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Strong Panel I I	Yes	15004	10004
¾" Hi Rib	Yes	15005	10005
M/U Panel	Yes	15006	10006
Agri Panel	Yes	-	10007
Delta Rib	Yes	-	10008
2.67 Corrugated	Yes	15009	10009
Morton Hi Rib	Yes	-	10015
Hip&RidgeVent	Yes	15049	-
Unprofiled	No	15000	-

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Mike Rowe of *Dirty Jobs* is the founder of the mikeroweWORKS Foundation, dedicated to building the reputation of trade work.

PHOTO CREDIT: MICHAEL SEGAL.

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QUESTION OF THE MONTH

How many trade shows do you attend each year?

Drop me a line at jenn@shieldwallmedia.com or mail to Rural Builder Editor, P.O. Box 255, Iola, WI 54945

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Rural Builder (ISSN: 0888-3025) Volume 55 Number 3 is published monthly, except January, April, June and November, by Shield Wall Media LLC, 150 Depot St., Iola, WI 54945. Periodical postage paid at Iola, WI, and at additional mailing offices. Canadian Agreement Number: 40665675. POSTMASTER: Send address changes to Rural Builder, Barb Prill, PO BOX 255, Iola, WI 54945. Copyright 2021 Shield Wall Media LLC. Rural Builder and its logo are registered trademarks. Other names and logos referred to or displayed in editorial or advertising content may be trademarked or copyright. Rural Builder assumes no responsibility for unsolicited materials sent to it. Publisher and advertisers are not liable for typographical errors that may appear in prices or descriptions in advertisements. Mailed free to rural contractors and their suppliers throughout North America. Others may subscribe: \$29.98 for 1 year, \$55.98 for 2 years, and \$79.98 for 3 years in the U.S.; \$39.98 for 1 year, \$74.98 for 2 years in Canada.



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publisher's note

BY JENN MILNER

Dear Readers,

We live in an exciting time. The world may be changing fast, but change is inevitable. The companies and industries that thrive are the ones that adapt and continue moving forward. We are working diligently to be that type of company.

We always have many new projects to move forward. Moving forward entails providing value to our readers, being responsive to our advertisers, and trying to be a benefit to our industry as a whole.

One of our attempts to grow the industry has come to fruition. A long standing challenge facing all construction trades is the lack of qualified young people entering the field. Trades are promoted, but many of our building specific trades (metal frame, post frame, and small specialty buildings) have been largely ignored.

We are proud to announce an editorial partnership with the mikeroweWORKS Foundation. Rowe has gained notoriety and acclaim for several TV Series and his S.W.E.A.T. Pledge. The mikeroweWORKS Foundation's mission is to change the way people look at the trades and help bring young people into these well-paying careers. One of their methods is offering a Work Ethic Scholarship.

To quote their own words, "Each year, we recognize people willing to work smart AND hard. The Work Ethic Scholarship

Program is about recognizing people who understand the importance of work ethic, personal responsibility, delayed gratification, and a positive attitude. These are hardworking men and women who will keep the lights on, water running, and air flowing. These are people who show up early, stay late, and bust their asses day in and out. These are the people we want to reward."

That sounds like a description of our readers.

In addition to a feature in this issue detailing their good work, in every upcoming issue of *Rural Builder* we will profile and promote one of the outstanding men and women they have supported in the trades. We believe this will help promote our corner of the world and introduce them to the career-oriented possibilities in the types of construction we feature in our publications.

We will always face change, so we must always find solutions. Keep moving forward. We plan to be right beside you.

I would also like to personally offer my thanks to the people at the mikeroweWORKS Foundation that made this collaboration possible.

Have a great start to a new building season.



Gary Reichert,
Publisher, Shield Wall Media

editor's note

BY JENN MILNER

Educating the Next Generation

Many students are graduating this month after the strangest year of schooling they've ever had. With interruptions, virtual learning, cancellation of important senior rites of passage, and masking at school, the class of 2021 has faced a lot of adversity. And as we in the workforce know, the last year has done a lot to shift worldview and priorities.

In this issue, we explore many issues related to workforce development, including the mission to illuminate the trades as a viable career path to new graduates. On page 16, learn about the efforts of Mike Rowe of *Dirty Jobs* fame to restore the reputation of hard work with his mikeroweWORKS Foundation. And, in the first of a series of profiles, meet Tom Wilhelm, one of the recipients of the mikeroweWORKS Work Ethic Scholarship. His story of entering the trades as a second-career convert is sure to give you hope for future generations.

Flip to page 40 for a deep dive into construction employment strategies with Associated General Contractors of America. Brian Turmail, the VP of Public Affairs and Strategic Initiatives, and I discuss one of construction's biggest concerns: why we can't find dependable new-hires. It's possible we're not looking in the right place.

And, for the "hammer and nails" selections in the issue, we are talking wide spans: everything you need to know about riding arena options, truss installation tips, and a case study that combines the two. I had the opportunity to interview builders and manufacturers who work with steel frame, wood frame, hoop buildings, and tension fabric buildings for a really well-rounded look into the subject.

And as there is no June issue of *Rural Builder* (we jump right to the Gold Key issue in July) I wanted to mention that I am so excited to meet all of you NEXT MONTH at the rescheduled Construction Rollforming Show in Cincinnati, Ohio. The conference is taking place from June 3-4 at the Duke Energy Center. You can get a preview of the educational schedule and pertinent details starting on page 45.

See you soon,



Jenn Milner,
Managing Editor
jenn@shieldwallmedia.com

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■ SKILLSUSA NATIONAL SIGNING DAY PARTNERS WITH JEROME BETTIS

84 Lumber and SkillsUSA are excited to announce that one of the greatest running backs in NFL history, Jerome Bettis, has joined their team to participate in the SkillsUSA National Signing Day 2021 to celebrate thousands of high school seniors who are dedicated to pursuing a career in the skilled trades. On May 4, 2021, the SkillsUSA National Signing Day program will recognize an estimated 10,000 students across the country for their dedication to pursuing a career in residential construction, building trades and renovations, HVAC and plumbing, and many others. In a style similar to National Signing Day events for high-school athletes, seniors will be celebrated as they announce their career plans and will sign “letters of intent” for a job offer, apprenticeship, or advanced technical training.

Former Pittsburgh Steelers running back, Jerome “The Bus” Bettis, is teaming up with 84 Lumber to participate in one of the signing events in the Pittsburgh area. Bettis is one of the best all-time running backs in NFL history (9th overall in rushing) and was also the recipient of the Walter Payton Man of the Year Award in 2001. In 2015, Bettis was voted into the Pro Football Hall of Fame. “I’m excited to support this next generation of American essential workers by participating in their national signing day and by helping to spread the message of their commitment to their important career in the skilled trades,” said Bettis.

■ THE CONSTRUCTION INDUSTRY NEEDS TO HIRE 430,000 MORE WORKERS

In 2021, construction companies will need to hire 430,000 more workers than they employed in 2020, according to an analysis of U.S. Bureau of Labor Statistics data released in March by Associated Builders and Contractors. The analysis also revealed that every \$1 billion in extra construction spending generates an average of at least 5,700 construction jobs.

“According to forecasts analyzed during the COVID-19 pandemic, an impressive 430,000 more construction workers still need to be hired in 2021 to meet the demand, evidence that the construction industry is powering America’s recovery and economic engine,” said ABC President and CEO Michael Bellaman. “ABC’s annual forecast incorporates several variables that may affect the U.S. construction spend and employment demand over the next few years. These variables, which range from inflationary pressure, rising commodity costs, and other global supply chain concerns to the regulatory and legislative trajectory of a new administration and the vaccine rollout domestically and even globally, are considered in the ABC cone of probability.”

Other key findings include analysis on construction spending and job creation in 2020. The spread of COVID-19 and efforts to limit its effect on the population had a substantial impact on construction activity and employment. Ironically, in 2020, nominal (not adjusted for inflation) construction spending rose by 4.8% even as employment fell by 6.3%

■ MILL STEEL CO. EXPANDS PAINTED AND COATED STEEL BUSINESS

Mill Steel Co., one of the nation’s largest distributors of flat-rolled carbon steel purchased commercial assets of Prassas Metal Products, a Los Angeles based steel trading and stocking distributor of pre-painted and coated coil products with a reputable 30-year track record. Mill Steel

will immediately assume steel processing and supply for PMP’s broad array of construction industry customers in the Southeastern, Mid-South, and Western United States. The transition will be seamless as Mill Steel will uphold existing contracts and leverage its 60 plus years of steel processing expertise to provide exemplary service.



■ BUILD YOUR CAREER RELEASES CONSTRUCTION-AIMED SERIES

Carolinas AGC (CAGC) is excited to announce that its Build Your Career program has released a video series aimed at teaching students and educators about rewarding careers within the construction industry. The series, available on the Build Your Career (BYC) website and on the CAGC YouTube channel, also was developed to be used by contractors in their marketing and recruiting initiatives.

The 18-minute video series, separated into five shorter segments, showcases different aspects of the construction industry:

Segment 1 – Overview of construction, including the differences between residential and nonresidential construction, and the different divisions within nonresidential construction

Segment 2 – The building process from start to finish for each of the nonresidential divisions

Segment 3 – Roles of various workers on a construction project site, including non-traditional roles

Segment 4 – Career opportunities within the construction industry, including a

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industry news

BY RURAL BUILDER STAFF

focus on diversity and inclusion, earning potential, technology, safety, and more

Segment 5 – Educational pathways to a career in construction and apprenticeship training information.

■ 360TRAINING LAUNCHES OSHA TRAINING COURSES IN SPANISH

360training, the nation's leading online training provider for Environmental, Health, and Safety training, now offers OSHA courses in Spanish for both the General Industry and Construction communities.

"Worker safety is our top priority. 360training is excited to offer critical OSHA training to Spanish speaking people. It is the best way to make sure they understand the material to improve safety," stated Tom Anderson, Chief Executive



Officer at 360training. "Everyone is safer on the jobsite if they have been trained in a language they are fluent in."

All components of the new OSHA 10 and 30 courses, including video, audio, and text, are in Spanish.

These fully narrated and interactive training courses cover specific OSHA

standards and requirements as they apply to construction and general industry jobs.

The company's OSHA Spanish courses meet all OSHA training requirements for most employers. Once successfully completed, these courses will provide a durable card from the U.S. Department of Labor (DOL) within 7-10 business days. **RB**

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■ ARCITELL ANNOUNCES PARTNERSHIP WITH ADVANCED ALUMINUM

Arcitell, LLC recently announced an exclusive distribution agreement for its flagship product, Qora Cladding, with Advanced Aluminum of Polk County, Inc., based in Lakeland, Florida. Advanced Aluminum is one of largest suppliers of steel and aluminum roofing and siding components for agricultural, commercial, and residential use in the Florida and Georgia markets. This agreement makes Advanced Aluminum the exclusive distributor of Qora Cladding to the Manufactured Housing and Shed/Portable Building Markets, and non-exclusive distributor for residential and light commercial construction in the states of Florida and Georgia.

Qora Cladding is the easy-to-install cladding product that resembles the time-honored look of stone without compromising performance or aesthetic appeal. Lightweight yet durable, it is the only stone cladding product that is indistinguishable from the real thing.

Advanced Aluminum was formed to cater to the shed industry in Florida and Georgia before expanding to include steel roofing materials in order to diversify and meet the needs of a larger customer base. Most recently, Advanced Aluminum added the Permatile Division which was created to produce simulated Mediterranean tile roofing in both aluminum and steel.

■ DYNAMIC FASTENER 2021 CATALOG NOW AVAILABLE

Dynamic Fastener has released a new version of its popular Tool and Fastener Hand Guide. This 140-page, full-color free gem provides concise answers to questions pertaining to fastener applications, engineering data, availability of types, size ranges, and fastener materials specific to the metal building industry. In addition to discussing screws and anchors, the guide provides prices and other useful information relating to flashings, sealants, insulation tapes, safety equipment, hand tools, power tools, and more. The 2021



publication includes details on the Dyna-Guard snow retention system for metal roofs. It also includes information about the company's new rivet initiative that resulted in a stock level of 100 million rivets with 75 million pre-painted in more than 100 different colors. To obtain your free 140-page hand guide, call (800) 821-5448.

