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DECEMBER 2026
Vol. 60, Issue 10

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BY KATHLEEN RILEY

Built for the Worst Day

December is supposed to slow things down. The weather didn't get the memo. Up in Alaska, the foundations are being set on ground that heaves and shifts as if it's got somewhere else it'd rather be. Down in Florida, the roofs are being screwed down to withstand a hurricane. Our extreme environments come down to this: no one can remember what the building looked like at the ribbon cutting. They'll remember the 40-below night, the 150-mph gust, and the spring when frost heave turned up like a relative with a duffel bag.

Fire gets its own story this month. Our wildfire-resistant construction piece looks at what actually stops embers from taking a building down. Non-combustible cladding, ember-resistant vents and defensible space all get a look in, along with the rather mundane details that no one ever talks about. If you've ever driven through fire season with ash on your windscreen, you'll know what we're talking about. The rest of you can read the piece and go straight to the bit you're interested in.

Then we go to the Town Hall. All the fire stations, the amphitheater, the public works garages, the salt sheds, and the city shops all need building (usually while the council goes through every line item twice and has three meetings in a row arguing about the paint color). There's a new bid every year from the rural builders, and a few of them still have their sanity. We'll cover that, as well as whatever else you're putting up, since you're never a one-building-type of crowd.

So enjoy the slow weeks while they last. Next year's jobs are already on the horizon, and the weather hasn't even blinked. When you get a moment, do drop me a line with a summary of what went well this year, what went wrong, and what you'd like to see next. Some of the very best stories we've had in the magazine have originated in a builder's email.

See you in 2027.

— *Kathleen Riley*





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kathleen@shieldwallmedia.com

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Rural Builder®
BY SHIELD WALL MEDIA

Managing Editor
Kathleen Riley
kathleen@shieldwallmedia.com
715-952-1644

Editorial Staff
Karen Knapstein, Linda Schmid

Circulation/Subscriptions
Cari Ullom
cari@shieldwallmedia.com
715-952-1629

Publisher/CEO
Gary Reichert
gary@shieldwallmedia.com

Director of Events
Missy Beyer
missy@shieldwallmedia.com
715-350-6658
Fax: 1-715-227-8680

Executive/Advertising Assistant
Kathy Budsberg
kathy@shieldwallmedia.com

Graphic Designers
Tom Nelsen
Kevin Ulrich

Fax: 1-715-304-3604

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Gary Reichert,
Publisher, Shield Wall Media

MIKE ROWE WORKS FOUNDATION

WORK ETHIC SCHOLARSHIP

There Are Challenges with Everything

...But nothing we can't handle!

BY LINDA SCHMID

"The only way you are ever going to make any money is by going to college." That statement has been made many times by many people, and James D'Eliseo heard it a lot. His dad was a banker and his mom was a nurse. They went to college, got degrees, and worked hard at well-paying jobs. Common wisdom has been saying that is "the thing to do" for decades. However, D'Eliseo didn't like school. He had a hard time paying attention, and he knew college wasn't for him.

GRADUATING INTO THE WORKING WORLD

Headed toward high school graduation, D'Eliseo considered going into law enforcement, but he decided that wasn't a job he would be comfortable with. Eventually he took a job as a bartender at a restaurant, and the work was alright, but then D'Eliseo started a family. With a wife, a child, and another baby on the way, a bartender's paycheck wasn't cutting it.

Then COVID-19 struck. At that point, he lost his job and had to make a plan quick. He knew a couple of linemen, so he knew there were lots of openings and the trade paid well. He applied and was accepted to NW Linemen College, CO.

A QUICK TRANSITION TO TRADE

The mikeroweWORKS scholarship was a lifesaver for D'Eliseo. The course he wanted to sign up for was only four months long, but it was four months without a paycheck.

"I wouldn't be where I am today if it wasn't for the mikeroweWORKS Schol-



From left to right: Remmy, Kaitlin with Joey, Sailor, Lucca, and James D'Eliseo

As a result of a collaboration with mikeroweWORKS Foundation (www.mikeroweworks.org), *Rural Builder* is featuring profiles of Work Ethic Scholarship recipients in each of its issues. Over 3,000 scholarships have been awarded to trade-school students who value hard work and taking personal responsibility. *Rural Builder* applauds these students and wants to acknowledge their choice to apply their talents to skilled trades. Thank you, mikeroweWORKS Foundation, for your continuing efforts to close the skills gap and "reconnect the average American with the value of a skilled workforce."

arship," D'Eliseo said. "My wife and our two children were living in an RV, while I trained and the scholarship money paid my educational expenses. We were traveling all over the state, working and learning.

The lineman course was mainly about conditioning for the job's physicality, climbing, and using the tools. The instructors were journeymen and D'Eliseo learned a lot by picking their brains.

ON THE JOB

At the completion of his time at Northwest Lineman College, D'Eliseo began working as a transmission apprentice in Texas. He worked on high voltage towers from 66kb to 35,000 kb. He worked at that job for about a year and a half, and then he and his family moved to California where he got a job working for Southern CA Edison power company.

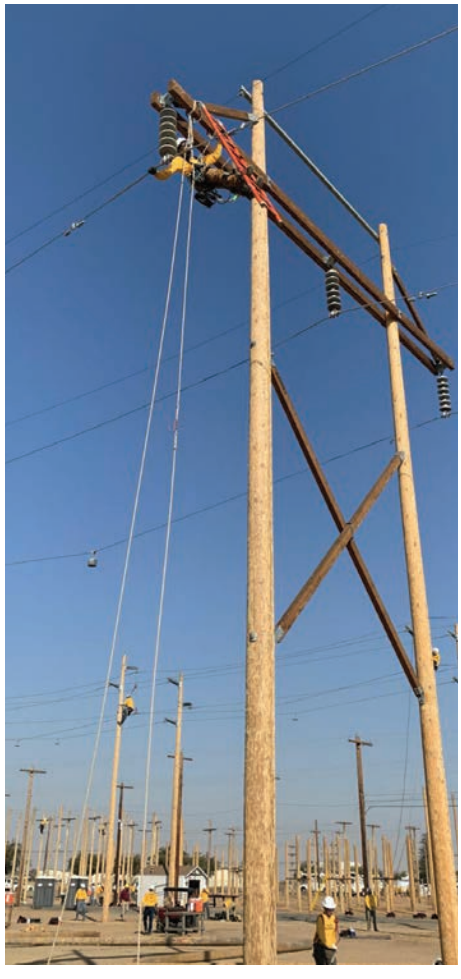
As an apprentice, D'Eliseo was required to continue his education, a month at a time twice a year. One perk: the company picks up the check for this extended training.

D'Eliseo said that his job is great; six months ago, he was upgraded to Journeyman status.

On an average day, D'Eliseo shows up at work early to find out the scope of the job he and his crew will be doing that day. Perhaps they are replacing a pole. He gathers the materials they will need and pulls the crew together for briefing. The crane is recruited and they deenergize or ground the pole, remove it, replace it, and put everything back as it was. At times, that would have been the end of the day, but more recently there has been a lot of work due to bad weather.

Crews are required to have a journeyman at all times, in case of emergencies, and the number of linemen who have reached that level are fewer than apprentices. For this reason, journeymen can end up working many hours. D'Eliseo said that in California a journeyman lineman can be required to work 24 hours straight, so they could start at 6am and continue working until the next day at 6am. However, the amount of time a lineman can be required to work is dependent on where you are working; different states can have different guidelines. This many hours can be difficult, but you stay hydrated, and you always have someone with you. Linemen look out for each other,

He has two friends who became jour-





neymen before he did, and he could always call them and get the benefit of their experience. Now sometimes people call him to ask for his help.

"If I haven't got an answer, I will call someone who does. Senior journeymen all help other linemen and each other," he said.

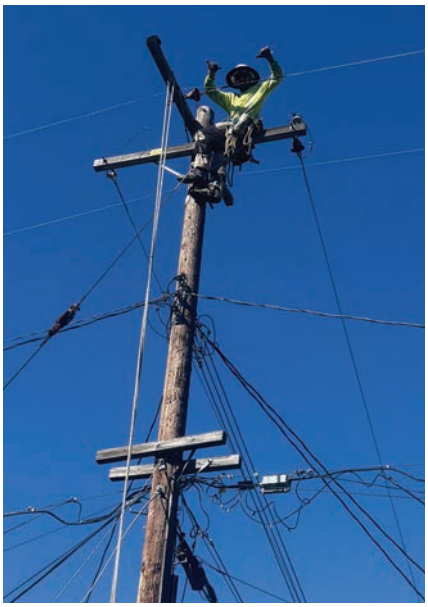
CHALLENGES AMIDST SUCCESS

His biggest challenge on his career path was when he worked as an apprentice. Apprentices put in hundreds of hours in training. He had four kids, and he was trying to learn a new job while still being there for his family. He credits his wife's help for getting them through that time.

The time challenge has not disappeared because he has been promoted; journeymen are needed so much that his employers want him to work all of the time, but of course family is important, too.

One thing D'Eliseo said that he would do differently if he could go back. He would have started his lineman training earlier, and that could have meant he got through the apprenticeship before his children were born.

The future holds more work as a lineman, D'Eliseo said. He would like to travel to different states, learning the differences in the code and how things are done as he goes. As far as the challenges of traveling around with four kids, he responded, "There are challenges with everything, but nothing we can't handle. **RB**





