neither of these costs are associated with steel framing.

5. Earlier project completion and budget savings

Steel's shorter construction cycle means equipment can move on and off the job site faster. This lowers crane costs and reduces scaffold rental times, for example.

6. Lower insurance rates

Builders risk insurance premiums are typically lower for steel than for wood. Builders risk insurance for a four-story, 400-unit hotel built over 24 months in Ohio cost \$360,000 because cold-formed steel framing was used. It would have cost \$1.6 million had it been built with wood — a savings of about \$1.3 million.

7. Lower fire-related legal costs

Owners of wood-framed, mid-rise buildings need to consider the possibility of legal actions due to a construction or building fire which results in damage to, or destruction of, adjacent properties. This is of particular concern for mid-rise buildings which are often built on "infill" sites as a method to curb urban sprawl.

In 2015, for example, a fire at apartments under construction in Edgewater, N.J., displaced hundreds of tenants from nearby buildings. Lawsuits were filed against the building owner citing the known risk of fire associated with wood construction. Steel, in contrast, is non-combustible. So, CFS framing minimizes the risk of any fire spreading to adjacent buildings and reduce the possibility for subsequent legal action, putting less burden on building owners and firefighters.

8. No mandated site security

Several Canadian jurisdictions are requiring builders to post 24-hour security guards at their wood-frame construction sites. One builder reported paying up to \$10,000 per month for these security details. Another builder said the security

needed for a \$8 million wood-framed project cost \$20,000. Steel-framed projects do not have such hidden or extraordinary site construction costs.

9. No costs associated with site safety compliance

Since wood-framed buildings are highly susceptible to fire during the construction phase, many municipalities in British Columbia, Canada, require developers to submit detailed fire-safety plans when applying for a building permit. Some municipalities mandate that sprinklers and standpipes be in place on floors where work is underway. They also require additional safety supervision, such as fire watches during hot work. These costly site safety practices are not required for noncombustible cold-formed steel buildings, providing peace of mind for owners and builders.

10. Product durability

Steel is dimensionally stable and does not expand or contract with changes in moisture content. Steel will not warp, split, crack or creep when exposed to the elements. When materials like wood or brick are exposed to moisture, they swell. When dried, wood will warp, crack, chip, split and spall. Concrete and concrete block will shrink and form shrinkage cracks. Dimensional stability concerns are magnified when these types of materials are used in taller mid-rise buildings. Additionally, steel is resistant to termites and rodents. **MB**

BuildSteel.org, powered by the Steel Framing Industry Association (SFIA), is dedicated to educating building professionals on the use of cold-formed steel (CFS) framing as a sustainable and cost-effective building solution.

Cold-Formed Steel Definition

Cold-formed Steel (CFS) is the common term for products made by rolling or pressing steel into semi-finished or finished goods at relatively low temperatures. Cold-formed steel products are created by the working of steel billet, bar, or sheet, using stamping, rolling (including roll forming), or presses.

— SFIA and BuildSteel.org