■ NEW WHITE PAPER ON STEEL CLADDING PERFORMANCE

The Metal Construction Association (MCA) has published a new white paper available for download on its website, metalconstruction.org. The paper, "Material Properties that Affect Steel Cladding Performance," details important material parameters that affect the performance and qualities of steel cladding and the ability to fabricate the steel, paying particular attention to the often-misunderstood concept of gauge.

Steel cladding is often a key element in the overall building design. But not all steel cladding systems are made or perform the same. Steel used in roof and wall applications is the product of a highly engineered process. A variety of factors, including the metal thickness, yield strength, metal coatings, and finish systems determine the performance of a cladding system. This paper provides recommendations on what cladding would perform best based on building specifications including location and purpose.

Gauge is a particularly important discussion because thickness is a critical parameter in the performance of steel sheet and coil.

Charts, examples, and tables provide results of rigorous testing to meet performance requirements for the thickness used.



■ AKZONOBEL LAUNCHES TOUGHER COIL COATING

AkzoNobel has launched TRINAR TC (Tough Coat), a new PFOA-free PVDF coil coating system that provides increased scratch, abrasion, and stain resistance across diverse applications, including metal roofing, building, and construction.

Tailored to the coil coating market, TRINAR TC is formulated from AkzoNobel's latest proprietary resin and pigment formulation technology to strengthen product performance and hardness, providing increased resistance during and after transport, fabrication, and installation. In addition, it is more resistant to dirt and stains, so owners enjoy less maintenance and lower costs to keep the building looking newer for longer.

TRINAR TC is manufactured in an advanced facility to ensure pinpoint color targeting and quality consistency while improving flow and leveling to increase productivity at our coaters. This new formulation is available in a broad range of color and aesthetic options to match trends and project needs.

AkzoNobel's robust evaluation program confirms that TRINAR TC resists abrasions better than competitors, even in higher temperatures, such as during installation on a hot roof.

■ METALCON INTRODUCES NEWLY FORMED ADVISORY COUNCIL

METALCON, the metal construction

industry's only global event for metal construction and design products, introduces its first advisory council to help shape the future of METALCON, ensuring it represents all factions of the metal construction industry and its major attendee groups.

"We've gathered a council comprised of key exhibitors, industry experts, associations, and attendees to invite their feedback on what they would like to see new and different about the show," says Judy Geller, METALCON's Vice President of Trade Shows. "We are listening and initiating new programming for 2021, including more diverse focus areas on the show floor, expanded education and training, a new solar pavilion, the new Architect's Experience, and additional networking opportunities."

METALCON Advisory Council members represent those in metal construc-

tion, metal building systems, metal building contracting and erecting, insulated metal panels, architecture, contracting, roofing, roll forming, key associations, and industry trade press.

■ ABC SUPPLY CO. INC. RECOGNIZED AS TOP WORKPLACE FOR 15TH CONSECUTIVE YEAR

The Gallup Organization has studied millions of employees around the world, and its research shows that the difference between a good and an exceptional workplace is an employer's ability to create a positive, supportive culture where employees feel engaged and motivated to succeed.

Despite the unprecedented challenges of the past year, ABC Supply did just that, trusting in its people and putting them and their safety first. This commitment

earned ABC Supply its 15th consecutive Gallup Exceptional Workplace Award.

"We believe having an engaged, exceptional workforce has never been as important as it was in 2020, as people across the world faced extraordinary circumstances and uncertainty due to the pandemic," says ABC Supply CEO Keith Rozolis.

Only 39 companies in the world earned this award in 2021. Additionally, ABC Supply is only one of two companies worldwide to receive this recognition every year since the award was created in 2007.

"We are proud to receive this award and even more proud of our associates. It is because of their hard work, 'can-do' attitude, and commitment to taking care of our customers that we are being recognized with this award. I thank and congratulate them," said Rozolis. **RB**



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REMEMBERING CHRIS RAY NOVEMBER 15, 1960 – FEBRUARY 18, 2021

Chris Ray was the National Sales Manager at Levi's Building Components since 2014. In his position, he helped the company grow tremendously, leading the sales team to exceed expectations year over year. More than that, Chris was an incredible person. He was genuine, humble, and patient. To those under his management, he was the kind of boss for whom it was easy to grow fond of. His down-to-earth attitude didn't just make him highly approachable, but a great person to simply sit and talk with about anything from music to travel to great restaurants. Chris was also an incredibly creative person, with loads of ideas and big hopes for what could be accomplished



if we work together. The memories of Chris will continue to be an inspiration for many. Here are a few from those who had the privilege to work beside him:

"Chris Ray was an incredible boss. I started my career with Levi's at the beginning of Covid shutdowns last March. Chris went out of his way to make sure I was given every opportunity for success. Chris was knowledgeable and caring. He was hands-down the best boss I have ever had; our entire sales team would agree. We were blessed to have been given the time with him that we were, and he will be greatly missed."

-Shannon Zimmerman,
Inside Sales Agent

"Truly a Renaissance man of our time. Chris was able to bring some unique characteristics to his style of leadership. He was well versed, very bright, and able to communicate his ideas effectively to anyone. Chris was a hardworking guy, a great sales man-

ager, and instrumental in Levi's becoming a successful business. Chris loved his family and spoke often about how proud he was of all of them. He loved life and looked forward to new friendships and experiences. Everyone who knew him will miss him dearly."

-Ed Machowski,
Senior Technical Sales Agent

"Chris was a real great guy to be around. He was full of life—a real gentlemen. I am not sure I ever got to go through the door behind him; he was always holding the door open for people. One of the great phrases he used: 'It takes all of us together—it takes a village to get the job done.' Another one was: 'Today is a gift. Let's make the best of it.' He has left us big shoes to fill."

-Steve Fisher, President and CEO

*At the request of the family, if anyone would like to give in memory of Chris Ray, please do so by making a donation to the American Cancer Society. **RB***

letter to the editor

Hello, Ms. Milner,

I was very interested to read the cover article "The Iconic UGA-Tifton Barn: Rebuilding a Piece of the Past" (*Rural Builder* magazine, March 2021).

However, as I read through the Project Details, I was surprised and disappointed that there was no mention of the architect.

The architect is King Smith; the architectural firm is Altman + Barrett Architects of Hahira, GA.

For projects featured in a construction magazine, I would expect the architect and architectural firm to be given, either in the article itself or certainly in the Project Details. Architects deserve credit for their designs and the part they play in all construction projects.

Thank you.

Gretchen Smith Mui
Silver Spring, Maryland

P.S. King Smith is my brother!



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Putting America **BACK TO WORK**

From *Dirty Jobs* to the Work Ethic Crusade

IF YOU KNOW THE NAME Mike Rowe, then you can probably picture the American producer and actor knee-deep in some unknown, and undoubtedly dirty substance. During his five-year tenure as the host of *Dirty Jobs*, Rowe played apprentice to dozens of blue-collar workers, where he developed a deep respect for the often forgotten and ridiculed “dirty” tradesman.

“The jobs he was working on were perceived as undesirable,” says Jade Estrada, VP of the mikeroweWORKS Foundation. “But the people he was working with were making good money; they were entrepreneurs. They were not necessarily following their passion, but they were bringing their passion with them in their work and succeeding.” These experiences led Rowe to launch the mikeroweWORKS Foundation in 2008 with the mission of improving the reputation of hard work and the trades.

The mikeroweWORKS Foundation looks to close the skills gap in this country by challenging the stereotypes and stigmas connected with the trades that discourage workers from pursuing a huge range of viable careers. Culturally and in our education, the past couple generations of American workers have been led to believe that a four-year degree is the only path to success: that blue-collar work is for those who couldn’t make it to college, that it was “runner-up” work.

The main goal of the foundation is to let people know how absolutely wrong that is. “Tradespeople are not who you think they are,” says Estrada. “They are hardworking people, entrepreneurs, and trailblazers who have mastered a skill that’s in demand anywhere in the world.”

WORK ETHIC SCHOLARSHIP PROGRAM

A scholarship program developed naturally out of this campaign for hard work and skilled labor. If Rowe was going to educate students on the value of the trades, he also wanted to help hardworking students on that path. Since 2008, the mikeroweWORKS Foundation has awarded over 1,000 scholarships worth nearly four and a half million dollars. “The majority of the people who apply are fresh out of high school,” says Estrada, “however, we have many applicants who are exploring the trades as a second career.”

As long as you meet the requirements, it doesn’t matter what stage in life you are living. Along with typical scholarship requirements like a transcript, some essay questions, and references, you need to enroll in an approved program at a two-year school. Approved trades include automotive and aviation technology, carpentry, construction, EMT, farming & agriculture, manufacturing, plumbing, and more. (A full list of guidelines and programs can be found at mikeroweworks.org/scholarship.)

More than anything else, applicants need to display their commitment to the four pillars of the S.W.E.A.T. Pledge: work ethic, personal responsibility, delayed gratification, and a positive attitude. In 2020, nearly one million dollars in scholarships were awarded to more than 200 students all over the United States. It is the highest dollar amount awarded in one year in the program’s history. “Mike is now the leading advocate of skilled trades in the U.S.,” says Estrada. “The number of individuals involved and the visibility of the program have grown substantially.”

YOU’VE GOT TO BE WILLING TO S.W.E.A.T.

One of the core beliefs of the mikeroweWORKS Foundation is that working hard should be valued in our society. Out of that belief grew the S.W.E.A.T. Pledge, which stands for “Skills and Work Ethic Aren’t Taboo.” Rowe created this list of 12 belief statements to outline and exemplify the characteristics and world view he values in a worker. For example, here are a couple of the 12 statements:



"2. I believe that I am entitled to life, liberty, and the pursuit of happiness. Nothing more. I also understand that "happiness" and "the pursuit of happiness" are not the same thing."

"7. I believe the best way to distinguish myself at work is to show up early, stay late, and cheerfully volunteer for every crappy task there is."

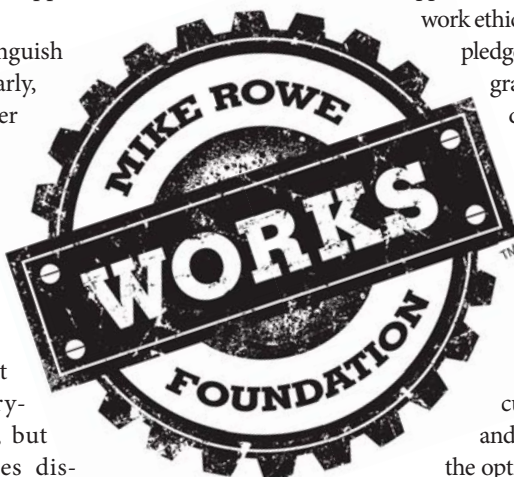
"12. I believe that all people are created equal. I also believe that all people make choices. Some choose to be lazy. Some choose to sleep in. I choose to work my butt off"

Rowe readily acknowledges that the S.W.E.A.T. Pledge isn't for everyone, and may ruffle some feathers, but he strongly believes that the values displayed are what make a good worker. So much so, that every applicant for the scholarship program needs to sign a copy of the S.W.E.A.T. Pledge before they

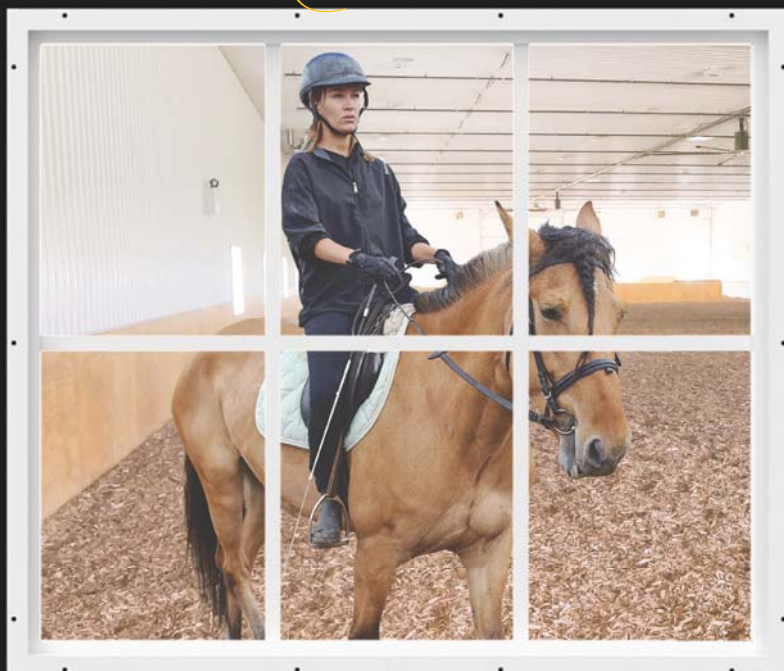
can be eligible.