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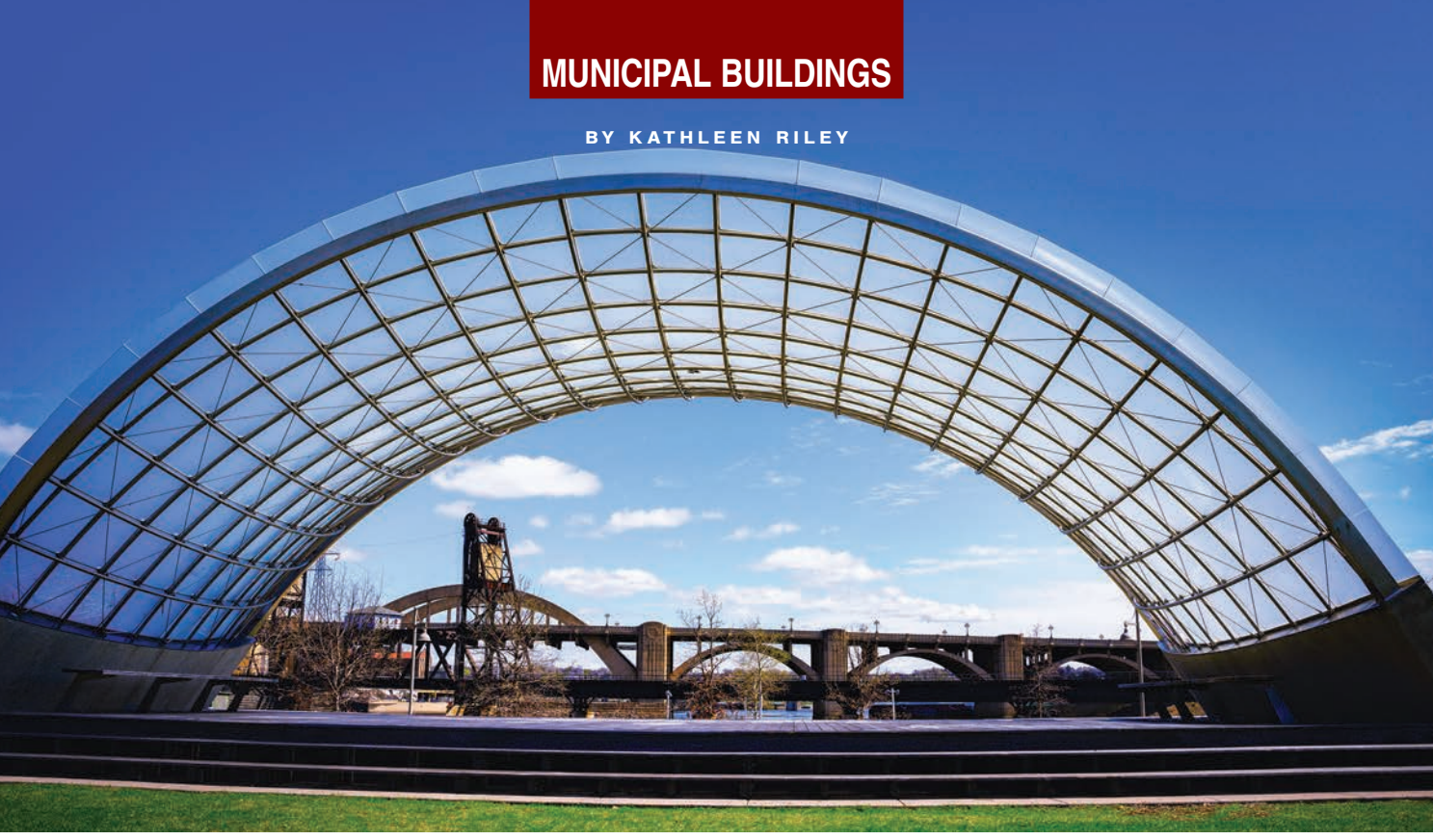
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BY KATHLEEN RILEY



Beyond the Barn

A Builder's Guide to Winning Municipal Building Projects

Fire stations, public works garages, community centers and civic venues are being built in the same counties and along the same highways as the ag buildings and pole barns this magazine has always covered. Two Minnesota projects — a new fire station in Otsego and a riverfront amphitheater in north Minneapolis — offer a real-world look at how municipal work gets funded, bid and built, and what a contractor or supplier needs to do to get a seat at the table.

A BIGGER TENT FOR RURAL BUILDER READERS

For years, this magazine's coverage has centered on post-frame and metal-frame agricultural buildings — and that work isn't going anywhere. But the contractors, component manufacturers and suppliers who serve rural and small-town America are increasingly working on a different kind of project: municipal buildings. Fire and EMS stations, public works garages, water treatment facilities, community centers, park pavilions and performing arts venues are being built in the same counties and along the same highways as the projects this magazine has always covered, and many of them draw on hybrid construction methods that blend post-frame, steel-frame and conventional techniques.

This issue takes a different approach to a project focus feature. Rather than simply profiling two finished buildings, we're using them as a jumping-off point for something more useful to a reader weighing whether to chase this kind of work: a practical look at how municipal projects get funded, how they get bid, and what it actually takes for a builder who has never worked with a city council or a construction manager to land a contract like this one. Along the way, we point to the public sources that make that research possible and to the manufacturers whose siding, roofing, door and skylighting products show up on this kind of building. Both lists appear at the end of the article.

Municipal work looks different from a typical ag building job. Projects are usually bid rather than negotiated, funded through bonds, levies or a mix of state and federal grants, and subject to a longer list of code, accessibility and life-safety requirements than a farm shop. But the underlying construction economy — metal panels, structural steel, insulated systems, doors and hardware built for heavy daily use — overlaps heavily with the products and services already advertised and exhibited across Shield Wall Media's publications and shows. For builders looking to diversify, municipal buildings are a growth lane worth understanding, and one this magazine intends to cover more of going forward.

WHY MUNICIPAL WORK IS WORTH A SECOND LOOK

Municipal construction has a few characteristics that make it attractive to a contractor looking to smooth out the peaks and valleys of a purely agricultural



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- Budgets are public record. Bond issues, capital improvement plans and levy increases are discussed in open council meetings and published well before a project goes out to bid, giving a contractor months or years of advance notice.
- Payment is reliable. Public owners don't disappear, and payment and performance bonds protect subcontractors and suppliers up the chain in ways a private residential job often can't.
- The work is recurring. A city that builds one fire station, public works facility or park building will build another. Once you're a known, qualified vendor, subsequent bids get easier.
- It diversifies revenue. Municipal budgets run on a different cycle than agricultural spending, which can help offset a slow year in the ag economy with public-sector work that isn't tied to commodity prices.

None of that makes municipal work easy. It comes with more paperwork, more inspection, and a bidding process with real legal teeth. The rest of this article is meant to walk a first-time or occasional municipal bidder through that process, using two very different current Minnesota projects as illustrations of how the money, the design team and the construction contract actually come together.

HOW MUNICIPAL PROJECTS GET FUNDED

Understanding where the money comes from is the first step to knowing when and how to position your company for a bid. Most municipal building projects in Minnesota — and most states have similar structures — draw on some combination of the following:

- General obligation bonds: Cities and counties borrow against future property tax revenue, usually requiring council approval and sometimes a public referendum, to fund large capital projects like a fire station or community center.
- Property tax levies: Operating and debt-service costs are frequently funded through a levy increase, which shows up in local news coverage and council meeting minutes long before a shovel hits the ground.
- State bonding and grant programs: State legislatures periodically pass bonding bills that direct funds to specific public projects, and state agencies administer competitive grant programs for public safety, parks, water infrastructure and cultural facilities.
- Federal grants and appropriations: Community development, infrastructure and disaster-resilience programs can provide direct or pass-through funding, often layered with local and state dollars.
- Public-private partnerships: Larger or more complex projects sometimes combine public dollars with private fundraising, corporate sponsorship or nonprofit operating partners, particularly for cultural and recreational facilities.

A contractor who wants advance notice of upcoming work should be watching city council and county board agendas, capital improvement plans (typically published five to ten years out), and state bonding bill announcements — not just plan rooms and bid boards. By the time a project is formally advertised for bid, the funding decision, architect selection and basic building program have usually already been settled.

Minnesota Uniform Municipal Contracting Law — Current Thresholds

Under $25,000	May be purchased in the open market; at least two quotations are recommended and should be kept on file.
$25,000 – $175,000	May be handled by sealed bid or direct negotiation, obtaining two or more quotations. No requirement to publicly advertise.
Over $175,000	Must be procured through sealed bids, solicited by public notice, and awarded to the lowest responsible bidder.
Alternative methods	Best-value procurement and construction-manager-at-risk delivery are both permitted alternatives to strict low-bid award for qualifying projects.

HOW MUNICIPAL BIDDING ACTUALLY WORKS

Public construction contracting is governed by state statute, and the rules are less flexible than a private negotiation. In Minnesota, most cities, counties and other local governments follow the Uniform Municipal Contracting Law (Minnesota Statutes Section 471.345), which sets dollar thresholds for how a contract must be procured. The specific numbers vary by state, but the structure below is a useful model for how these laws typically work.

A few terms worth knowing before you bid your first public job:

- Lowest responsible bidder: On a traditional sealed-bid project, the contract must go to the lowest bidder who is also deemed "responsible" — meaning qualified, financially sound and capable of performing the work. Being cheap isn't enough if you can't demonstrate capacity.
- Best value procurement: An alternative to strict low-bid award that lets the owner weigh price alongside qualifications, approach and, in some cases, an interview — useful for design-build or more complex projects.
- Construction manager at risk (CMAR): A delivery method where a construction manager is brought on during design to provide cost input, then holds the trade contracts and a guaranteed maximum price during construction — common on larger civic buildings like performing arts centers.
- Performance and payment bonds: Public owners typically require both, guaranteeing the project will be

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completed and that subcontractors and suppliers will be paid. Bonding capacity is often the real limiting factor for a smaller company sizing up its first public job, not the estimate itself.

- Prevailing wage: Under Minnesota Statutes Sections 177.41–177.44, most state-funded construction and public works projects over a modest dollar threshold require contractors to pay a certified prevailing wage rate by trade and county, with certified payroll reporting throughout construction. City-funded projects may carry the same requirement under local ordinance even without state dollars involved, so check the bid documents rather than assuming.

Always read the actual bid documents and consult your state's version of these laws — thresholds and rules change by legislative session, and dollar figures cited here reflect the framework in place for Minnesota in 2026. The League of Minnesota Cities and the Office of the State Auditor both publish plain-language guides to the bidding law that are worth bookmarking if you plan to bid public work regularly in this state.

WHERE TO LOOK: PUBLIC SOURCES EVERY MUNICIPAL BIDDER SHOULD BOOKMARK

One of the quiet advantages of public work is that so much of the homework is free. Nearly everything in this article — the bidding thresholds, the prevailing wage rules, the funding stories behind both case studies — came from public documents anyone can pull up. The Sources section at the end of this article is organized the way a contractor might actually research a target market, and it's worth treating as a working reading list rather than a bibliography.

- Start with the rulebook. The Minnesota Statutes (Section 471.345 for municipal contracting, Sections 177.41–177.44 for prevailing wage) are the final word, and the Office of the State Auditor and League of Minnesota Cities publish plain-language guides that explain them. Both are free, and both are written for city staff, which means they tell you what the person on the other side of your bid is reading.
- Read the owner's own project page. Cities that build public facilities often post updates, schedules and background on a dedicated page. The City of Otsego's fire station and construction progress pages are good examples of what a bidder can learn about an owner's priorities without making a single phone call.
- Follow the general contractor's news. Construction managers and general contractors routinely publish project announcements and spotlights. Kraus-Anderson's coverage of the Otsego station is a useful look at how a regional builder describes its own scope, and it's a quick way to learn which firms are winning public work in your area.
- Use trade and local press to fill in the money story. Engineering News-Record and REBusinessOnline cover project delivery and contractor awards, while MPR News and community papers like the Elk River Star News cover the votes, levy decisions and public debate that decide whether a project moves forward.
- Cross-check before you cite. Figures and timelines can differ slightly between an owner's page, a contractor's release and a news report, and thresholds in the statute change from session to session. Treat any single source as a starting point and confirm dollar amounts and dates against the primary document before they go into a bid or a proposal.