An outcropping of the S.W.E.A.T. Pledge, after encouragement and support from partner companies, was the development of a work ethic curriculum built around the four pillars of the pledge: work ethic, personal responsibility, delayed gratification, and a positive attitude. "These are qualities any worker or student can benefit from embracing," says Estrada. "They will be useful for job satisfaction and success long-term no matter what profession you choose." A pilot program of 20 post-secondary schools took place in the fall of last year and the foundation is continuing to test the waters.

In the future, the mikeroweWORKS Foundation hopes to expand the work ethic curriculum to corporations, middle schools, and high schools. Helping kids understand all of the options that are open to them and helping working adults rediscover good work ethic are both future desires of the curriculum. Look for the curriculum's progress in the years to come. Coming to a school near you! **RB**



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Goodbye, IT! Hello, Timber Frame.

Tom Wilhelm: mikeroweWORKS Work Ethic Scholarship Recipient

In 2018, Tom Wilhelm made the last payment on his student loans after working 60 hours a week at two jobs. He had been working in IT since he graduated college. "I liked that it paid well, but it wasn't anything I was aiming for," says Wilhelm. "I just fell into it because I was good with computers."

But with his debt paid, Wilhelm felt the urge to change gears from something he fell into, to something he chose: carpentry. After taking woodworking in high school, he knew it was an interest of his, but he didn't get into it professionally. When he was looking for a change, it felt like the timing was right for the opportunity. "I said to myself, 'If you're going to be a carpenter, you better do it sooner than later,'" says Wilhelm. So he applied to the North Bennet Street School in Boston, was accepted, and was awarded a scholarship from the mikeroweWORKS Foundation. "It was hard to find scholarships for people going into the trades, and then I found Mike's site,"

says Wilhelm.

Now he is working in timber frame preservation carpentry with a company he interned with during school. "I was really fortunate to be hired full time at a job," he says. "It seems like opportunity knocked and I just kept showing up." The company restores run-down barns, church steeples, and homes on the east coast. "Some of the buildings we are working on pre-date the country, which is crazy to think about," says Wilhelm. "They were built so well back then to last for 250 years, and what we are doing will allow them to stand for another 300."

Now working with chisels instead of cords and computers, he still thinks about the S.W.E.A.T. Pledge he signed. "I remember reading it and thinking 'a lot of those things I have built into my personality,'" says Wilhelm. "I don't want to say I'm passionate about [my job], but I do really good work. My advice is to just do a darn good job at whatever you're doing." **RB**

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Overdriving and Underdriving Fasteners

Tips from the Experts

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www.dynamicfastener.com

To eliminate fastener installation issues, the contractor must first choose the correct fastener for the application. For instance, a T-1 is used for sheet-to-sheet stitching with a total steel thickness of .024" to .095". A T-3, or purlin screw, is used for a total steel thickness of .036" to .210". T-4s are used for a drilling capacity of .125" to .375". T-5s have a drilling capacity of .250" to .500". Our T-5 Fenderheads will fasten steel to structural steel from .250" to .625" total steel thickness.

When installing self-drilling screws, it is critical to use the proper screwgun. DeWalt's Versa-Clutch® adjustment systems will allow the contractor to "dial" the proper torque needed to efficiently drive fasteners without stripping or breaking the fastener.

A 2,500 rpm screwgun is required for T-1 and T-3 screws. A 1,000 rpm screwgun is recommended for T-4 and T-5 screws. When drilling through ¼" or thicker steel, it is very important to use a slow rpm/high torque screwgun. The DeWalt DW269, with 1,000 rpm, is a perfect example of a suitable tool. If you use the very common 2,500 rpm screw gun (DW268) or 2,000 rpm screwgun (DW267) to drill into ¼" or thicker steel, then you will prematurely burn up the motor. Plus, you will burn up the points of your screws at an unacceptably high rate.

Everyone knows that there is a direct trade-off between high speed and high torque. When drilling thick steel, high torque is what you need.



www.trianglefastener.com

Builders who consistently overdrive or underdrive fasteners may not be properly adjusting their screw gun or may be using the wrong tool altogether.

Underdriven fasteners can reduce the structural integrity of an assembly and allow a pathway for leaks. Overdriving screws may also cause leaks by damaging sealing washers. In addition to that, overdriving fasteners can damage the screw itself, damage the paint on the head of the screw leading to premature corrosion, or damage the area surrounding the screw. Overdriving can also lead to strip-out. This condition can result in failure of the joint by reducing clamping load, pullout strength, and causing loosening.

Using the appropriate tool and adjusting it properly is important for producing consistent properly driven installations. Torque generated by impact tools can easily overdrive screws. Use a screw gun designed specifically to drive screws, not an impact tool or a drill. Use a screw gun with an adjustable clutch or a depth gauge to help control the seating of the fastener. Spend some time to set the clutch or depth gauge on the screw gun with a representative mock-up of what you will be fastening.

If a sealing washer is being used, tighten the screw until the EPDM sealant extrudes just to the outer edge of the backing material. This is a great way to visually inspect the screw to assure it is properly driven and your clutch or depth gauge is set correctly.



www.atlasfasteners.com

Several things can cause an installer to overdrive or underdrive fasteners. This is not intended to be an exhaustive list, but these are some of the most common.

1. When working on a slope or pitch of a structure, the slope can create inconsistency during the drilling process. Installing fasteners perpendicular to the panel assures the fastener and washer are tightly seated to the panel, creating a weathertight seal.
2. What type of substrate is on the structure? Wood or steel?

Different densities of wood can affect how easy or difficult it is to install fasteners in a post-frame application. For a steel substrate, a self-drilling screw must be used. Choose your screw carefully based on the thickness of the panel and the steel substrate.

3. What type of drill guns are being used to install the fasteners? Some hi-torque, hi-speed screw guns can inadvertently cause fasteners to be installed too quickly resulting in over-torqued connections, including stripped out fasteners. Depending on the application of the job, it is best to use a drill gun that is specified for the particular fasteners and application.

Some of the inordinate consequences that can result from under/overdriven fasteners on a job site are leaks, heads popping off, strip-outs, and reduction of washer integrity.

How can this be avoided?

Know the application. Use proper tools. It's also a good practice to revisit a job site approximately 30 days after completion of the job to determine if some of the fasteners need to be re-seated due to building movement. This will likely yield a positive lasting result for the owner of the structure.



www.directmetalsinc.com

The threaded fasteners that secure metal buildings, post-frame buildings, or exposed fastener residential metal roof systems constitute a very small percentage of the overall cost of a building project. However, fastener service “call-backs” are a major contributor to the decline of the profit on a particular project. It may be several years before a problem arises, but once a fastener failure occurs, it can be expensive and time-consuming to repair. A failure may cause a leak, which can be challenging to find. Extensive corrosion can cause damage not only to the fastener, but to the panel itself. What are the primary contributing factors to these conditions?

The three primary components of a fastener installation on a metal roof—other than the fastener itself—is a magnetic socket for carbon steel screws, a power tool, and the installer.

1. The builder should provide a new, clean socket for each installer on each job. Used magnetic sockets collect metal shavings from previous installations, which can cause damage to the paint and coating on a fastener, as well as cause a potential wobble to the screw from poor socket fit. This can affect drill performance.

2. The power tool used is a very important variable in a fas-

tening operation. Battery-operated impact drivers and drills are preferred by builders over electric screw guns by a wide margin. The downside of an impact driver is that it drills and hammers at the same time. Although very fast, there is no clutch mechanism or nose piece that an installer can set to provide a consistent depth setting for each fastener. It also can be very destructive to fastener color match paint and coating. A second option is a battery drill with no hammer function, but does have a clutch mechanism that helps, but doesn't entirely prevent, overdriving of the screw. The third option is an electric screw gun with a depth setting nosepiece that helps provide a consistent seating of the sealing washer. This is the preferred option to properly seat the washer and prevent paint and coating degradation.

3. The installer is the linchpin to a successful fastener installation. Equipped with a new socket and proper tool with a clutch or depth-sensing nosepiece, the installer has a very good chance at success. As the fastening pattern on a large project is very repetitive and the desire to complete the installation quickly is a priority, it is important to concentrate on the installation and take no shortcuts to speed the job. Underdriving a screw can lead to water coming in under the EPDM rubber washer. Overdriving a screw can tear the washer or lead to excessive exposure to UV, both leading to a leak. At the proper depth, a very small amount of rubber is showing when seated.

In summary, education and proper tooling will lead to a much more positive outcome on your next project.



www.mazenails.com

1. When driving nails by hand, always plan for a few small taps at the end of every drive to seat the nail just right.
2. When using a pneumatic nail gun, always make sure to turn the pressure up on the compressor if you are using a long hose or running two hoses off of one compressor to avoid underdriving the nail.
3. When driving nails into wood or cedar siding, it is always wise to use a blunt point and thinner gauge nail to avoid splitting the wood and getting a nice finished look on the siding.



www.lelandindustries.com

The proper installation of fasteners on the exterior of your building is imperative to extend the longevity of your structure. The common issues are over- or underdriving fasteners. The result is an improper seal of the washer that could cause rust, leaks, and dimples to the metal.

An overdriven fastener will over-compress the EPDM washer, exposing the rubber to the sun and elements. This will break down the washer causing leaks over time and potentially dimple the metal. An underdriven fastener will not seal correctly and allow water to penetrate the metal into the building.

The key to avoiding these issues is using the proper tools; an adjustable depth-sensitive screw gun and correct driver bit, (impact drivers are not recommended). The adjustable nosepiece will allow the installer to set the screw gun to a consistent depth and ensure a proper seal every time.

A quality driver bit is often overlooked as an integral part of the installation; however, it ensures that the fastener head does not slip in the driver bit and the paint/powder coating is not damaged during the process. Another factor to take into consideration during the installation is that the fasteners are installed perpendicular to the metal. This will ensure that the washer is properly seated and sealed when installed. Fastener installation with proper tools and methods will ensure that your projects are built to last and will stand the test of time.



www.stfasteningsystems.com

ST Fastening Systems has been in the metal fastening business for almost 30 years, and I agree with most everything the companies shown on this article, wrote. The proper tool for installing either self-piercing or self-drilling metal-to-wood fasteners is a conventional corded or cordless 2,000 rpm screw driving gun fitted with a depth-sensing nose cone or a torque-release clutch, and a clean (free of metal shavings) magnetic hex socket driver.

A spring retainer hex socket driver is appropriate for nonferrous fasteners.

Impact drivers (hammer drills) should never be used when installing self-piercing or self-drilling fasteners. The rotational hammering inherent with these impact drivers will damage the protective paint or powder coating. Impact drivers can adversely affect the washer's ability to seal and can dimple or damage the panel, and strip out the substrate in a fraction of a second.

Due to the differences in the wood grain along a piece of wood, or plywood, a torsion setting is not accurate enough to properly seat a screw washer assembly. You might hit a hard spot in the wood, or a limb 'knot', reset the torsion and over drill the next screw, or visa-versa. The best option for correctly setting a screw is a depth-sensing nosepiece. These attachments disengage the rotation as the screw washer assembly reach a certain depth, regardless of how hard or soft the substrate is. Care and visual inspection should still be done as these are also not fool proof, but can definitely pay for themselves in installation time and callback prevention from loose or over drilled fasteners. The installer should visually inspect the installation and washer compression often, to prevent destruction of the substrate resulting in strip-out.

A bolt is only as strong as the nut, and a screw is only as strong as the substrate is to resist the clamping from the screw as it is tightened. Screws are constantly stressed from thermal expansion and contraction of the metal panel, constantly worked back and forth as the panel heats up in the day and cools down at night. If the substrate is compromised or reamed out by over drilling, the screw will back out. The screw should be perpendicular to the panel surface and the washer should be properly compressed for an optimum seal.

In appearance, the washer should be slightly rounded symmetrically under the flange of the screw. It should not be misshapen, overly flat, split or uneven (asymmetrical). This would indicate overdriving. There should be no space between the screw flange, the washer and the panel surface, which would indicate underdriving.

On steel drilling screws there is a speed where the cutting edge of a screw cannot keep up and will quickly melt the steel. There are also variations in the hardness of the steel panel and the secondary material. Metal panel gets harder the thinner it is formed. Thicker panel of 22 and 24 gauge may be 50 ksi, where 26 gauge and thinner are often 80 ksi "minimum". The circumference (cutting edge) of the drill point of a #10 screw is 0.34", while a #12 drill point circumference is 0.56". The edge of a drill screw will cut through 80 ksi panels at about 90 fpm or 1,080 ipm. So as a comparison of recommended drill speed for a #10, the cutting edge can cut at $1,080/0.58" = 3,170$ rpm while a #12 can only cut at $1,080/0.56" = 1,928$ rpm. This illustrates the fact that a 4,000 rpm driver is much too fast to drive a #12 or larger screw. **RB**

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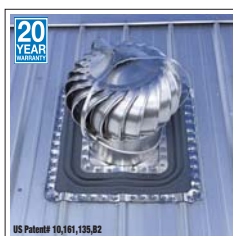
tors during the first quarter of this year. As the roofing membranes themselves are not changing, those in the new packaging can be used alongside their counterparts in the original packaging. **RB**



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RIDING ARENA MUST-HAVES

No matter the material, there are certain considerations that need to be taken with a riding area. The first of which, is the shape of the columns. In metal buildings, columns are usually tapered from about 12 to 36 inches or beyond in a consistent manner from the base to the haunch. But that doesn't quite work in riding arenas. "You've got a guy on a horse who is sitting 8 or 9 feet in the air," says Brian Shelton of Chief Buildings. "The horse will see the narrow section of the column at the ground and may unin-

tentionally put that rider into the deeper section of the columns above." To avoid this, steel riding arena columns (also commonly known as supermarket columns) rise straight in the air to 9 or 10 feet before they begin to taper.

Similar strategies are taken with wood, open web steel "hoop" buildings, and rigid frame steel structures. Though tapered wood columns exist, typically, the post-frame style arenas have straight posts that lead to the trusses. However, ensuring enough headroom between the rider and the bottom of the truss, lighting, and doorways are practical concerns. "I cover the proper width, length, and height needed for [the customer's] discipline and/or use," says Wick builder Rosemarie Markus. Jumping, for example, will need a higher clearance than barrel racing.

Simply by their name, "hoop buildings" would seem to run into trouble in this area. "There are different leg styles available," says Jon Gustad, Sales Manager for Pro-Tec by Sioux Steel. "You don't want the interior walls to taper on an arena." Fabric buildings from Legacy Building Solutions utilize a rigid frame instead of the typical hollow-tube, open web truss framing. Susan Fowler, Building and Project Design Consultant for Legacy Building Solutions says this type of fabric building is ideal for riding arenas. "In addition to long clear spans," says Fowler, "the buildings have straight sidewalls that maximize the usable square footage inside the structure."

The second major consideration is knowing the specific intended uses for the building and looking ahead to make sure any future uses are accounted for in the design. Knowing this information can change many aspects of the design. "Arenas can be many different sizes depending on what style of riding you plan on doing. If it's riding for pleasure, I've seen arenas as narrow as



PHOTO COURTESY OF CHIEF BUILDINGS.

60 or 80 feet. If you're barrel racing or roping, the arena could be 130 or 150 feet wide," says Gustad.

Planned care and treatments should also be mentioned ahead of time. Bret Buelo of Wick Buildings knows that lack of communication can lead to call backs. "If we don't know, and the customer is doing things on the inside that haven't been planned for, we can run into problems. In an arena, they may be wetting down the riding surface, and that can be an issue if you're not planning for moisture."

And while the building may work for the moment, such a large investment should be beneficial long-term. "The number one mistake of any builder is not spending enough time talking to the customer up front about their short term and long-term needs," says Gustad. "Sometimes when they are trying to sell, they put the blinders on to hit the client's price point, but if you're not talking about 15 or 20 years down the road, you're doing them a great disservice."

So asking the right questions before a build even begins is important. "An educated builder will also ask the proper questions to determine if there may be plans for the future that may affect how the arena should be designed today," says Markus. "The height of the arena may need to be increased if the possibility exists of adding a lean on the building in the future."

Each of the builders and manufacturers mentioned those two



PHOTO COURTESY OF CHIEF BUILDINGS.



PHOTO COURTESY OF WICK BUILDINGS.

Asking the Right Questions

Wick Builder Rosemarie Markus has built many riding arenas. Here are her must-discuss topics for the customer while designing equestrian buildings.

1. Size – Proper width, length, and height needed for their discipline and/or use. Different areas of the country tend to have different breeds and different types of shows. In the south there are not as many indoor arenas due to warmer weather. In the north arenas tend to be insulated due to colder conditions. Sizes can vary all over the country.

2. Doors and windows – Ventilation is important in a horse facility, so size and location of openings is determined not only by use, but by needed ventilation.

3. Natural lighting – This can help with cost. Arenas may be used daily and for long hours, so natural lighting can be useful for less electrical usage.

4. Insulation – Commercial training facilities may be able to justify the added expense of insulation in the arena to keep time loss due to inclement weather conditions at a minimum.

5. Exterior items such as gutters, wainscoting, and overhangs – Gutters may be needed to avoid any water issues in the arena depending on site layout and conditions. If horses are allowed to be next to the building on the outside, wainscoting is nice because it is easier to replace a 40-inch piece of steel than a whole sheet of steel if any damage is done.



PHOTO COURTESY OF CHIEF BUILDINGS.

6. Interior lining – Arenas should have a 5 to 8 foot tall liner on the interior to keep horses from damaging the steel while playing or misbehaving. Without the liner a rider can hit a column with their legs or a horse can severely injure their foot if they happen to kick the steel.

7. Aisle widths – Typical aisle width for horse stalls is 12 feet. If areas in the arena have stalls or breeding areas, we want to leave sufficient room to keep people and horses safe.

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feature



PHOTO COURTESY OF LEGACY STEEL BUILDINGS.

issues, but they had recommendations specific to their specialties as well. Read on for some insight from the experts.

WOOD

Walking into a large building situation, like a riding arena, with as much information as possible is important, whether it be from the client or the locality. "It's important for builders and contractors to know the local codes. For a riding arena, is it considered a commercial building or an ag building? You may come up against building area limitations," says Wick engineer Adam Krause. "We [Wick] do the best we can, but we can't know specific codes for the whole Midwest, so we really rely on our local builders."

With knowledge comes safety for your pocketbook as well as your crew. "Traditionally, wood is the more economical option," says Krause. "Now, in the last handful of months, wood pricing has been ridiculous, but in a normal situation it is pure economics." Lower initial investment in materials can be beneficial if you run into surprises along the way. But economy re-enters the conversation as the spans get

wider. Enhanced engineering of the trusses, as well as transportation and storage of such wide components kicks the price up considerably, so it becomes similar in cost to a steel structure. "In the larger widths the trusses will be a 2-ply truss and in some cases a 3-ply truss," says Markus. "This also effects the size of the columns and the concrete footings below the columns."

Wood also has the advantage of flexibility, both in the physical sense and in an overall design. "Typically, wood construction makes the process easier and more reliable," says Sean Shields from the Structural Building Components Association (SBCA). "Problems can be resolved in the field: there is more versatility. If a concrete foundation is poured wrong, then that building is not working. With wood, you can make it work."

If you're building a riding arena for the first time, when you are used to wood-framed storage buildings or barns, the process can be slightly different. "In a riding arena, you're never going to have a concrete floor," says Krause. "Typically, we rely on the floor to brace the bottom of the



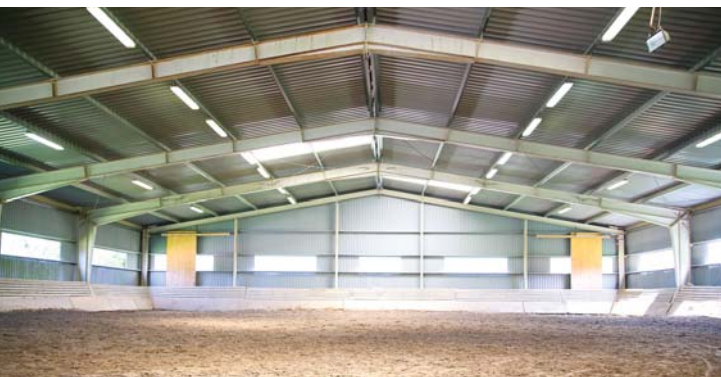
PHOTO COURTESY OF CHIEF BUILDINGS.

column and to keep it from rotating, so we may need to upgrade some components; it could be a combination of a deeper post or a concrete collar around the post to push and resist pressure.”

STEEL

Once you get beyond a 60-foot span, it becomes cost effective and a question of engineering to employ steel buildings for riding arenas, recreation venues, and other open buildings where interior support posts are impractical or impossible for proper use. But large-span steel buildings come with their own challenges that require consideration and attention to detail, especially if steel isn't your usual medium.

Brian Shelton of Chief Buildings believes steel buildings are attainable for most builders. “There is specialized training, but there is nothing special about it. It's just different,” he says. “Wood frame and metal frame concepts are very similar, but they are not interchangeable; there are nuances.”



The first consideration is the bay spacing. Before the rest of the job materials show up, the concrete footings must be properly spaced and installed to precisely match the bay spacing. “Metal buildings will always require concrete footings in the ground,” says Shelton. “If you get the placements wrong, that building will not install. There is almost no room to fudge the measurements.” Because steel buildings need fewer columns, you may be pouring footings 25 feet apart, so alignment and accurate measurements are essential. Keeping an eye out for variations in the plan, like for large side doors, is also key to success. “We don't design the foundation, only the building, so coordination is key,” says Shelton. “If your concrete contractors are not familiar with metal building plans, they will get things wrong.” So, having someone on site that really understands the building plans is important, from when the bulldozers start moving dirt to when the columns and rafters are going up.

Secondly, says Shelton, always make sure you have all of the parts you need before you start building. “If you use heavy timber, you might use large screws, but you can usually get them at the hardware store. If you're putting up a big metal building, you may not be able to find the large bolts or other metal-building-specific materials locally, and it may take a while to order them

in,” Shelton warns.

Always take a thorough inventory of delivered parts before you begin. That means making sure all of the correct materials have arrived and making sure all of the materials are in usable condition after transport.

HOOP

Fabric buildings are uniquely suited for riding arenas because of the availability of natural light. “Something that we try to stay cognizant of is eliminating shadows in the arenas because it can spook the horses,” says Jon Gustad of Pro-Tec. “With our translucent cover, we get 50 percent or even closer to 80 percent light transmission. If it's bright enough to wear sunglasses outside, you will want to wear them inside as well.”

Skylights and daylighting panels can supplement electric lights in other structures, but with one big canvas “skylight” there are fewer points of weakness and a lower electric bill. For even more natural light, or in the case of a warmer climate, a riding arena could open on the sides. “We can leave the side fabric off for more of a roof structure,” says Gustad. “We can also turn those sides into a curtain that raises and lowers based on weather and seasons.”