CASE STUDY 1: CITY OF OTSEGO FIRE STATION

Otsego, a fast-growing city in the northwest Twin Cities metro, broke ground in 2025 on its first-ever, city-operated fire station — a milestone more than two years in the making after the city council voted in 2022 to establish its own fire department rather than continue contracting for coverage. Kraus-Anderson completed the 35,000-square-foot facility in May 2026, on a site at the southwest corner of Odean Avenue and 75th Street Northeast.

The building was designed by Wold Architects and Engineers around the core functions any fire station needs: large apparatus bays and gear storage sized for quick mobilization, 24-hour living quarters for career and part-time staff working a combination staffing model, and dedicated training areas and classrooms that double as space for community programs such as CPR training and public safety workshops. The project also incorporated energy-efficient lighting and water-saving fixtures, reflecting a now-common expectation on public buildings that they perform efficiently over their full service life, not just on move-in day.

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Case Study 1: City of Otsego Fire Station

Project Snapshot	
Location	14499 75th Street NE, Otsego, Minnesota
Owner	City of Otsego / Otsego Fire and Emergency Services Department
Size	35,000 square feet
Cost	Approximately $18.8 million
Architect	Wold Architects and Engineers
Contractor	Kraus-Anderson
Timeline	Construction began June 2025; completed May 2026
Department launch	Targeted for January 1, 2027

The financing tells its own story about municipal construction. City officials approved an 18% property tax levy increase for 2026 to help cover the cost of the department and station, and the project drew a packed crowd to a December 2025 council meeting before construction wrapped the following spring.

A single-owner, single-purpose building like this fire station is often the most realistic entry point for a small or mid-size contractor. The scope is well defined, the owner is a single city rather than a multi-agency partnership, and the specialty trades involved — metal building envelope, doors and hardware sized for apparatus bays, insulated systems — line up closely with skills already common in post-frame and metal-building work. If you're new to public bidding, a facility like this, or a public works garage or storage building of similar scale, is a better first target than a large cultural venue with a multi-firm design and construction team.

At the other end of the municipal building spectrum sits the Community Performing Arts Center, an 8,000-capacity outdoor amphitheater rising on Minneapolis's Upper Harbor Terminal, a formerly industrial, 48-acre site that stretches roughly a mile along the Mississippi River. City, county and state officials joined community leaders in May 2026 to break ground on the venue, one of the first vertical structures to come out of a $350 million, multi-phase redevelopment that has been in planning since a 2021 coordinated development plan.

A Kraus-Anderson and Zuri Construction joint venture is building the amphitheater, with NTH providing project and real estate management and LES Architects, both Minneapolis firms, handling design. Once complete, the venue will be operated under a partnership between First Avenue Productions and the Minnesota Orchestra, hosting roughly 50 ticketed shows a year plus community programming, with $3 from every ticket reinvested locally through the African American Community Development Corporation under a city-approved Community Benefits Agreement.

The amphitheater is only one piece of the broader Upper Harbor Terminal plan, which also includes a Minneapolis Park and Recreation Board riverfront park opening in 2026, affordable housing, a health and wellness hub, commercial space and new streets and utilities already built by the city. Financing came together in stages — including a $12.5 million state bond-funded grant accepted by the Minneapolis City Council and private fundraising led by the Minnesota Orchestra — a reminder that large public-private cultural projects can take years to fully fund even after design work is underway.

A project this size isn't a realistic general-contractor target for most Rural Builder readers, and that's fine — the opportunity here is downstream. Large joint ventures on projects like this routinely need specialty subcontractors and material suppliers: structural steel erection, metal roofing and wall panel systems, doors and hardware, site utilities and concrete work. The path in is rarely a direct bid to the owner; it's getting known to the general contractor or construction manager — in this case a Kraus-Anderson/Zuri joint venture — early enough to be invited to bid the trade packages once they're released.

CHOOSING YOUR ENVELOPE AND DOOR PARTNERS

Whether you're bidding as a general contractor on a small public building or pricing a trade package under a larger

Case Study 2: Community Performing Arts Center Amphitheater, Upper Harbor Terminal

Project Snapshot	
Location	Upper Harbor Terminal, North Minneapolis, along the Mississippi River
Owner/Operator	Port of Minneapolis — a joint venture of First Avenue Productions and the Minnesota Orchestra
Capacity	8,000
Estimated venue cost	Nearly $50 million (part of a $350 million overall redevelopment, including $20 million from the City of Minneapolis)
Construction joint venture	Kraus-Anderson and Zuri Construction
Other project firms	NTH (project management/real estate) and LES Architects
Timeline	Groundbreaking May 4, 2026; targeted to open summer 2027

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firm, the products you specify and the manufacturers behind them are part of your bid. Municipal owners and their architects tend to ask harder questions about ratings, warranties and long-term maintenance than a typical ag customer does, and a manufacturer that can answer them quickly makes your proposal stronger. The Resources section at the end of this article lists companies in four product categories that matter on nearly every public building. A few thoughts on how to use it:

Siding and Roofing

Metal panels are the common language between agricultural, commercial and municipal construction. Central States Manufacturing and Klauer Manufacturing each publish extensive profile, finish and trim information, and Central States offer both exposed-fastener and concealed-fastener options. For a first public project, the practical question is rarely whether a panel can do the job; it's whether the manufacturer can document the performance the architect's specification calls for. Ask early for finish warranties, wind-uplift test data and color availability, and confirm lead times before they become a schedule problem.

Doors

Doors are where a fire station or public works garage differs most from a farm shop. Apparatus bays and equipment garages need wide openings that operate reliably and often, in all weather. The manufacturers listed in the Resources section represent two different approaches. Schweiss Doors and PowerLift Hydraulic Doors build hydraulic doors in custom sizes, and the one-piece hydraulic design is described by Schweiss, and by a PowerLift dealer, as swinging outward to act as a canopy when open. TracRite Doors and DBCI build steel roll-up doors that coil above the opening, an option the manufacturers position for storage, industrial and light-commercial openings. For smaller garage-style openings, such as an administrative wing, a community building or a park shelter, Kevmar offers carriage house and custom garage doors in glass, steel and molded fiberglass. Which approach fits depends on the building's clearances, wind and code requirements, and the owner's maintenance preferences, so ask each manufacturer for sizing limits, ratings and installation support before you price an opening.

Skylighting

Natural light is a recurring request on public buildings, from training rooms to vehicle bays to open-air shelters. Palram's Suntuf and SunSky corrugated polycarbonate panels are offered in profiles designed to match common metal roofing and siding, which makes them a straightforward way to add daylight to a metal-clad building, and Palram states that daylighting can reduce lighting and energy costs. As with any manufacturer claim, ask for the test data and installation details behind it, and confirm that the panel profile matches the roof and wall panel actually specified.

Treat your suppliers as part of your qualifications package. When you bid your first public job, a one-page summary of the manufacturers you plan to use, with links to their published specifications and warranties, shows the owner and architect that you've done the homework. Call the manufacturer's technical support line before bid day, not after you win, and ask which of their products have been used on public buildings. Many manufacturers will gladly point you to a regional representative or an architect-facing specification contact.

A SIX-STEP ROADMAP TO YOUR FIRST MUNICIPAL CONTRACT

If you're a builder or supplier who has never pursued public work, here's a practical sequence for getting from "interested" to "bidding."

1. **Get registered** — Register with your state's contractor registration or licensing board, and get your company listed as a vendor with the cities, counties and school districts in your service area. Many public owners maintain a vendor or plan-holder list used to notify prequalified companies of upcoming bids.
2. **Build your bonding capacity** — Talk to a surety bond agent before you need one. Your bonding capacity — not your estimating skill — is usually what caps the size of public project you can realistically pursue. Establishing a relationship and a track record with a surety early makes it much easier to bond a larger job later.
3. **Start small and local** — Bid smaller quotation-range projects (in Minnesota, the $25,000–$175,000 direct-negotiation tier) with a city or county you'd like to build a relationship with. A well-executed small project is the best reference you can have for a larger sealed-bid job down the road.
4. **Watch the pipeline, not just the bid board** — Follow capital improvement plans, council and county board agendas, and state bonding announcements. By the time a project hits the plan room, the program and budget are already locked — the real positioning window is a year or more earlier.
5. **Attend pre-bid meetings** — Pre-bid or pre-proposal meetings are where you learn the unwritten priorities of a project, meet the architect and construction manager face to face, and signal to the owner that you're a serious, prepared bidder.
6. **Deliver, document, and ask for the next one** — A public owner's institutional memory is long. Finishing on time, on budget, and with clean documentation is what turns a first small contract into an invitation to bid the next, bigger one.

POSITIONING YOUR COMPANY BEFORE THE BID GOES OUT

- Winning municipal work is as much about relationship-building as it is about estimating. A few specific tactics worth building into your business development routine:
- Get on general contractors' subcontractor lists. Firms like Kraus-Anderson that regularly win public work maintain

SOURCES & RESOURCES

Codes, Standards & Industry Associations

- Kraus-Anderson krausanderson.com• Fire Station — City of Otsego, MN — https://www.otsegomn.gov/462/Fire-Station
- City of Otsego, MN — otsegomn.gov
- MPR News — mprnews.org/story/2026/05/04/officials-break-ground-for-new-amphitheater-in-north-minneapolis
- Engineering News-Record — enr.com/articles/62327-joint-venture-to-build-upper-harbor-amphitheater-in-north-minneapolis
- City of Minneapolis — minneapolismn.gov
- Home — Upper Harbor Amphitheater — minneapolisamphitheater.com/
- Office of the Minnesota State Auditor — auditor.state.mn.us/media/jgpleuza/city-bidding-and-contract-requirements.pdf
- League of Minnesota Cities — lmc.org/resources/competitive-bidding-requirements-in-cities/
- Minn. Stat. § 471.345 — Uniform Municipal Contracting Law — revisor.mn.gov/statutes/cite/471.345
- Prevailing Wage — Minnesota Department of Labor and Industry — https://secure.doli.state.mn.us/prevwage/
- Minnesota's 2026 Prevailing Wage Rates: What Contractors Need to Know Before Bidding on Public Projects — https://northstarlaw.com/minnesotas-2026-prevailing-wage-rates-what-contractors-need-to-know-before-bidding-on-public-projects/
- Central States Manufacturing centralstatesco.com
- Klauer Manufacturing Company klauer.com
- Schweiss Doors schweissdoors.com
- PowerLift Hydraulic Doors powerliftdoors.com
- TracRite Doors tracrite.com
- DBCI dbci.com
- Kevmar kevmarmfg.com
- Palram Americas palram.com/us

qualified-subcontractor databases; being in that database is often how a smaller specialty contractor gets invited to bid a trade package on a large civic project.

- Attend industry and municipal association events. State municipal leagues, county engineer associations and regional economic development groups hold conferences where public project pipelines are discussed well before formal bid advertisements.
- Build a public-project portfolio, even a small one. A single completed public works building or fire station renovation, documented with photos and a reference contact, does more to win your next public bid than a much larger private job.
- Understand joint ventures and teaming. On larger projects, a joint venture between a large regional firm and a specialty or minority- or women-owned business is common and sometimes required by the owner's community benefits policy. If you fit that profile, make sure larger contractors bidding regional work know you exist.
- Track prevailing wage and certified payroll requirements before you bid, not after. Underestimating labor cost because a bid didn't flag prevailing wage applicability is one of the more common — and most expensive — mistakes a first-time public bidder makes.