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The arched ceiling of a fabric hoop building creates a lot of air volume which can help with sound and condensation issues. Or, if you'd like to take advantage of the extra space, a second level can be added inside. "There are people who build horse stalls or an office in one end and then install a second-level mezzanine



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above that so people can watch from 15 feet off the ground," adds Gustad.

The durable fabric is nearly impossible to poke a hole in, so any equestrian-related mishaps shouldn't affect the building very much. "We have both heavy-duty and fire-rated fabrics as well," says Gustad. Some simple maintenance like keeping the fabric tension correct, can make sure a fabric cover stays intact for a long time.



TENSION FABRIC

Last, but not least, are tension fabric buildings with a structural steel frame. "The strength of the structural steel frame provides several engineering advantages, most notably the ability to easily customize buildings to the exact width, length and height required," says Susan Fowler, of Legacy Building Solutions.

And, with the frame of a traditional steel building, these fabric buildings "can incorporate lean-tos, sidewall doors, or other desired features," says Fowler. "They can also be designed to handle additional loads on the frame, like viewing mezzanines."

And of course, these buildings have all the lighting benefits of the hoop buildings described above. "The durable fabric allows natural light to permeate the structure during daytime hours, and it absorbs sound to create a distraction-free environment for the horses," says Fowler. **RB**

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PHOTO COURTESY OF VARCO PRUDEN.

Trusses Are Only Getting Longer

Prepare Yourself For Trusses' Biggest Trend

THE DEMAND FOR WIDER SPANS brings new challenges to less-experienced builders. While it may be tempting to think “a truss is a truss,” each application has its own nuances and limitations. And in the case of longer trusses, the involvement of a registered design professional (RDP) is essential.

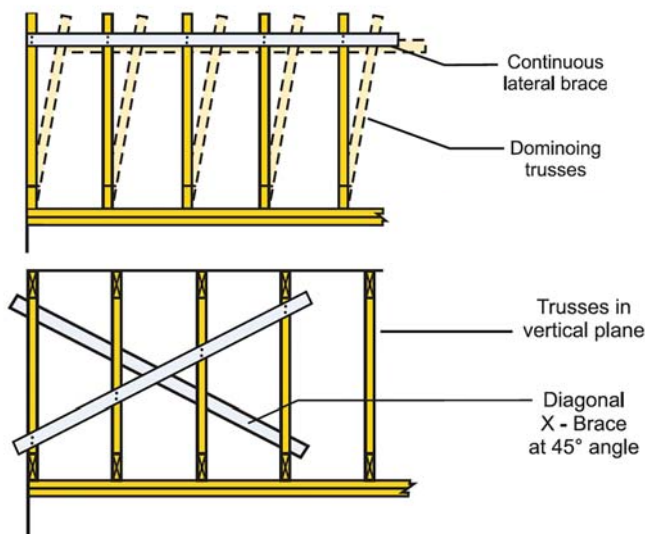
ENGINEERING

No matter which material you choose, each truss is engineered specifically for the building. Length and width are a unique number to each project, but other forces are also taken into consideration. “All trusses are designed to meet local loads and codes,” says Warren Bott of Worldwide Steel Buildings. “It could have to withstand 90 mph winds or 180 mph winds.” Elements to the north are also a big factor. “In some Northern US locations, ground snow loads may exceed 50 pounds, which could become the controlling design consideration for steel trusses,” says Kent Mason, Northern Region Sales Manager for Varco Pruden.

All of these forces are engineered into the truss and can affect the shape, webbing, and weight of the finished product. Installation techniques then, can change significantly from project to project. All of the information needed for correct installation is shown on the truss drawing, so pay close attention. “You need to follow the plans so the truss is installed as designed,” says Bret Buelo of Wick Buildings. “One of the most critical things is having a crew that can follow the plans. If you’re not putting in the right number of bolts in the right locations at the support column, then you’re taking a risk with the strength of the building.”

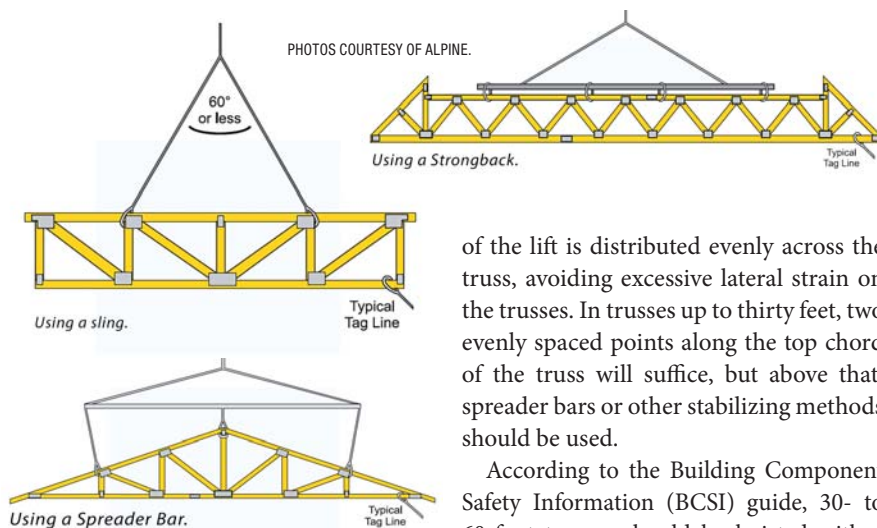
One of the most important aspects of the drawings are instructions for temporary and permanent bracing, which are vital for overall stability and can vary from project to project. “As for installation,” says Steve Wozney of Starwood Rafters, “most of the builders are capable of doing it. Mainly where they run into trouble is not following the proper bracing instructions in the installation process.”

PHOTOS COURTESY OF ALPINE.



For both metal and wood trusses, bracing will take place on three planes: the top chord plane, the bottom chord plane, and the webbing plane. While the trusses are being hoisted and installed, temporary bracing is necessary to keep everything in place. The top and bottom chord planes will typically need lateral bracing with at least 8-foot long 2 x 4s to maintain spacing. The lateral brace is nailed at each cross-section of the truss. During installation, diagonal bracing along the webbing plane should be nailed to the narrow sides of the webbing, crossing a minimum of three trusses to prevent lateral movement (domino effect). If more than one lateral brace is needed to connect all trusses, boards should overlap by at least two trusses. After all bracing is complete, bracing along the top chord will be removed and replaced with sheathing.

“Bracing is very important, and even more so when it comes to larger spans,” says Wick engineer Adam Kraus. “More things can get out of plane. Until you get the steel skin on, which provides



a lot of rigidity to the structure, a truss is just a lot of sticks hanging in the air.” The engineered specifications will provide bracing guidance, so trusses don’t suffer lateral bending or completely domino while you’re trying to get them in place.

INSTALLATION

Any time you are hoisting heavy objects in the air with a crane, there is room for danger, but the sheer size and weight of wide-span trusses call for extra care. Some bad practices that builders might get away with when installing a smaller span (like lifting a truss from just the peak or center) can cause real damage when trusses are 60 plus feet wide. “Different equipment and erection techniques are necessary when installing wider steel trusses. Using an experienced erector familiar with truss installation and OSHA requirements are key considerations,” says Mason.

The first consideration is lifting the trusses from the storage site. When they arrive, trusses should be placed somewhere where they will only have to be moved once. “Lifting the trusses needs to be thought about well ahead of time,” says Kraus, “finding a space on site for such large trusses where there is space to maneuver, and no obstacles is important.”

In general, the larger the truss, the more secure pick points should be used to lift it. Multiple pick points ensure the pressure

of the lift is distributed evenly across the truss, avoiding excessive lateral strain on the trusses. In trusses up to thirty feet, two evenly spaced points along the top chord of the truss will suffice, but above that, spreader bars or other stabilizing methods should be used.

According to the Building Component Safety Information (BCSI) guide, 30- to 60-foot trusses should be hoisted with a spreader bar above the truss with a minimum of three lines that slope inward. For trusses above 60 feet, “use a spreader bar two-thirds to three-quarters of the truss length positioned at or above mid-height

of the truss. Attach the spreader bar to the top chords and webs at 10-foot intervals.” So, if you have an 80-foot truss, you will likely have six pick points along a spreader bar, 10 feet apart. Bundles of trusses can be lifted without the use of a spreader bar, as trusses are sturdier when bundled together.

The best way to enter into a wide-span project is with someone who has done it before. An experienced contractor can tell you where problems crop up and the best methods for getting the whole team to work together with the truss plan. The bigger the truss, the more room for error, so demand attention to detail from everyone. “You need to have good truss engineering and a company that can translate the process to the crew with a good set of plans,” says Buelo. “You want to make sure your technique is right or you’re putting the crew at risk.” **RB**

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How To Install a 100-ft Wood Truss

Be Prepared for Necessary Procedural Adjustments

THE DUE WEST THERAPEUTIC RIDING Center in Wyandotte County, Kansas serves children and adults with physical and cognitive disabilities through horseback riding. They are a unique organization that had specific needs when they started planning a new facility. More space led them to Wick Buildings to build a 100-foot-wide clear span riding arena with 30-foot-wide leans on each side for storage and stables.

Tom Craun, a builder with Wick

Buildings, worked on the project from planning to completion. “I just work with the customer to get him what he wants,” says Craun. He had built a structure with this customer before, so the process was fairly easy. “He knew what he wanted,” says Craun. “I tried to recommend the standard 36-foot-wide leans for stables on each side, but he vetoed it. Ultimately he has to work in it every day.”

Along with accessibility needs like ramps and mounting areas, wider plan-

ning was needed for this project. “One of the challenges is getting a 130-foot vehicle in a property to deliver the trusses,” says Craun. “We planned ahead on the driveways, because with a truck that big, you don’t just turn corners.” Finding a location to unload the trusses is also a consideration he says. “You want them close so you don’t have to move them, and where the crane can reach to pick them up.”

Bruce Feldmann, Chief Engineer for Alpine weighed in on some of the specific challenges associated with 100-foot-long or larger trusses. “When you have wood trusses that large, the weight is at or beyond 1,000 pounds,” says Feldmann. “Even with a completely unloaded roof, the dead weight of truss is putting stresses on the members permanently.”

In response, engineers have a couple of tricks up their sleeve. “We will drop stress tolerances down,” says Feldmann. “On a typical wood member there is a combined stress index of 1.0 which is where the pieces would be maxed out. At 100 feet and beyond, we would look at dropping that maximum down to the 0.80, to 0.90 range,” says Feldmann. That way, the truss members and the trusses have a little more capacity reserved for the unexpected like excess loading or install issues.

Engineers do everything they can to distribute the forces so one area is not under too much stress. “Maybe we will recommend using a two-ply truss,” says Feldmann. “Or we recommend individual web reinforcement.” Where a regular truss system requires lateral and diagonal bracing to keep everything upright and stable (see page 30), trusses of this size should be reinforced as individual members with T or L bracing along the web members. “If you just have a run of lat-



PHOTOS COURTESY OF WICK BUILDINGS.





PHOTO COURTESY OF WICK BUILDINGS.

eral bracing from one end to the other, the force built up is tremendous,” says Feldmann. “You can end up with several thousands of pounds of force in the bracing laterals, which is not easily resisted. In a smaller truss, a diagonal brace every 16 feet as recommended by BCSI B-10 would be sufficient to pull the force out of the laterals and run it to the ceiling or roof diaphragm, but in 100-foot-long and beyond, the cumulative force becomes a greater issue and requires a more thorough analysis by the building designer.”

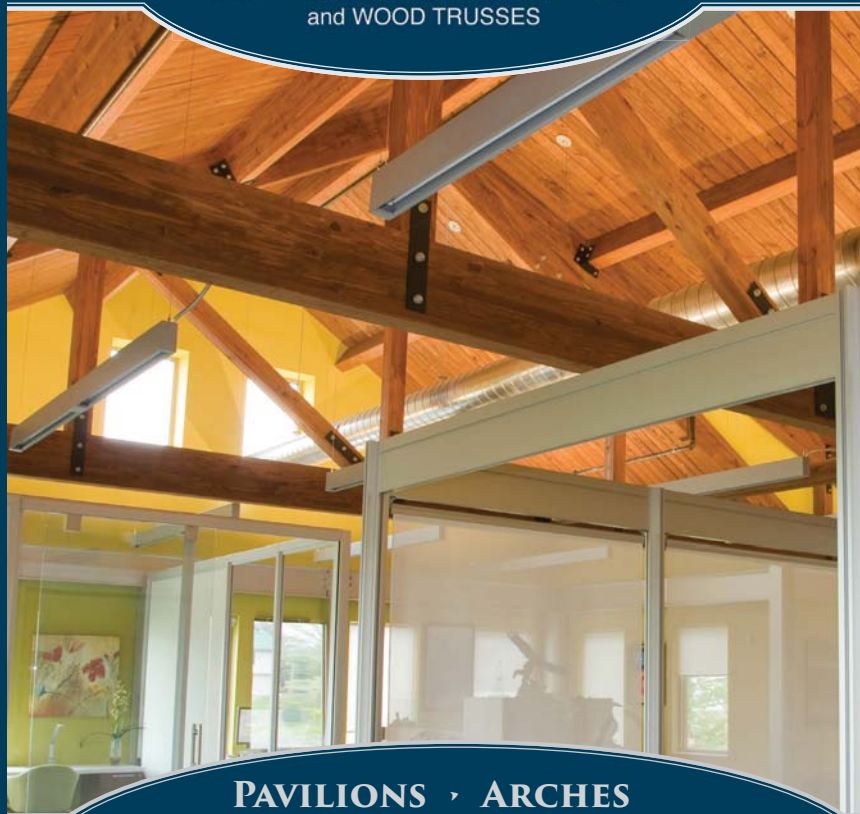
If you felt like you were back in high school physics for the last couple of paragraphs, don't worry. All of the force-talk amounts to this: the stakes are higher with 100-foot-long and beyond trusses. There is more room for error and the consequences are more expensive and more dangerous for everyone involved. “One thing I like to do is to quiz the customer,” says Feldmann. “Does the fabricator have experience with this size truss? Do the framer and the builder have experience? Because if you've got a 100-foot truss and you have a crew that has done at most 60-foot trusses, you have a problem.”

Once you've gotten everything braced the rest of the building is more routine. Due West features Wick cupolas, polypropylene panels along the length of the building on each side for increased lighting, and DripStop on the lean ceilings where the horses are kept, helping with condensation.

Now, the building has been in constant use to great success. In Mid-March, Due West even hosted Amberley Snyder, championship barrel racer and motivational speaker who overcame paralysis in her legs after a severe car crash to continue riding competitively. With a little extra knowledge and care, we can create large spaces that do great things. **RB**

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The Real Cost of COVID Shortages

Scarcity of Wood and Steel Bring Changes to the Market

THE PRICES OF WOOD AND steel have risen dramatically over the past year. Closures and shortages as a result of COVID have made many builders and contractors reevaluate their normal materials, methods, and time lines. In an interview with Sean Shields, Communications Director of the Structural Building Components Association, we walked through the challenges of the current market and where he predicts it will go from here.

While prices are certainly high, raw materials are not typically the most significant cost for builders. "Labor is a more significant concern," says Shields. "It's about overall cycle time: how long will it take to build the building and how expensive will it be if a problem causes a delay."

So availability is the real bogeyman here, because if you are about to start a project or are in the middle of one, and you can't get the wood or steel, halting work is going to cost a lot of money. "If prices are going up, then demand is outpacing supply," says Shields. And right now, demand has SO outpaced supply that even those with a lot of capital are having trouble finding materials.

So what do they do?

Shields has a couple of observations. "They may need to go back and get addi-

tional financing, but if the project hasn't started, they may decide to put the project on the shelf or walk away entirely," he says.

"If enough developers make the decision in the short term to delay projects," says Shields, "the demand we are seeing right now will dissipate. This would allow supply to catch up, availability will improve, and prices should go back down." And in the meantime, small companies that rely on brokers and wholesalers for their materials will struggle, because even brokers and wholesalers are having trouble getting materials before large companies, who can work directly with the mills.

Mills themselves are just getting back into running at full capacity. Johns Burns Real Estate Consulting evaluated the market at the beginning of 2021 and found that mills had the capacity to sustain 1.4 million housing starts, which sounds like a lot, until you realize that at the beginning of the year, housing starts were happening at about 1.7 million. "That was 300,000 starts that mills didn't have the capacity to cover," says Shields. "It caused warehouses of lumber to disappear just because of the difference in single-family homes that were being started and what was available." And now, like a person who has burned through their whole sav-

ings by spending more than they bring in, the housing market is short on supply. "The housing market came back before the mills did," says Shields. "Until they add more capacity, or starts drop, we will be in short supply."

This perfect storm revealed production capacity weaknesses in the United States. Shields says it starts back at the burst of the housing bubble in the mid-to-late 2000s. "2010 was a low point for our housing industry and recovery stumbled from 2010 to 2012 and very gradually recovered since then. But that was nine years ago. We have not had any real spikes in the market until now. There was little to spur manufacturers to make huge investments in production capital," says Shields. "It worked fine for the market, but this spike is exposing our lack of access to capacity. Now we've got to correct."

Given time, North American lumber mills will recover and catch up with a market that will swing back to a more typical supply and demand situation. "It would be lovely to get to a sweet spot where demand equals supply, but there's always been cyclical imbalance" says Shields. Based on demands from other large industries like automotive, appliances and large commercial, Shields predicts that steel will recover more slowly than wood. "Those industries have a voracious appetite for steel," he says. And with the capital to buy up the raw materials, those industries are the ones who will get it while supply is still low.

For the rural builder, wood will be readily available sooner. "They can bring a wood mill up and running faster than a steel mill, says Shields. "A lot of new mills are already in development, particularly in the US South. A massive amount of Southern pine is ready to go to market, so they are ramping up. You're going to see lumber figure it out faster than steel." **RB**



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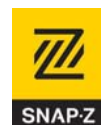
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Making Tools Work for You

Ergonomics Combats Common Long-Term Injuries

CONSTRUCTION IS TOUGH WORK, BUT scientists with major tool companies all over the world have been devoting time and resources to making sure “back-breaking” isn’t a literal description. Many tools are labeled “ergonomic” to suggest higher efficiency or superior working comfort, but what does that mean? And how can you find tools that are truly beneficial to your workers, and not just a lot of marketing speak?

Milwaukee Tool gave us a peek into their tool ergonomics research and development and broke down the benefits, so you know what to look for when you invest in tools that work *for* you instead of *against* you.

to 108 unique muscle groups throughout the body, the use of EMG technology to produce tools that reduce peak muscle efforts and fatigue helps workers age and retire with greater strength and health.



WHAT IS ERGONOMICS?

With construction tools in mind, ergonomics is the science of designing solutions around the strengths of the user. This means designing tools to fit the hands and applications workers are facing instead of the other way around. Ergonomic innovation, known as electromyography or EMG, measures the electrical activity produced by a person’s skeletal muscles to record muscle effort during a tool’s use. With the ability to measure up

Milwaukee Tool’s investment in EMG allows the business to collect objective ergonomic data that can be used to positively influence product design. As part of the investment in this technology, we created a dedicated team of experienced, industry leading professionals, including a certified ergonomist, and other subject matter experts to focus on tool ergonomics. The goal of this program is simple; to maximize occupational safety & health, maximize ease of use, and increase productivity.

WHAT PROBLEMS DO GOOD ERGONOMICS SOLVE?

When designing ergonomic tools, manufacturers take balance, center of gravity, weight, noise, vibration, required force, and repetition into consideration. While exposure to these factors aren’t necessarily dangerous, in and of itself, exposure to high thresholds of these categories can put contractors at risk for eardrum damage, vibration-induced white fingers, and other musculoskeletal disorders.

Musculoskeletal injuries and disorders due to non-ergonomically designed tools are common and costly types of injuries, creating possible lifelong problems for the sufferer and affecting safety records for employers. Research is starting to suggest a correlation exists between tool usage and the most common types of MSD cases such as carpal tunnel syndrome, trigger finger tendonitis, rotator cuff tendonitis, lower back injuries, knee bursitis, and elbow epicondylitis. The overall longevity of contractors can be positively impacted when manufacturers make proper objective, ergonomic measurement part of their overall tool development process.

To create an ergonomic tool design, Milwaukee Tool utilizes testing procedures to ensure that not only noise, vibration and force are limited, but also the amount of muscle effort needed to operate a tool.

HOW DO YOU CHOOSE QUALITY ERGONOMIC TOOLS?

For any companies that focus primarily on price point, opting for less expensive tools may solve a short-term need, but a safety-focused company’s primary goal should be buying tools that keep workers safe and healthy. Now more than ever,

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STANDING SEAM

workers are demanding attention to their ergonomic health and want objective data to back up the claims of ergonomic tool manufacturers. Forward-thinking manufacturers have made improving ergonomics a priority and a part of their company DNA. Through a complete in-house process that works together with their product design teams, these manufacturers are making the job site safer for employees.

When looking to equip a crew with ergonomic tools, we recommended finding tools that allow your crew to use their tools with the following approaches in mind:

- Keep your wrist straight or neutral to



combat carpal tunnel syndrome.

- Use low-force trigger engagements so as not to trigger finer tendonitis.
- Use only the amount of force necessary for the task to prevent tendonitis.
- Use power tools when available and select the correct handle orientation to prevent elbow epicondylitis.
- Work near your elbow height to protect against rotator cuff tear/bursitis.

WHAT ARE SOME EXAMPLES OF ERGONOMIC CHANGES YOU'VE IMPLEMENTED?

Noise: At Milwaukee Tool, product sound power tests are conducted in one of the industry's largest, fully isolated, Hemispherical Sound Chambers. Once assessed, their team can work to develop tools to reduce decibel output, such as their hydraulic driver. This product reduces the dB output by 10 decibels, to 76 dB, which can operate continuously for an 8-hour day without the need for hearing protection, and without the risk for acoustic trauma.

Vibration: Measurements

of vibration are conducted using accelerometers. This type of testing was also crucial during the development of our hydraulic driver. This tool reduces noise exposure by 50% and records 3x less vibration. At this level, you can use this tool continuously for a full workday without the risk for eardrum damage.

Force: One of the most accurate ways to measure force is with a high-capacity testing system. This type of equipment can measure pounds of force (lbf) upwards of 135,000 lbf. Most manual staplers require repetitive motion and excessive force for operation. Milwaukee® offers a battery-powered stapler that provides the performance and runtime that rivals cordless solutions, at a fraction of the size and weight, and much less force.

Muscle Effort: Milwaukee also tested the numerous muscle groups in the hand, forearm, upper arm, and shoulder when designing the battery-powered stapler, which ultimately requires 80% less muscle effort to use. This reduces the risk for injury and long-term health risks. The attributes that make up an 80% less muscle effort include, significant size, weight, and force reductions. **RB**

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The Building of a Legacy

Transferring Your Business to the Next Generation

YOU BUILT A BUSINESS YOU'RE proud of. You worked decades, sacrificing time, money, and energy to take your company from a one-man operation to something that supports multiple families. And you hope that someone from your family, a child, will take over for you someday.

Building a legacy is the dream of many business owners. Parents take their children to work from an early age, hoping to instill a vision that one day they'll be working with mom or dad. Sometimes, it works out that way.

But, transitioning a business from one generation to the next isn't an easy process. In addition to making sure the "child" is ready by possessing the necessary skills, it's important to make sure the parent and child share the same dream. This is accomplished through regular, open communication, often with the help of professional advisors.

"The most important thing is to protect the family unit," says Lisa Horn, owner transition advisor with CLA (CliftonLarsonAllen, LLP) in Wisconsin.

To accomplish this goal, and conduct a successful transfer of power, Horn recommends the following steps for business owners to take.