COMMON PITFALLS TO AVOID

- Underestimating bonding requirements. Confirm the required performance and payment bond amounts early; a great price is worthless if you can't get bonded for it.
- Missing the prequalification step. Some owners require prequalification of bidders before a project is even advertised — miss that window and you can't bid at all, regardless of price.
- Treating public bid documents like a private contract. Public bids are strictly governed by statute; late submissions, missing bonds, or non-conforming bid forms are typically disqualifying with no room for negotiation.
- Ignoring prevailing wage on city-funded (not just state-funded) work. Some cities apply prevailing wage requirements by local ordinance even when no state dollars are involved — always check the specific bid documents.
- Specifying a product you can't document. A panel, door or skylight that works in the field but lacks the test data, ratings or warranty paperwork the specification calls for can sink a submittal. Gather manufacturer documentation before you price the job.
- Waiting for the bid advertisement to start positioning. By the time a project is formally advertised, the architect, construction manager and often the general contractor relationships are already established. Early engagement matters more in public work than in private work.

WHAT THIS MEANS FOR BUILDERS AND SUPPLIERS GOING FORWARD

Neither of the two projects featured here is a post-frame building in the traditional sense, and that's the point of this issue's project focus: municipal construction spans a wide range of structural approaches, and the fire station, community center or park building going up in the next county over may be exactly the kind of work a metal-building contractor is equipped to bid — or supply components for — even if it isn't built exactly like the projects that have historically filled these pages.

Rural Builder will continue tracking municipal and public-sector construction alongside the agricultural and light-commercial projects that remain part of this magazine's coverage. If your company is working on a fire station, public works facility, community building or other municipal project, send your project photos and details to the editorial team for possible coverage in a future issue. **RB**

BY LINDA SCHMID

Workforce Pell:
What it is and who qualifies

Helping Newcomers Find Their Path in the Trades

In a world where skilled tradespeople are hard to come by and many good job openings go unfilled, the Federal Pell Grant program has been expanded to help more students obtain the training they need to get to work. Pell Grants have traditionally helped eligible students pay for college and certain trade school programs. However, many shorter-term training programs did not qualify. In response to workforce shortages, the federal government created Workforce Pell Grants.

Workforce Pell expands eligibility to shorter-term, career-focused training programs that generally provide 8 to 14 weeks of instruction. It also allows people with bachelor's degrees to apply, thereby encouraging unfulfilled workers to retrain for jobs that may offer better pay or a clear path to a more fitting career. Eligible programs may include training in skilled trades such as carpentry, welding, HVAC installation, electrical work, plumbing, construction-equipment operation, roofing or building-envelope installation, and construction technology.

Candidates should be aware that not every class will be approved for Workforce Pell funding. Programs offered by or in conjunction with an eligible college or vocational institution are more likely to qualify than independently offered courses. The program must meet state and federal requirements related to quality, completion and employment outcomes, as well as labor-market needs.

Workforce Pell took effect on July 1, 2026, and institutions have been able to apply for federal approval since then. Therefore, applicants should ask the school whether the program they are interested in has been federally approved as an eligible Workforce Pell program.



Students must meet additional qualifications to receive a Workforce Pell Grant. They must complete the Free Application for Federal Student Aid, commonly known as the FAFSA, and meet the applicable financial-eligibility requirements.

The Workforce Pell Grant can help people interested in the trades obtain training and make a career transition though their financial circumstances may not allow them to leave the workforce for an extended period. RB



HIGH-CAPACITY 100" PAN & BOX BRAKE FOR PROFESSIONAL METALWORKERS

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"The G0421 100" Pan & Box Brake is essential for any professional shop, featuring angle stops and adjustable fingers to flawlessly execute precise custom bends on up to full 12-gauge sheets."

Mike Bergman, Project Manager, Grizzly Industrial.

INDUSTRIAL CAPACITY & PRECISION BENDS

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Adjustable fingers are crucial for tackling complex projects with unique angles, allowing for production of trays, boxes, pans, and more according to precise specifications. An angle stop makes repeatable bends possible with faster setup and quicker changes between common operations.

KEY FEATURES

• Extended Width: Sizeable working capacity with 100" width up to 12 gauge for efficient processing of full metal sheets.

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• Angle Stop Attachment: Complete repeatable bends with consistent results by controlling bending leaf travel.

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The G0421 100" Pan & Box Brake is available now on grizzly.com and retails for $7,995.

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POLYGLASS INTRODUCES TRI STRATA™ TECHNOLOGY WITH LAUNCH OF POLYANCHOR® HU AND HU PLUS HYBRID ROOF UNDERLAYMENTS

Polyglass U.S.A., Inc., a leading manufacturer of roofing, waterproofing, and building envelope solutions, is expanding its steep-slope roofing portfolio with the introduction of Tri Strata™ Technology and two new modified bitumen hybrid roof underlayments: Polyanchor® HU and Polyanchor® HU PLUS.

Designed for mechanically attached tile roofing applications, Tri Strata Technology is a three-layer construction that combines high-strength nonwoven fabric facers with a modified bitumen core to deliver durability, sealability, and performance under real jobsite conditions. Developed to address common installation challenges, the technology helps provide reliable protection around fasteners and penetrations while supporting long-term weather durability throughout the life of the roof system.

Featuring a modified bitumen core comprising more than 80% of the product core comprising more than 80% of the product composition, Polyanchor® HU and Polyanchor® HU PLUS are engineered to enhance protection around fasteners and penetrations while delivering tear resistance, puncture resistance, and long-term weather durability.

The new Tri-Strata Technology product family includes:

Polyanchor® HU

Designed for new construction applications, Polyanchor HU provides dependable deck protection, enhanced walkability, and installation efficiency for mechanically attached tile roofing systems.

Polyanchor® HU PLUS

Designed for reroofing and more demanding project conditions, Polyanchor HU PLUS delivers enhanced durability and added confidence where increased jobsite traffic, deck variability, and material staging place greater demands on the underlayment.

At the core of both products is Tri Strata Technology's layered construction:

•Nonwoven fabric surface engineered for traction and jobsite durability

•Modified bitumen core designed to enhance nail sealability around fasteners

•Nonwoven fabric base engineered to provide strength and stability across the roof deck

Together, these layers work to support durability, sealability, and jobsite performance from installation through final roof system completion.

Polyanchor® HU and Polyanchor® HU PLUS are now available through Polyglass distribution channels. Contractors, distributors, and building professionals can access technical resources, product information, and supporting sales materials through their local Polyglass representative or at polyglass.us.

For more information, visit polyglass.us or contact your local Polyglass Sales Representative.

About Polyglass U.S.A., Inc.

Polyglass U.S.A., Inc. is a leading manufacturer of roofing, waterproofing, and building envelope solutions serving the North American market since 1992. Known for its innovative self-adhered modified bitumen roofing systems featuring patented ADESO® Technology, Polyglass offers a comprehensive portfolio of systems for roofing and building envelope applications across the structure, from below-grade through the building exterior to the roof. Headquartered in Deerfield Beach, Florida, the ISO 9001:2015-certified company operates six state-of-the-art manufacturing facilities and continues to expand its production capabilities. As part of the MAPEI Group, Polyglass leverages more than 130 years of combined industry expertise.

BRASS KNUCKLE® TRANSFORMER – MORE THAN MEETS THE EYE TRANSITIONS BETWEEN STANDARD TEMPLES AND ELASTIC HEAD STRAP

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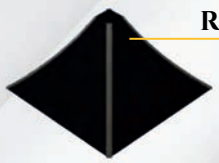


work environments in which prevention of particle ingress is a 'sometimes' need, and anti-fog and comfortable fit are an 'always' need. Think of construction sites where workers are sanding, grinding, and cutting only part of the time, as the hot sun beats down all day long.

Transformer has rugged good looks, with a nylon and TPR frame, and black/dark gray temples. The durable polycarbonate lens features Brass Knuckle's proprietary BK-Anti-FOG+ coating, offering superior performance under the most demanding hot and humid conditions.

BK-Anti-FOG+ is tested under the most stringent anti-fog standard in the world, exceeding the European EN 166/168. Its anti-fog properties last an astounding 45 times longer than the minimum set forth by the standard—rendering this eyewear virtually fog-free.

The 8 base curve polycarbonate lens offers unobstructed field of vision and high-impact protection, while the built-in dust filter forms a seal to keep out dust and airborne particles. The filter protects workers from intense wind, sun, dirt, dust and debris, as well as high heat and humidity. Soft nylon and thermoplastic rubber (TPR) temples flex to adjust to wider facial profiles, helping to ensure these spectacles remain comfortable to wear without distorting the optics. It offers excellent abrasion, chemical, and UV resistance. **RB**



ROOF

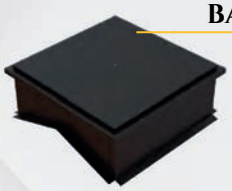
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Building for the Burn:
Wildfire-Resistant Construction Materials and Practices

How post-frame and metal building contractors can harden new construction against embers, radiant heat, and direct flame as wildfire season spreads across the country.

Wildfire used to be a regional concern, something builders in California, Colorado, or the drier stretches of the Great Plains thought about, and everyone else filed it away as someone else's problem. That is no longer the case. Longer droughts, expanding grasslands turned to tinder by heat waves, more people building at the edge of undeveloped land, and fire seasons that now run nearly year-round have pushed wildfire risk into regions that rarely had to plan for it before. Smoke from Canadian and Western wildfires has settled over the Midwest and the eastern half of the country in recent years, a visible reminder that the wildland-urban interface, the zone where structures and vegetation meet and mix, keeps growing.

For post-frame and metal building contractors, that shift matters. Farms, ranches, storage buildings, and rural residences sit squarely inside that expanding interface. A pole barn full of hay, fuel, and equipment is not just a financial loss waiting to happen; it is fuel. Once a structure ignites, it can carry fire toward a house, livestock, a neighbor's property, and crews working the fire line. Building owners increasingly ask contractors what they can do differently, and insurers increasingly ask the same question before they write a policy.

This article looks at the materials and construction practices that reduce a structure's wildfire vulnerability, from roofing and siding to vent screens and landscaping. None of this makes a building fireproof. Nothing does. But a growing body of post-fire research shows that specific, achievable choices in materials and detailing repeatedly separate buildings that survive from those that do not.

HOW RURAL BUILDINGS ACTUALLY CATCH FIRE

Contractors picturing wildfire risk often imagine a wall of flame rolling across a field and consuming a barn on contact. That does happen, but it is not the most common way structures are lost. Post-fire investigations from some of the most destructive wildfires in the past two decades point to a different culprit: embers.