SURROUND YOURSELVES WITH THE RIGHT ADVISORS

Owner transition advisors know the questions to ask and the steps to take to transfer your business from one generation to the next. Your advisors may include certified exit planning advisors, certified public accountants, attorneys, bankers, financial planners, and, depending on your family dynamics, a family specialist.

"You want someone who does this every day," says Horn, "because your business is the largest family asset you have and you only have one opportunity to get this right."

Jason Delgado, vice president and general manager of Dartmouth Building Supply, Inc. in Dartmouth, Massachusetts, is one of Horn's clients. "Lisa's been quite involved in our journey," he says. "She's taken us through everything from family dynamics to leadership assessments."

Mike Herr, co-owner with his father, Jim Herr, of Herr & Company Building Contractors, Inc. in Harrisonburg, Virginia, agrees that advisors are essential. "We've had advisors supporting us for years," he says. "We have an attorney that specializes in construction law, another who handles business transfers, a CPA, and another advisor we meet with twice a month."

HAVE THE RIGHT DISCUSSIONS

When meeting with advisors, Horn says you need to have the

right discussions. "Share your feelings," she says. "Don't be afraid to let someone down." She says that it's better to get those feelings out in the open now, rather than have a child take over a business they have no passion for.

The Herrs didn't have to worry about that. Mike approached his dad about going into business together. Jim Herr had taken a break from Herr & Company to pursue another interest. When he was getting back to it, Mike approached him.

"As a kid growing up," Mike says, "I always assumed I'd be working with my dad and Herr & Company." But after pursuing his own separate career as a mason, and then having to make a change after back surgery, he and Jim collaborated and Mike joined his father.

MAKE A PLAN THAT WORKS WITH THE CAPABILITIES OF THE NEXT GENERATION

When writing your transition plan, keep the skills and capabilities of your next generation in mind. "You need to put a plan in place to help them succeed as the owner and potential manager," says Horn. She bases her plans on what the next generation needs.

"We've done some soul-searching, and taken self-assessment and leadership tests to learn to work and communicate better together," says Jason who is working with his sister Michelle to take over Dartmouth Building Supply when their father, Joseph Delgado, retires. He says the tests have helped them see which roles each one is best suited for, so they can then build the company structure around those results.

Jim Herr sees the value in this. "Many are better carpenters than businessmen," he says. And, you want to know that before you hand over the reins to a child whose only interest is the craft, and not the business.

Herr has three sons. Jason, the oldest, works in the medical field. He tried carpentry one summer and decided it wasn't for him. Kyle, the youngest, works for Jim and Mike as a carpenter and superintendent.

"And when we have those important discussions," says Mike, "we keep open communication with Kyle in mind, to keep assumptions at bay."

INTRODUCE YOUR SUCCESSOR TO KEY PLAYERS IN THE INDUSTRY

Sometimes, business owners make the mistake of putting a son or daughter in a management role they've neither earned nor prepared for. This can result in jealousy among employees with tenure and a lack of respect shown by others in the

industry. According to Horn, introducing the next generation to key customers and partners helps them build necessary relationships over time and earn the respect a manager or owner should have.

ESTABLISH A GOVERNANCE STRUCTURE

The Herrs discussed a 10-year plan that would slowly ease Mike into the role of principal owner of the company. But shortly after he joined his father in the business, Jim had an accident that took months of recovery.

"Mike stepped up and took more of the responsibilities than we had planned for at that point," Jim says. "And we realized it was a good time to make our partnership official." So, they worked with their advisors to develop a structure and formal, long-range plan of "who does what" going forward.

"The first break for me," says Jim, "was that Mike managed the manpower and the day-to-day operation of who was working where."

Horn says that having this structure in place is an important part of the transfer process because it sets guidelines for decision-making, roles and responsibilities, and communication expectations. "It helps to protect the family unit," she says.

Jim Herr says it's important because many owners struggle to give up control, thereby hindering the growth of the business and their child. "As a senior, I need to recognize all the changes that have and are happening. I need to think, maybe there is a better way."

The Delgados are working on a three-year strategic plan that will replace not just their father but another key employee, according to Jason. "We look at it as an opportunity, as the next generation, to bring the company up to the next level," he says. "And, as fulfilling a commitment to both the family and our employees to not let the business go."

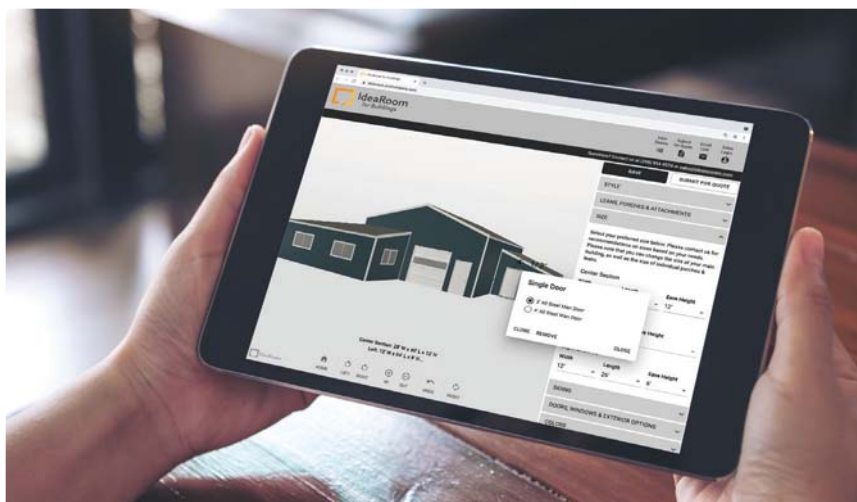
TIPS FROM THE TRENCHES

When asked for their best tips for other families considering the transfer of a business, Jim and Mike Herr offered the following advice.

- Find at least one person you can talk with together, a mediator, and meet with them regularly.
- Have a structured business. "If there's no business model," says Jim, "it's harder to identify roles, planning, growth, hiring, and everything that goes with that."
- Choose advisors who are strong where you're weak.
- The younger person needs to respect the older person's life work. If a young person wants to take over too quickly, the parent may see that as a lack of respect for the years of work they put into the business.
- The older person needs to acknowledge that the younger generation has strengths they don't have. "Particularly when it comes to technology," says Jim.

According to Horn, the families that take the time to plan in advance are those that thrive and enjoy the well-deserved celebration of a successful transition. But, if you don't have children or grandchildren following in your footsteps, ready to take the reigns when you retire, you may look elsewhere. Consider a niece or nephew who's expressed interest in the industry, or a faithful, young employee. The same guidelines apply, and the rewards are just as satisfying, no matter who joins you in your journey to building a legacy. **RB**

Freelance writer and editor Carol J. Alexander creates and manages content for the home remodeling and building and rural living industries from her home in the Shenandoah Valley of Virginia. Her work has appeared in over 100 local, regional, and national print publications.



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Challenges in Workforce Development Cause Wide-Spread Frustration

CONSISTENTLY WHEN WE SURVEY OUR readers, one of the top concerns contractors face is hiring and keeping quality employees. We've all spent time hiring and training an employee, only for them to disappear before they've even had time to accomplish anything. How frustrating! It's true for large firms and for smaller teams across all areas of the industry, so what's happening? And what can you do to tackle workforce development issues?

Brian Turmail, VP of Public Affairs and Strategic Initiatives at Associated General Contractors (AGC) of America, spoke to Rural Builder recently to answer our biggest questions about the state of the industry as he sees it, where we can look to deepen the pool of applicants, and making clear expectations to fully prepare new hires for the job ahead.

RURAL BUILDER: Why are builders and contractors struggling to find employees?

TURMAIL: There are a lot of reasons behind why most contractors have trouble finding quality workers. The top line is cultural. We've spent so much time talking to younger people about pursuing a career that requires a four-year education so they can end up working in an office environment. Mammamas don't want their babies to grow up to be construction workers. Culturally, we have turned our backs on these jobs; we've decided that they shouldn't be aspired to. That has led to less funding in education. Some young people go their whole academic tenure without being introduced to construction as an option.

Another reason is COVID. In some ways it has alleviated workforce pressure, but it's also exacerbated challenges. You can't count on the staff you have *now* all the time. They may have to quarantine for weeks because they are sick, or care for someone who is sick. There is currently a wide pool of labor, but they have preconceptions against construction. There are not a lot of unemployed people who think that construction is a good career to focus on.

RURAL BUILDER: What are some good strategies for finding a pool of eligible new hires?

TURMAIL: Everyone is recruiting out of the same pool: rural and semi-rural young people, sometimes the offspring of farmers, people who are used to working long hours or working with powered equipment, and people who like being outside. What we need to do is break the code on recruiting new types of people.

The current push is to recruit women into the industry, who currently only make up three percent of the craft work force. This has been a recruitment and a cultural challenge. We need to find and encourage our possible women hires and once they get there, make sure the jobsite is inclusive and welcoming for all employees.

One area where we haven't been successful is urban or city areas. Here we have a population of young people who may not be destined for college but aren't thinking about construction as an option, maybe because they haven't been exposed to it.

One factor that has shown the advantages of a construction career, in a high-profile way, is COVID. Everyone got to see how this industry is essential. When many people were stuck at home, construction workers were still out building. When people are thinking about career options, they are now thinking about stability, so essential fields may be more tempting than, say, waiting tables.

We need to educate our young people about a lot of different opportunities in the craft trades from using drones and exoskeleton suits to accountants, engineers, and videographers. For some people, the thought of being in an office is a nightmare. People have different aspirations and there are all kinds of positions available.

RURAL BUILDER: Can you provide some hiring strategies as a small (2-10) person operation without an Human Resources department?

TURMAIL: I would encourage you to look through your personal networks. If you've got relatives that are entry age, you should initiate conversations with them. Or you could speak



about career opportunities with local high school groups.

Tap into what is already being done in your area. Find your local workforce investment board or business guild. There you can usually find workers who have been laid off and are looking for opportunities.

When reaching out to potential hires, talk up the fact that these small to mid-size construction firms are family environments, not corporate. The boss of the operation will typically give orders all week and be at the BBQ on Friday night. We work hard and have fun.

Tech networking is also a good option. Put out an ad for an essential career; you can be very targeted at that. It doesn't take a lot of money to do targeted marketing on Facebook or social media. You don't have to buy radio time or a billboard anymore. The cost of entry is relatively low and the platform is user-friendly.

RURAL BUILDER: How do you get a new-hire to stick around?

TURMAIL: There might be any number of ways. Before you hire, you could have the applicant shadow on a project for a day so they can know what they are getting into. The more you can show them what they are going to be doing, the less chance they get scared off after a week or two.

Introduce new hires to people who started in that position and have worked their way up. Everyone has ambitions, so a clear path to advancement is important.

Company culture is also important. When you hire folks from a different community or set of experiences, you have to make time to make sure teams are welcoming people who may not be exactly like them. The AGC has a culture of care program that provides resources that can help with being inclusive, in recruiting as much as retention.

RURAL BUILDER: Do you have recommendations for contractors who are training new employees?

TURMAIL: Construction firms partner a lot of with technical colleges. The colleges have seats to fill and are increasingly entrepreneurial in their mindset. They will sometimes work with employers to create new programs based on employment need in the area. I have heard enough anecdotes from community colleges to believe it's possible.

There are also national curriculum programs you can purchase. We use programs from the National Center for Construction Education & Research (NCCER). They have consistently presented a clear and specific curriculum that gives a path for development.

...

In the end, many causes of workforce development issues can't be solved by a single person. Years of cultural mischar-

acterization have led generations of potential workers to believe that work in the trades isn't rewarding, doesn't provide a good living, and is generally undesirable.

However, the choices you make as employers can help turn the tide. Use your story to show success, advancement, work/life balance, and personal enrichment as a direct result of your work in the trades. Look in new directions for potential workers. If they have a positive work ethic and perseverance, on-the-job training can take care of shortcomings. Bring new hires into the fold with a familial culture and clear expectations and guidance for their new role.

With these small investments, you can build a team of competent, hard-working people that will stick around for the long haul. And you won't be left scrambling for help every couple of weeks. **RB**



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Plans Being Finalized for June 3-4 Construction Rollforming Show

We Look Forward to Seeing You in Cincinnati

THE 2021 CONSTRUCTION ROLLFORMING SHOW (CRS) registration is now open, including guest hotel registration at reduced rates. The show is scheduled for June 3-4 at the Duke Energy Convention Center in Cincinnati, Ohio.

Canceled last December due to COVID-19, pandemic restrictions are now lifting, restoring confidence that the CRS will be able to safely resume this year.

For registration details, go to www.constructionmagnet.com/construction-rollforming-registration. There you will also find updated information on exhibitors and guest hotel lodging, plus a list of educational programming.

Topics for the educational sessions are shown on the opposing page, with topics including rollformer basics, paint 101, the pros and cons of buying versus leasing equipment, coil and coating warranties, metal types and uses, software, packaging, shipping and delivering products, and much more.

Speaker From Building Homes for Heroes to Give Keynote Address

The exhibit hall will open to attendees at 12:30 p.m. on Thursday, June 3, with a keynote address from Jim Rogers, Director of Development for Building Homes for Heroes, to follow at 1:00 p.m. on the trade show floor.

Building Homes for Heroes organizes the modification and building of mortgage-free homes gifted to injured veterans and their families. Rogers has spent nearly a decade helping the organization grow, building upon his successful career of more than 20 years in the U.S. Air Force serving in locations around the globe.

Rogers shares the Building Homes for Heroes message around the country while speaking to Fortune 500 companies, businesses, and organizations, and participating in television and radio interviews.

He holds a master's in leadership and enjoys spending time with his family on their 50 acres of natural forested property and restoring his family's nearly 200-year-old historic farmhouse in the Mohawk Valley of upstate New York.

Building Homes for Heroes

Building Homes for Heroes was founded by Andy Pujol in 2006, inspired after volunteering in the search and rescue opera-

tions following the 9/11 terrorist attacks.

According to Building Homes for Heroes Vice President Kimberly Vesey, one day, Pujol heard young veterans talking on the radio about the struggles they were dealing with and decided he would build a home and gift it to a veteran.

Vesey said it took Pujol time to incorporate and find his way, but after that first home was adapted and gifted, he thought, "Why stop now?" So the goals grew, and the organization grew.

Based in New York, Building Homes for Heroes is a 501(c)(3) nonprofit organization that now serves the entire country. "We've gifted veterans in 33 states with home gifts and modifications," Vesey said. "We're attempting to get to every state; that's the goal."

While home gifting is the largest program, Building Homes for Heroes offers many other types of assistance. These additional programs include financial planning, sponsorships for athletic programs, emergency support, and more.

During the COVID-19 pandemic, the nonprofit acted quickly and initiated a new program—it sent \$500 checks to veterans for emergency funding.

"Psychological wounds cause veterans to fear for their lives," explained Vesey. Due to COVID-19, those who suffer from PTSD are "afraid now for their spouse, children, and parents. They're afraid now for the people that they love."

Partnerships with national distributors are critical for the organization because those companies can ship directly to the building site, Vesey explained. Sponsors who provide materials get deductions for donating products and they are included in the promotional coverage.

At the local level, the organization is dependent on builders and architects to donate labor or time. When a suitable home location has been selected, Building Homes for Heroes partners with local builders and then pulls in those national product sponsors.

Building Homes for Heroes has set the bar high; on average, they seek to gift one home every 11 days. With continued support, the organization hopes to reach its 300th home gift by the end of 2021. **RB**



Jim Rogers

show update

Educational Seminars & Show Schedule

THURSDAY JUNE 3, 2021

TIME	LEVEL 2, MEETING ROOM AREA	LEVEL 2, MEETING ROOM AREA	LEVEL 2, MEETING ROOM AREA	SHOW FLOOR - DEMO AREA
7:00-8:45	Continental Breakfast - Hallway Near Meeting Rooms (If Allowed)			
8:00-9:00	Social Media	Which Rollforming Line Works Best for Me?	Buying Versus Leasing Equipment	Off
9:00-10:00	Fasteners for Metal Panels	Software for Optimum Production	Packaging and Shipping Metal Panels	Off
10:00-11:00	Warranty Management for Coil Coatings	Buying a Business or Planning an Exit	Ways to Improve Your Panel Line Throughout	Off
11:00-12:00	Off	Off	Off	Off
1:00-2:00	No Classes			Keynote Address: Jim Rogers, Director of Development for Building Homes for Heroes
2:00-3:00	Differences in Coil	Other Rollforming Production Line Machines	Paint 101: An Introduction to Coil Coatings	Open
3:00-4:00	No Classes			Coil Purchasing
4:00-5:00	Metal Types and Uses	Used and Reconditioned Equipment	Sales Basics	Open
5:00-6:30	Happy Hour - Entryway in Front of Exhibit Hall Entrance - Duke Energy Convention Center			
7:00-11:00	Thursday Mixer - Hilton Cincinnati Netherland Plaza			

Exhibit Setup
Hall Closed to
Attendees

Exhibit Hall
Open 12:30 to 5:30

Exhibits Closed

FRIDAY JUNE 4, 2021

TIME	LEVEL 2, MEETING ROOM AREA	LEVEL 2, MEETING ROOM AREA	LEVEL 2, MEETING ROOM AREA	SHOW FLOOR - DEMO AREA
7:00-8:45	Continental Breakfast - Hallway Near Meeting Rooms (If Allowed)			
8:00-9:00	Closures and Ventilation	Trailers and Towing Portable Rollformers	Political Landscape and Business Climate	Open
9:00-10:00	No Classes			Solutions to Problems Cold Forming Metal
10:00-11:00	Moisture and Condensation Control	Benders and Brakes	The Role of Associations	Open
11:00-12:00	No Classes			Rollformer Maintenance
12:00-1:00	No Classes			Open

Exhibit Hall
Open 9:30 to 1:30

Tear Down Starts 1:30

THE FINAL EDUCATIONAL SEMINAR SCHEDULE WILL BE POSTED AT THE SHOW
TIME SLOTS MAY CHANGE BASED ON SPEAKER AVAILABILITY



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BEFORE TRAVELING, PLEASE CHECK FOR EVENT UPDATES OR CANCELLATIONS.

MAY

4-6 Groundbreaking Women in Construction (GWIC) Virtual Conference. enr.com/groundbreaking-women-in-construction.

JUNE

Construction Rollforming Show

3-4 Construction Rollforming Show 2021. Duke Energy Convention Center, Cincinnati, OH. constructionmagnet.com/construction-rollforming-registration.

7-10 World of Concrete 2021 Conference and Education. Las Vegas Convention Center, NV. worldofconcrete.com/en/attendee.html.

17 American Institute of Architects (AIA) Online Conference on Architecture 2021 – A'21. conferenceonarchitecture.com.

21-24 Fenestration & Glazing Industry Alliance (FGIA) Virtual Summer Conference. FGIAonline.org/events.

JULY

7-9 Coverings: The Global Tile & Stone Experience. North Hall of the Orange County Convention Center, Orlando, FL. coverings.com.

AUGUST

10-12 The International Roofing Expo (IRE) 2021. Mandalay Bay Convention Center, Las Vegas, NV. theroofingexpo.com/en/home.html.

SEPTEMBER

12-14 The Construction Management Association of America (CMAA) National Conference & Trade Show. Philadelphia Marriott Downtown, Philadelphia, PA. cmaanet.org/conferences.

21-23 Associated General Contractors (AGC) National Convention. Marriott World Center, Orlando, FL. https://convention.agc.org.

28-30 The Utility Expo (formerly ICUEE). Kentucky Exposition Center, Louisville, KY. theutilityexpo.com.

OCTOBER

5-8 Building Component Manufacturers Conference. Omaha, NE. bcmcshow.com

6-8 METALCON. Tampa Convention Center, Tampa, FL. Metalcon.com.

18-21 Fenestration & Glazing Industry Alliance (FGIA) Fall Conference. Sheraton Grand at Wild Horse Pass, Phoenix, AZ. FGIAonline.org/events.

26-28 National Insulation Association (NIA) 65th Annual Convention. MGM National Harbor, MD. insulation.org/events.

NOVEMBER

3-5 Garage, Shed, & Carport Builder Show. Century Center, South Bend, IN. constructionmagnet.com/garage-carport-shed-builder-show-home-page.

Looking Ahead at Rural Builder Magazine

JULY

- 2021 Gold Key of Excellence Issue
- Product Feature: Paint & Coatings
- Ad Design 101
- **Advertising Deadline: June 9**

AUGUST

- 2021 Source Book
- Product Profiles
- **Advertising Deadline: August 3**

SEPTEMBER

- METALCON Preview, Exhibitor Profiles
- Framing with Cold-Formed Steel
- Natural Lighting Solutions
- **Advertising Deadline: September 7**

OCTOBER

- 2022 Buyer's Guide Issue
- Product Profiles
- **Advertising Deadline: September 20**

DECEMBER

- Jobsite Security
- Product Feature: Design Software & Programs
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Storage in Style

This Jumbo-Sized Ag Building is Accessible and Attractive

WHEN YOU'RE RUNNING A FARM, protecting your investment into large farm equipment is important. Keeping them in good working condition, including protecting them from the elements saves time fixing and maintaining so you can work quickly and efficiently. And as we know, time is money.

This 80' W x 188' L x 20' H storage facility in rural Illinois checks all of the boxes. Two large overhead sidewall doors and a motorized swing door on the end wall ensure hassle-free equipment storage without having to remove larger hookups to enter. The swing-door has an accessible gearbox with a wireless remote, so opening and closing

is effortless from inside or outside of the building, zero loss of headroom means you can utilize all 20' of the door's height, and it is ASTM rated at 80 MPH winds when open and 115 MPH winds when closed.

Custom vented cupolas and coordinating steel J-panels and vinyl slider windows give it a sleek, finished look. **RB**





THE DETAILS:

Building: Farm Equipment Building

Building Size: 80' W x 188' L x 20' H

Contractor: Central IL Buildings, Inc.

Foundation: Sturdi-Wall Concrete
Anchor Brackets, Perma-Column

Swing Door: 40' W x 20' H Incredible
Swing Door with automated gearbox,
I-Beam Doors

Vented Cupolas: 4' x 4' Custom
Fabricated, I-Beam Doors

Overhead Doors: Insulated Sandwich
Doors, C.H.I. Overhead Doors

Posts: SCI Laminated Columns, LLC

Windows: Vinyl Slider Windows, AJ
Manufacturing, Inc.

Siding: Steel J-Panels, J Mac Metals

Ventilation: J Mac Metals

For more information: www.ibeamdoor.com

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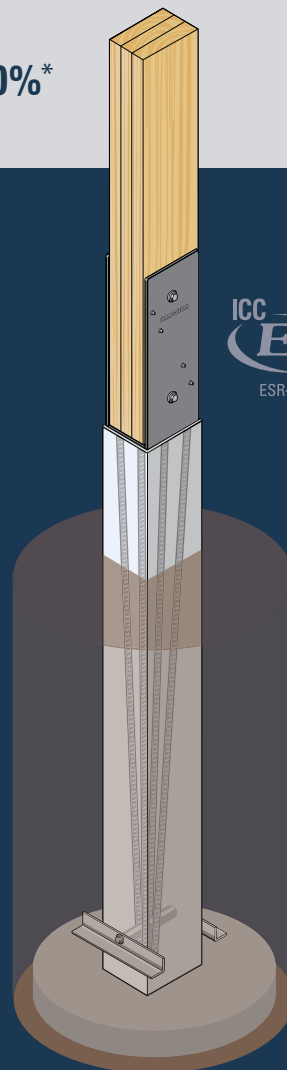
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*Fortune.com, Lance Lambert (February 28, 2021)

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or Installer
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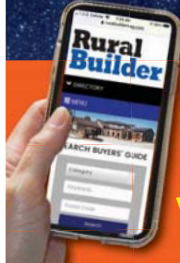
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