Wind-driven embers, sometimes called firebrands, can be lofted a mile or more ahead of the main fire front and carried onto or into a structure long before flames ever arrive. Research cited by building science organizations attributes the large majority of structure ignitions during wildfires to these embers rather than to direct flame contact or radiant heat alone. Embers collect in gutters, work their way under eaves, slip through attic and ridge vents, settle onto wood-shake or debris-covered roofs, and pile up against combustible siding, decking, and fencing that lead straight back to the building.

That single fact reframes the whole conversation. Wildfire-resistant construction is not primarily about withstanding a wall of flame. It is about closing every gap, seam, vent, and joint that could let a smoldering ember find fuel and hold on long enough to ignite it. Radiant heat and direct flame contact still matter, particularly for structures close to heavy vegetation. Still, ember intrusion is the fight builders can most directly influence through material choice and detailing.

ROOFING: THE BUILDING'S LARGEST EMBER CATCHER

The roof is the largest surface most buildings present to a shower of wind-blown embers, and fire investigators usually look at it first when trying to understand why one structure burned while its neighbor did not. Roof coverings are rated under ASTM E108, also referenced as UL 790, on a scale of Class A, B, or C, based on resistance to flame spread, exposure to burning brands, and penetration through to the roof deck. Class A is the highest rating available, and the one wildfire-conscious builders should specify by default in any region with meaningful fire exposure.

Metal roofing earns its reputation here. Standing seam and screw-down steel panels are noncombustible, contribute no fuel to a fire, and, when installed as part of a tested assembly, routinely automatically achieve a Class A rating. [RH1.1]Concrete and clay tile perform well for the same reason: the material itself will not burn. Composition shingles can also reach Class A when manufactured and rated as such. Still, builders should confirm the specific product carries that rating rather than assuming all asphalt shingle products are equal. Avoid untreated wood shakes and shingles in any wildfire-exposed application; they are exactly the kind of fine, dry fuel that catches embers and carries fire into the rest of the structure.

A Class A rating tells only part of the story. The details finish the job the material starts. Ember-resistant roofing depends on tight, interlocking seams that leave no gaps for embers to lodge in; closed or screened ridge vents; sealed valleys and flashing so debris and embers cannot accumulate; and gutters kept clear of leaves, needles, and other combustible litter. A Class A-rated panel installed over an open ridge vent or a debris-choked valley has a weak point that undermines much of the material's benefit.

PRACTICAL SPECIFICATION NOTES

- Specify a tested Class A roof assembly, not just a Class A-rated panel; the covering, deck, and underlayment are tested as a system.
- Favor standing seam profiles over exposed-fastener panels in high-exposure sites; fewer penetrations mean fewer places for embers to gather.
- Close off open eaves and box in the underside of overhangs where the roof meets the wall; this junction is a known ember trap.
- Specify noncombustible gutter guards or plan for regular debris removal as part of the maintenance conversation with the owner.

WALLS AND SIDING: CHOOSING MATERIALS THAT WON'T CARRY THE FIRE

Exterior wall coverings are the second-largest ember-catching surface on any building, and the material differences are stark. Concrete, concrete masonry, brick, and stone are effectively noncombustible and offer top-tier wall protection. They do not burn, they do not produce smoke, and their mass slows heat transfer long enough to protect what is behind them, though poured concrete and block can carry a cost premium that makes them a harder sell for large agricultural buildings.

Steel siding sits close behind and, for post-frame and metal building applications, is usually the more practical answer. Painted or printed steel panels are considered Class A fire-resistant, will not ignite, and withstand the corrosion and fading that ordinary weather exposure causes over time. Because a large share of recycled steel goes into its manufacture, and because the material itself is fully recyclable at the end of a building's service life, steel siding also lines up with the sustainability conversations more owners are having with their contractors. Fiber cement siding is another solid option, offering strong fire performance at a lower material cost than masonry. However, it is heavier and more labor-intensive to install than steel panel systems.

> Quality metal roofing systems offer a level of protection to the structure that other roofing materials cannot—why would you trust anything else?
> *- Renee Ramey MetalRoofing.com*

Wood siding is where most of the risk concentrates. Untreated wood siding, trim, and fascia are combustible and, left unaddressed, give an ember the thin, dry fuel it needs to establish a foothold. When the look of wood matters, fire-retardant-treated lumber is a much better choice than untreated stock, and cross-laminated timber has also earned recognition in some wildfire-resistant design guidance because its dense, engineered structure chars slowly and predictably rather than catching the way dimensional lumber trim can.

Attention to gaps matters as much as the choice of siding material itself. Any crevice, seam, or hole in the exterior envelope is a potential ember entry point, especially where siding meets trim, at corner boards, and around utility penetrations. Sealing these transitions during installation is inexpensive compared with almost any other item on this list and closes off a failure point that is easy to overlook.

WHAT THIS MEANS FOR POST-FRAME CONSTRUCTION

Post-frame buildings carry a particular set of considerations because the structural frame itself is typically wood. That does not mean post-frame construction is inherently unsuited to wildfire-prone sites. Still, it means the fire-resistance conversation must happen at both the assembly and material levels.

The International Building Code addresses required fire resistance of structural elements, walls, floors, and roofs by construction type, with ratings expressed in hours in Table 601. Most post-frame buildings fall under Type III or Type V construction. The code allows several ways to establish fire resistance for wood-frame members and assemblies, including through tested assemblies rated to ASTM E119 or UL 263. Post-frame industry testing over the years, including tested one-hour and, more recently, three-hour firewall assemblies, has demonstrated that properly engineered wood-frame wall systems can achieve fire ratings that meet or exceed code requirements for many occupancies. Builders working on agricultural buildings that will sit close to a residence, share a property line, or house higher-value contents should ask their component supplier or engineer whether a tested firewall assembly is warranted, particularly at any wall separating occupancies or approaching a neighboring structure.

Post-frame construction also benefits from the same wrapping logic used in fire science generally: wrap the combustible frame in noncombustible or fire-resistant materials wherever it is exposed to potential ignition sources. A steel-clad post-frame building, with a Class A metal roof, steel or fiber cement siding, sealed penetrations, and ember-resistant venting, closes off most of the vulnerability that comes from the wood frame underneath. The frame is protected by what surrounds it, rather than by pretending the wood isn't there.

Concrete and steel framing remain the highest-performing structural options where budget allows, particularly for equipment storage buildings, chemical or fuel storage structures, and any building where a total loss would be especially costly. Steel framing does not burn and retains structural integrity at much higher temperatures than wood, so steel-framed buildings are more often repairable than a total loss after a fire event moves through. That durability is a genuine selling point for owners weighing the up-front cost difference against long-term risk.

VENTS, EAVES, AND SOFFITS: CLOSING THE EMBER ENTRY POINTS

If embers are the primary threat, vents are the primary vulnerability, and a relatively small line-item change in specification can produce an outsized benefit. Investigations following some of the most destructive wildfires in California found that superheated embers repeatedly entered through attic, ridge, and crawl-space vents, igniting insulation and other combustible material well before the fire front itself reached the structure. Researchers have flagged the under-eave area, in particular, as a zone of increased vulnerability.

The baseline standard, referenced in both the International Wildland-Urban Interface Code and NFPA 1144, calls for noncombustible mesh screening no larger than one-quarter inch over vent openings. Wildfire-specific guidance and stricter code provisions in high-risk jurisdictions go further, calling for mesh between one-sixteenth and one-eighth inch, since standard quarter-inch mesh is coarse enough to let small embers pass straight through. A growing category of purpose-built ember-resistant and flame-resistant vents goes further still, using baffled, multi-layer designs or heat-activated closures tested to standards such as ASTM E2886, which evaluates a vent's ability to resist

SOURCES & RESOURCES

Standards, Codes, and Research Organizations

- National Fire Protection Association (NFPA) — NFPA 1144, Standard for Reducing Structure Ignition Hazards from Wildland Fire; NFPA 252 and NFPA 257 door and window fire-test standards. nfpa.org
- International Code Council (ICC) — International Wildland-Urban Interface Code (IWUIC). iccsafe.org
- Insurance Institute for Business & Home Safety (IBHS) — Wildfire Prepared Home program and vent vulnerability research. ibhs.org
- ASTM International — ASTM E108/UL 790 roof covering fire tests; ASTM E84/UL 723 surface burning characteristics; ASTM E2886 ember and flame intrusion testing for vents. astm.org
- Texas A&M Forest Service — Fire-resistant construction and home hardening guidance. tfsweb.tamu.edu
- CAL FIRE — Home hardening and defensible space standards. fire.ca.gov
- USDA Farmers.gov — Wildfire preparation and recovery resources for agricultural producers. farmers.gov
- National Frame Building Association (NFBA) — Post-frame fire resistance and firewall assembly testing. nfba.org

Resources

- Klauer Manufacturing Company — steel building products and Class A fire-rated steel siding. klauer.com
- Graber Post Buildings — post-frame construction and printed steel siding systems. graberpost.com
- Metal Rollforming Systems — portable rollforming equipment for custom steel panel production. mrsroofing.com
- S-5! — Non-combustible, engineered metal roof attachment solutions and accessories. s-5.com
- Starwood Rafters — engineered roof truss and rafter systems for post-frame construction. starwoodrafters.com
- Koble Systems — enterprise resource planning software for post-frame and metal building manufacturers. koblesystems.com
- Renee Ramey — metalroofing.com

ember entry and direct flame impingement.

For builders working in higher-risk regions, specifying ember-resistant vents as a standard upgrade, rather than an option the owner has to know to ask for, is one of the most cost-effective changes available. The material cost difference between a standard vent and a rated ember-resistant vent is modest compared with the cost of the structure it protects. Enclose soffits rather than leave them open wherever possible, since open soffits expose the roof framing directly to ember intrusion from below.

WINDOWS, DOORS, AND GLAZING

Windows fail for a specific and well-documented reason during wildfire exposure: thermal shock. A single pane of ordinary glass can crack from the uneven heating caused by radiant heat or nearby flame, and once it breaks, the building's interior is directly exposed to embers and heat. From that point, ignition of interior contents is usually a matter of minutes.

Dual-paned windows offer real improvement over single-pane glazing, though even dual-pane assemblies can eventually fail under sustained, intense exposure. Tempered glass performs better than standard annealed glass because it resists rapid temperature swings and tends to remain intact longer under fire exposure. For the highest level of protection, particularly on elevations facing open land or heavy vegetation, multi-pane or fire-rated glazing tested to standards such as NFPA 257 or the applicable state fire marshal standard is worth the added cost.

Doors deserve the same attention as glazing. Exterior doors, particularly on outbuildings that may go unattended for long stretches during a fire event, should be solid-core or fire-rated where exposure risk is elevated, tested to standards such as NFPA 252. Garage and equipment doors are a frequently overlooked weak point on agricultural buildings; a large door assembly with combustible panels or significant perimeter gaps can be as vulnerable as an unscreened vent.

DEFENSIBLE SPACE: THE SITE WORK BEHIND THE STRUCTURE

No amount of noncombustible siding or Class A roofing fully compensates for a building sited in the middle of unmanaged vegetation. Defensible space, the maintained buffer of reduced

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fuel around a structure, is the piece of wildfire protection that lives outside the construction contract but that every builder working in fire-prone regions should be prepared to discuss with clients during design and siting conversations.

General guidance from forestry and fire agencies calls for a series of zones extending outward from a structure, with the most aggressive vegetation management closest to the building and progressively less intensive management farther out. Immediately adjacent to any structure, agricultural or residential, that means keeping the area free of dry grass, brush, and stacked combustible material such as firewood, pallets, and scrap lumber, generally for a distance of five to thirty feet depending on local guidance and site conditions. Research on structure survival during wildfire has found that reducing woody vegetation cover immediately adjacent to a building, and ensuring nothing overhangs or touches the structure itself, improves survival odds more than defensible space extended much farther out.

For working farms and ranches, defensible space planning has to account for the realities of agricultural operations. Fuel tanks, chemical storage, hay, and equipment all represent both value at risk and fuel that can accelerate a fire once it starts. Farm-specific wildfire guidance generally recommends keeping above-ground fuel storage at least forty feet from any structure, storing chemicals and fuels in fire-retardant enclosures away from heat sources, and keeping barns and outbuildings clear of accumulated trash, empty feed sacks, and loose combustible debris. None of that is construction work in the traditional sense. Still, contractors who raise it during design conversations are giving clients genuinely useful guidance, and it is the kind of value-added advice that builds long-term trust with agricultural clients.

Access matters too. Fire crews are less likely to commit to defending a structure that lacks adequate defensible space and vehicle access, according to guidance from multiple state forestry agencies. Wide, clear driveways and turnaround space for emergency equipment are small design considerations during initial planning that can significantly affect outcomes.

CODES, STANDARDS, AND THE INSURANCE CONVERSATION

Builders do not need to memorize every wildfire-related code provision, but



a working familiarity with the reference standards helps in conversations with owners, engineers, and insurers. NFPA 1144, the Standard for Reducing Structure Ignition Hazards from Wildland Fire, lays out a structured methodology for assessing and reducing ignition risk and introduces the concept of the Home Ignition Zone- the structure and its immediate surroundings - as the most important area for intervention. The International Wildland-Urban Interface Code, adopted in some form by a growing number of state and local jurisdictions, sets baseline requirements for roofing, vents, siding, and defensible space in designated wildfire-prone areas. California's Chapter 7A building code provisions are the most stringent in the country and are often used as a reference point even outside the state because of the volume of post-fire research behind them; data cited by building science researchers found that homes built after 2008 under Chapter 7A requirements were more than three times as likely to survive a wildfire as homes built before 1997.

Insurance carriers have taken notice of the same data. Fire-resistant construction, and steel-framed or steel-clad construction in particular, is increasingly associated with reduced insurance premiums, since insurers view noncombustible construction as lower risk. For builders, that gives wildfire-resistant specification a return-on-investment argument that goes beyond safety alone: the incremental cost of a Class A roof assembly, steel siding, or ember-resistant vents can be weighed against the insurance savings and reduced total-loss exposure over the life of the building. That is a conversation worth having proactively with clients rather than waiting for them to ask.

A WORKING CHECKLIST FOR WILDFIRE-CONSCIOUS BUILDS

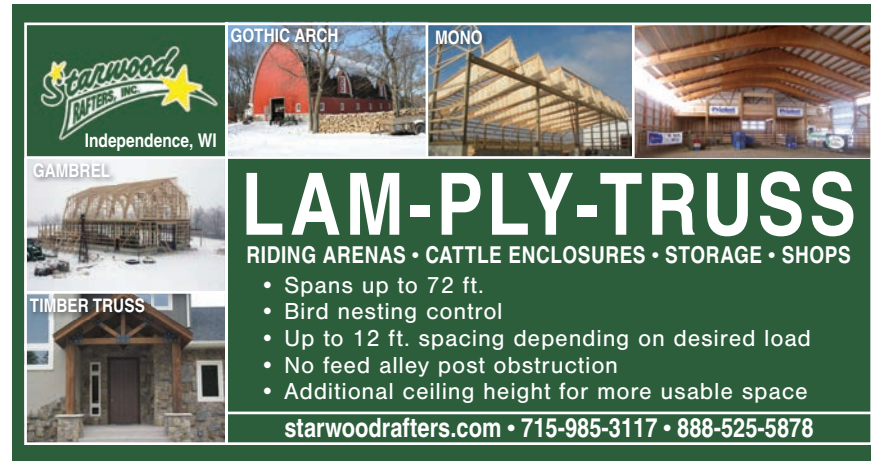
For contractors putting this into practice on the next agricultural or rural building project, the following items summarize the highest-value changes covered in this article, roughly in order of how directly they address the ember-intrusion risk that drives most structure losses.

- Specify a tested Class A roof assembly [RH2.1]using metal, tile, or another noncombustible or Class A-rated covering.
- Seal roof valleys, ridges, and flashing details to eliminate debris and ember accumulation points.
- Choose steel, fiber cement, masonry, or concrete siding over untreated wood wherever budget allows.
- Where wood trim or siding is used, specify fire-retardant-treated lumber and seal all seams and penetrations.
- Upgrade attic, ridge, and foundation vents to ember-resistant designs with one-eighth-inch or finer noncombustible mesh, or a listed ember-resistant vent product.
- Enclose soffits rather than leaving them open.
- Specify dual-pane or tempered glazing at minimum, and consider fire-rated glazing on elevations facing open land.
- Use solid-core or fire-rated doors on outbuildings and equipment storage that may sit unattended during a fire event.
- Discuss defensible space, fuel storage setbacks, and emergency vehicle access with the client during site planning, not after construction begins.
- Confirm with the client or their insurer whether a tested firewall assembly is warranted for buildings near a residence, property line, or high-value contents.

BUILDING FOR WHERE THE CLIMATE IS HEADED

Wildfire-resistant construction is no longer a niche specialty reserved for the Rocky Mountain foothills or the California chaparral. Smoke over the Midwest, extended drought across the Plains, and a wildland-urban interface that keeps pushing outward mean that more rural builders will field this question from more clients in the years ahead, whether the site sits in a formally designated fire hazard zone or not.

The good news for the post-frame and metal building industry is that much of what wildfire science recommends - steel roofing, steel siding, tight detailing, and engineered wood assemblies- already sits close to the center of what this trade does well. Framing the conversation around ember intrusion rather than an unlikely wall of flame gives contractors a practical, achievable set of upgrades to offer clients: a Class A roof, noncombustible or fire-resistant siding, ember-screened vents, tempered glazing, and a site plan that keeps fuel away from the structure. None of it guarantees a building will survive every fire. All of it measurably improves the odds, and for clients weighing those odds against a growing risk, that improvement is worth the conversation. RB



BY SHARON THATCHER

One major tip for prolonging the life of metal panel

BEWARE OF IMPACT TOOLS!

No other tools strike fear in the hearts of metal panel and fastener manufacturers alike than impact drivers and impact drills; yet, no other screw-driving tools equally delight installers. And therein lays a monumental problem. Impact drivers and drills are just too powerful for the panel that the small-but-mighty screw is designed to hold and protect, and yet they are so appealingly handy, inexpensive and powerful.

The issue of over-driving screws with impact tools is nothing new. In 2013, it was becoming such a problem that the Metal Construction Association (MCA) released a technical paper warning installers against the use of them for the installation of metal panel. Rural Builder published the information soon after, and the MCA continued its drumbeat against the practice. Still, the problem persists. Why?

Peter Graves, vice president of engineering and technical services at Sealtite Building Fasteners, says it's easy to figure out: the information just isn't getting to the right people. The technical papers and magazine articles are being read by people sitting at desks; "it doesn't make it to the installers who are actually in the field using the screw guns," Graves said. "They have not been instructed how to install a screw [into metal panel] properly, so they just drive them into the panel, into the substrate, and then hit it a couple of more times 'because if tight's good, tighter must be better.'"

David Webster, manager of marketing at Leland Industries, said too many build-



ers are focused on how fast they can get a job done and not enough on how a particular tool might be negatively impacting the final result. "From what I have observed, the builder is looking at speed: get onto and off the job, get your money and move on. I don't believe the average builder gives the tools much thought."

And it's easy to understand why: The damage inflicted most likely won't be visible for months or years to come. A good builder can turn rogue without even knowing it.

WHAT DAMAGE DOES IT CAUSE?

The damage is to the highly developed paints and coatings that panel and fastener manufacturers have been developing for decades to help metal roofs and

DECEMBER 2016 FLASHBACK

Some stories age better than others, and this one has aged stubbornly. When we first ran it, the Metal Construction Association had already spent years warning installers to keep impact drivers off metal panels. Fastener makers printed the same caution throughout their catalogs and handed out countertop cards to distributors. Pretty much everyone who read those warnings agreed. The trouble was that the people reading them weren't the ones holding the screw guns.

Walk onto a job site today, and you'll see how far the message traveled. Impact drivers are still cheap, still powerful, and still sitting in every truck, and crews still grab them for roof and wall panels because they're fast. The damage still hides under the washer for a few seasons before it shows up as rust stains and callbacks.

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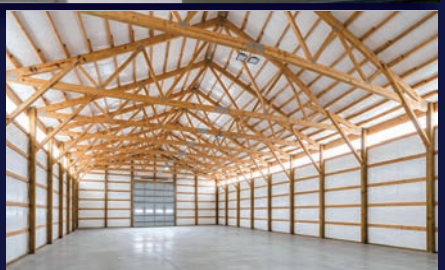
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sidings stay affixed and looking great, and that consumers crave in increasing numbers. If torqued too tightly, the paints and coatings are compromised, creating dimples and cracks where water collects and allows rust to develop and weaken fasteners.

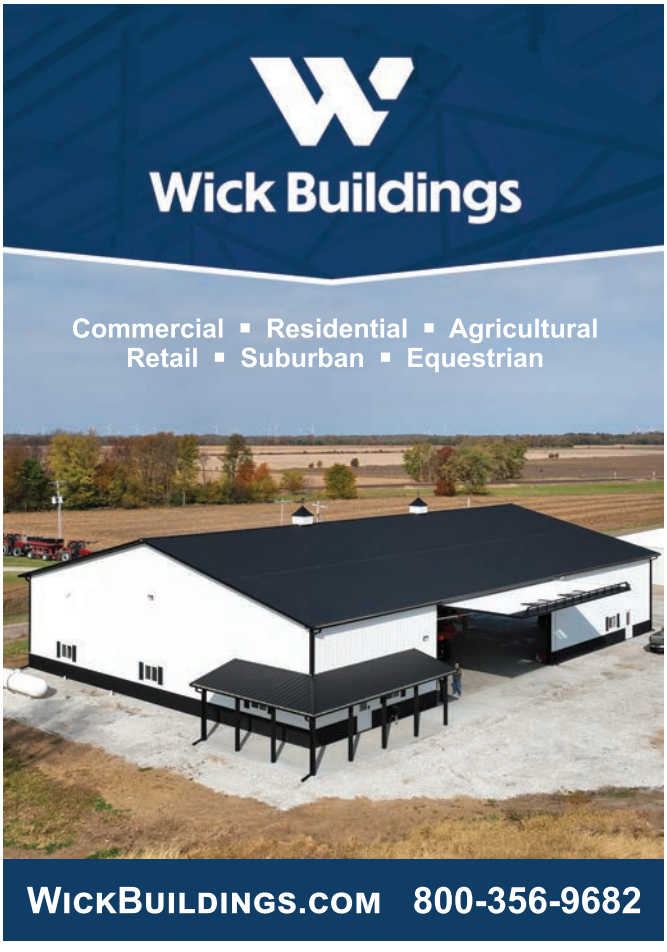
"Driving relatively small diameter fasteners with a hammering and turning action of an impact driver can put undue stress on the fastener (a twisting motion)," Webster said. In the case of post frame, he noted, "driving into a hard piece of lumber or knot may fracture (or crack) the screw without the installer knowing what has occurred."

That hammering can cause additional damage to the wood substrate. "Driving the screw into the wood with an impact driver may break up the fibers of the wood…and may damage the integrity of the wood substrate."

What has already been broken or compromised is now subject to moisture—the mortal enemy of metal. "What corrodes the steel is moisture," Graves explained. "The coatings are applied to prevent the moisture from reaching the screw. Impact drivers run at 2800 revolutions per minute and once they start to feel pressure, they start impacting in a rotational fashion at 3200 impacts



per minute. That creates little microscopic cracks in the coating that you can't see with the naked eye. It cracks the coating and the plating below and allows the moisture to infiltrate to the steel and start the deterioration process. Then rust starts eating up from underneath, surrounds it, the powder coating starts to swell and eventually you've got a rusted-off screw..."







Later on, a windstorm comes along, pops the screw and the installer wonders why the screw failed. Or, the panel rusts prematurely on the customer's beautiful house.

"Red rust on a white panel is not what the owner wants to see and it does not help the contractor's reputation," said Webster.

THE RIGHT TOOLS FOR THE RIGHT PROJECTS

Impact tools are not likely to go away, and they shouldn't have to. You just have to learn to use them when and where you need them, and leave them alone when you need far less torque. Metal panel is one of those places.

The consequences may not be immediately visible, yet Webster said the money saved now by getting on and off the job site and on to the next one fast can be wiped out in an instant. "Maybe down the line there's headaches for the contractor with a reputation to uphold. Possible damaged panels, broken screws, paint or powder coating scratched or marred during installation," he said, resulting in the dreaded callback. Inexperienced crews with marginal training may not understand the value of performing the work in a manner that will please the customer and the contractor, so training is a must. "Once the young installer discovers impact drivers, it may be too late for proper instruction to change his habits," said Webster.

Both Graves and Webster favor specialty screw guns with depth setting nosepieces or torque adjustable nosepieces that prevent overdriving and scratching.

There is nothing currently on the market that fills this gap in the line of impact tools. In fact, that would be a bit counterproductive since impact tools are intentionally made for high-torque impact.

There is a screw supplier now claiming to have a screw that cannot be damaged by the use of impact tools, but Webster is skeptical. "I don't believe it is possible to back up that claim," he said.

So, with no less-than-impactful impact tool currently in existence, metal and fastener companies try to protect their own reputations by advocating for the less powerful screw gun, and lots of notices that go unnoticed.

Screw suppliers routinely warn against using impact drivers for metal, and some may void warranties if a damage claim arises. "Sending representatives to inspect problem jobs is expensive and time consuming and the industry that we all depend on should not be subjected to a black eye because of the actions of the installer or a less-than-reputable contractor," Webster noted.

Sealtite also provides ample notice, warning against the use of impact tools for metal installation. "We do have that sort of verbiage all throughout our catalog for proper installation: "the use of impact drivers are not recommended for powder-coated or any wet-painted fastener." I know we have that printed at least 20 times in our catalog, big articles warning don't use impact drivers, colored diagrams showing a better way to go, and counter-top cutouts. We distribute those. It's not just us, it's industry wide [fastener companies are] out there saying the same thing, but I don't think it gets to the installers. Until the contractors forbid the use of impact drivers on their job site I don't know that the problem will go away." **RB**

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I grew up on a Mid-Michigan farm, where work did not wait for perfect weather, a convenient schedule, or the right mood. I spent plenty of evenings pulling milkweeds from bean rows after supper. At the time, I doubt I saw much business wisdom in it. There was a field that needed attention, and we were expected to give it attention.

Today, I am more likely to be wearing Cole Haan shoes than muddy boots, but I still consider myself a farmer. These days, I farm for business.

I have traded rows of corn for rows of contacts, haylofts for customer showrooms, and soybeans for social posts. The tools have changed. The work ethic has not.

The older I get, the more clearly I see the connection between farming and sales. Both follow the same four steps: plan, plant, cultivate, and harvest. The words are simple. The discipline behind them is serious.

Everybody wants the harvest. Fewer people want to work the field long enough to produce it.

PLAN THE FIELD

Good farmers do not walk into a field, throw seed in every direction, and hope something useful happens. They study the land. They know what grows well, what struggled last season, and what the ground needs before another crop goes in. They prepare for weeds, weather, and conditions they cannot control.

Sales requires the same kind of preparation. Before we chase the next order or project, we need to understand the territory in front of us. Who is growing? Who has stalled? Who is changing ownership, adding equipment, expanding a crew, or moving into a new market? Which customers are a good fit for the products, buildings, or services we offer? Where can we create real value and protect a reasonable margin? Who does not know we exist yet?

Planning also requires the courage to decide where our time does not belong. Not every lead is a good lead. Not every customer is ready. Not every opportunity deserves the same attention today.

That does not mean writing people off. It means understanding the field. One customer may be ready for a serious conversation this week. Another may need months of education and trust before the timing is right. A third may never be a good fit. Treating all three the same wastes time and usually irritates at least two.

A healthy pipeline begins with honest planning. Know the ground. Know what you are planting. Know why you are there.

PLANT WHERE CUSTOMERS ARE

You cannot reap what you never sow. In sales, planting means showing up and starting conversations.

That might happen face-to-face in a customer's office, across a kitchen table, on a jobsite, or in a trade show aisle. It might happen by phone, email, text, video, or social media. The method matters less than whether it fits the customer and gives them a reason to keep talking.

Some customers want a personal visit. Some would rather handle a question by phone in five minutes. Others watch a product video at night, read a newsletter early in the morning, or follow industry conversations online before they ever identify themselves as prospects. A few still prefer methods that have worked for them for years. Good salespeople respect that. Hybrid selling means knowing how to use modern tools while remaining comfortable with the traditional ones. It also means letting the customer's habits guide the route.

Your customers are not all sitting in their offices waiting for you to arrive with coffee and donuts. You have to meet them where they are.

Visibility matters here. Posting one useful video, sharing an answer to a common problem, or contributing something worthwhile to an industry conversation can plant a seed with someone you have never met. That person may not call today. He may remember your name six months from now when the problem becomes urgent.

A seed left in the bag cannot grow. Neither can an introduction you never make.

Planting is rarely dramatic. It is a call made when it would be easier to wait. It is introducing yourself to the person standing





alone at an event. It is asking one more question instead of delivering the same rehearsed pitch. It is becoming visible enough that the right people can find you when they are ready.

CULTIVATE WITHOUT DIGGING UP THE SEED

A field does not care how excited you were on planting day. Your pipeline does not either.

One good conversation does not create a customer any more than one afternoon of planting creates a crop. That first conversation may have gone beautifully. The presentation, estimate, product demonstration, or jobsite conversation may have answered every question. You may have shaken hands and heard, 'This looks interesting.' None of that eliminates the need to cultivate.

Cultivation is follow-up. Answer the question. Send the information you promised. Provide the sample, drawing, estimate, or additional detail. Make the introduction. Share something useful when it applies to that customer. Check in when you said you would.

This is where many opportunities disappear. Salespeople often love the energy of a new lead. The work becomes less exciting when the lead needs time, another answer, or three more conversations. Attention drifts toward the next new name while a promising relationship sits unattended.

The opposite mistake causes trouble too. Farmers do not dig up the seed every three days to see whether it is growing. Salespeople should not do that to customers either.

Dependable follow-up differs from constant pressure. Cultivation requires patience, consistency, and judgment. The goal is to remain present without becoming a pest. A useful follow-up gives the customer information, clarity, or a sensible next step. A selfish follow-up says, 'I need an answer because my month is ending.' Customers can feel the difference.

Trust grows in drops. Every kept promise adds one. Every unanswered call, missed deadline, or forgotten commitment spills some out. That is why small actions matter. If you promise information by Thursday, Thursday is part of the sale. If you agree to call next month, put it on the calendar and make the call.

Plenty of salespeople are willing to plant. Far fewer stay around long enough to cultivate.

WORK THROUGH WEATHER AND WEEDS

No farmer controls every condition, and no salesperson does either. Markets slow down. Interest rates move. Material costs change. Competitors cut prices. Projects get delayed. A customer loses an employee, changes direction, or decides to hold cash longer than expected.

We still control how well we prepare and respond. When conditions become difficult, customers pay close attention to who communicates clearly. They remember who gives them an honest answer, who helps them think through an alternative, and who disappears until the weather improves.

Difficult conditions also expose weak fields. A pipeline built around one large customer, one project type, one product, or one lead source may look healthy until something changes. Planning and planting across several appropriate channels creates resilience. It gives us more than one conversation to work and more than one road to the customer.

This does not mean chasing every platform or filling the day with activity that looks impressive. A farmer does not improve a field by driving the tractor in circles. Sales activity needs a purpose. Calls should lead somewhere. Content should answer something. Travel should put us in the right rooms. Follow-up should move a real conversation forward.

We cannot choose the weather. We can choose whether our equipment is ready and whether we keep working the ground.

RECOGNIZE WHEN IT IS TIME TO HARVEST

Eventually, it is time to ask for the business. This is the harvest, and it requires confidence, timing, and the ability to recognize when an opportunity is ready.

Some salespeople ask too soon. They plant one seed, make one presentation, and immediately start pulling on the crop. Others cultivate forever because asking for the order makes them uncomfortable. They keep sending information and having pleasant conversations while the customer waits for someone to lead the decision.

The right moment usually becomes visible when we have listened well. We understand the customer's problem, the people involved, the timing, and the cost of doing nothing. We have answered the important questions. The customer knows what happens next. At that point, asking for the business is a natural part of helping the customer move forward.

A harvest does not suddenly appear because you need to hit your number this month. It grows from work completed long before the close. If you've neglected the field, pressure at the end won't fix it. If you've cultivated the relationship well, the close often feels less like a showdown and more like the next sensible step.

Closing still takes courage. You have to ask. You also have to remain quiet long enough for the customer to answer. Confidence comes from knowing you have done the work and that the recommendation serves the customer.

CARE FOR THE GROUND AFTER THE SALE

The sale is not the end of the field.

Good farmers care for the ground after harvest because they know another season is coming. Salespeople need the same long view. The order or project you just received is connected to the next order or project, the referral, and the reputation you carry into every other conversation.

This is where promises made during the sale meet reality. Was

the order or project documented correctly? Did the customer receive what was promised? Did someone communicate when a delay or change appeared? Did you remain available after the order was placed or the contract was signed?

Customers remember how they felt after saying yes. A strong experience confirms that they made a good decision. A poor experience makes them wonder whether the attention they received before the sale was only courtship.

Closing the sale is not permission to stop cultivating the relationship. Service after the sale protects the ground you worked so hard to prepare. It can also produce the next opportunity without forcing you to begin every season in an empty field.

MANAGE THE ALWAYS ON GROWING SEASON

A crop moves through clearly defined stages. Modern sales does not give us the luxury of working one stage at a time.

We may be planning with one customer, planting with another, cultivating a third, and harvesting with a fourth, all before lunch. One conversation happens across a desk. Another happens on a screen. A third begins while walking a jobsite or standing in line for coffee at a trade show.

That is why organization matters. Notes matter. Calendars matter. A simple system that tells you what was promised and when to follow up is worth more than a complicated system nobody uses. The tool should help you remember the relationship, not replace it.

Digital communication is a force multiplier. It helps us stay visible, teach at scale, and maintain contact across a large territory or service area. Relationships are still the soil everything grows in. Technology can extend our reach, but trust still develops between people.

The strongest sales professionals I know can move comfortably between both worlds. They can walk a jobsite, sit across from an owner, make the phone call, record the useful video, and continue the conversation online. They choose the road that serves the customer and keeps the relationship moving.

WORK THE FIELD

So yes, I still call myself a farmer.

Whether I am in boots or Cole Haans, at a trade show or behind a camera, I am still doing the work my dad taught me: show up, work the land, respect the process, and grow something worth harvesting.

People will always look for a shortcut to harvest season. Sales has plenty of shiny tools that promise one. Tools can help. They cannot plan the field, make the introduction, keep the promise, or earn the trust for us.

Dad never called it a sales strategy.

He called it work. **RB**



Randy Chaffee *brings four-plus decades of experience to the post-frame and metal roofing industries. Author of #1 Amazon Best Seller "Asphalt and Algorithms," he is a board member for the Buckeye Frame Builders Association and the National Frame Builders Association. Find his podcast at facebook.com/BuildingWins or call (814) 906-0001 at 1 p.m. Eastern on Mondays to listen in.*

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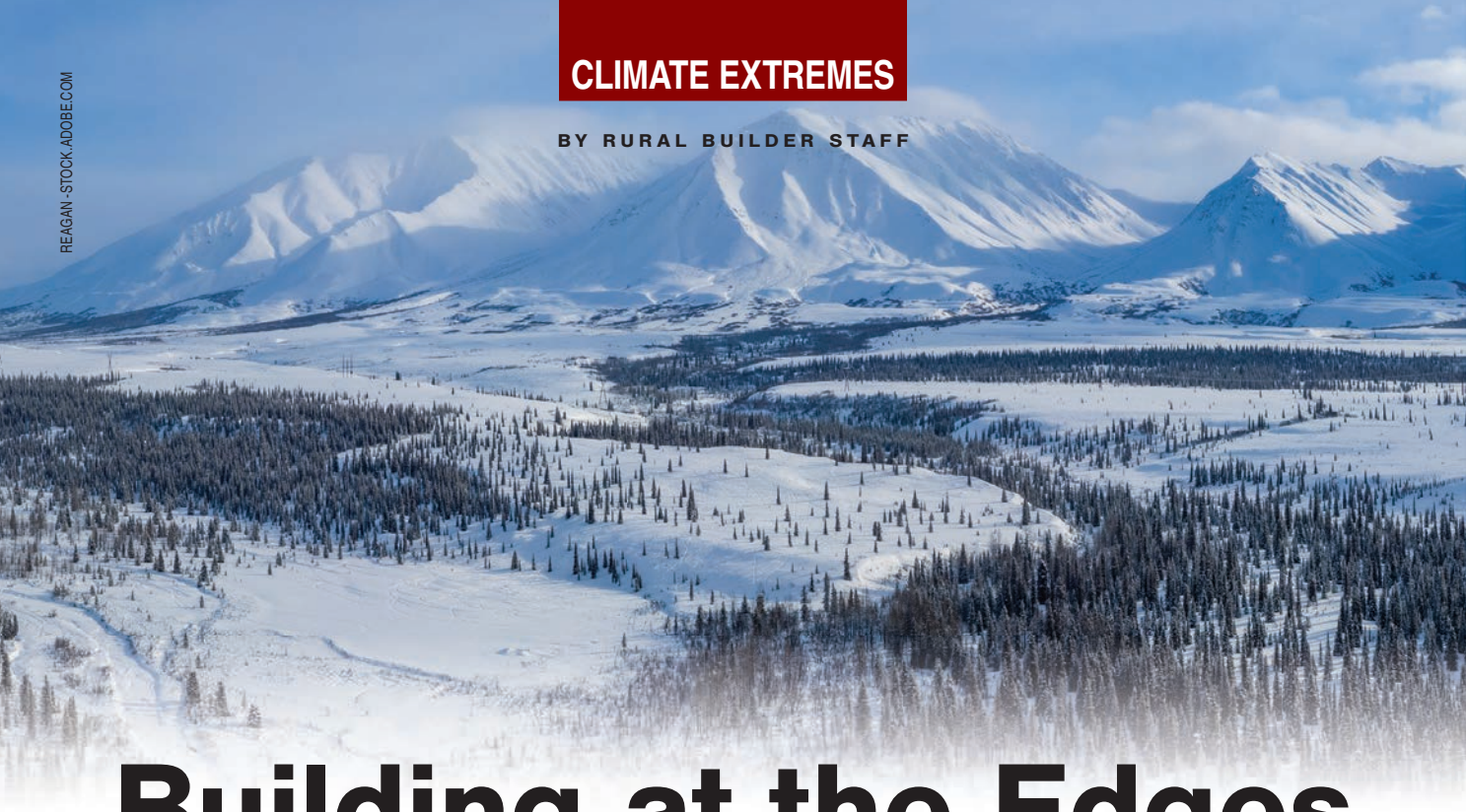
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BY RURAL BUILDER STAFF



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Building at the Edges

Ag Building Design for Extreme Environments

From hurricane-driven salt air in Florida to permafrost and months of subzero cold in Alaska, agricultural buildings at the country's climate extremes demand engineering that goes well beyond a standard specification sheet, whatever framing system is under the skin.

Most agricultural buildings in the continental United States, whether post-frame, pre-engineered steel, modular, or built from concrete masonry, are designed against a fairly predictable band of wind, snow, and moisture loads. But builders working in Florida or Alaska are not designing for the middle of that band. They are designing for its outer edges, where a standard specification sheet stops being good enough and every material choice, from the fasteners to the foundation, has to answer to the local climate. Post-frame, red-iron steel, and modular construction each bring different strengths to that challenge, and all three see steady use in both states alongside masonry and fabric-covered structures for specialized applications. The two states could not be more different in their weather, but they share a common lesson for builders everywhere: extreme environments punish shortcuts faster and more visibly than moderate ones do, regardless of which framing system is chosen.

FLORIDA: WIND, WATER, AND RELENTLESS CORROSION

Florida agricultural buildings are shaped first by wind. The state operates under the Florida Building Code, which references ASCE 7 for wind load calculations statewide and layers a stricter High-Velocity Hurricane Zone, or HVHZ, over Miami-Dade and Broward counties. Ultimate design wind speeds for coastal sites typically run between 140 and 170 mph depending on distance from the coast and exposure, and the HVHZ sets county-specific values, 175 mph for Miami-Dade and 170 mph for Broward under the Risk Category II provisions of ASCE 7-22. Small changes in design wind speed matter: one Florida steel builder estimates that a 20 mph increase can call for roughly 30 percent more steel along with different connection details.

Two wind-related requirements catch out-of-state builders most often. First, the Wind-Borne Debris Region, generally areas with design wind speeds of 140 mph or greater, or 130 mph or greater within one mile of the coast, requires impact protection on openings, including doors. Second, exposure category matters as much as raw wind speed: open agricultural sites are frequently classified as Exposure C, and sites close to open water can fall into the more severe Exposure D, both of which increase design pressures compared with a sheltered suburban site. Builders should also check early whether a given project is covered at all, since Florida provides some exemptions for agricultural buildings on bona fide farms, and the county building department and property appraiser are the places to confirm how those exemptions apply.

Wind is only half of Florida's design challenge. Salt-laden, high-humidity air accelerates corrosion in ways that inland builders rarely have to plan for. Airborne chloride particles settle on unprotected steel, break down the protective oxide layer,

and keep surfaces wet through year-round humidity, which can age unprotected steel structures years faster than comparable inland use. Cut edges, fastener heads, laps, and any point where dissimilar metals touch are the first places corrosion shows up, since galvanic reaction between incompatible metals accelerates the process further.

The practical response is material selection, not just a heavier coating. Galvalume roofing and siding, a zinc-aluminum coated steel, generally outperforms standard galvanized panel in salt-air service. Fastener specification deserves particular attention in coastal counties, where Type 316 stainless steel is commonly specified for hardware exposed to chloride-heavy air because it resists high-chloride environments better than the more common Type 304. Wood posts embedded in the ground also need attention: UC4B-rated, or .60 retention, pressure-treated columns are commonly specified for ground contact in Florida's warm, moisture- and termite-favorable soils.

Humidity brings a second, quieter problem: condensation. Temperature swings between hot days and cooler nights routinely create condensation on the underside of uninsulated metal roofing, and that moisture can drip onto livestock, feed, or equipment below even when the building envelope itself is sound. A vapor barrier or condensation-control membrane under the roof panel, combined with ventilation sized to the building's use, is the usual response.

Foundations in Florida carry their own dual burden. Posts and footings must resist significant wind uplift while also standing up to a high water table, storm surge exposure in low-lying coastal areas, and periodic flooding. Builders commonly pair embedded, uplift-resistant column connections with site grading and elevation planning that keeps floor slabs above expected flood elevations, particularly for buildings that will house livestock or store equipment.

The framing system chosen affects how those loads get resolved but does not exempt a building from them. Post-frame construction relies on properly rated column-to-footing connections and diaphragm action in the roof and wall skin to resist uplift and lateral wind forces. Pre-engineered, rigid-frame steel buildings, commonly called red-iron buildings in the industry, transfer wind loads through bolted moment connections down to deep-set anchor bolts and engineered foundations, and Florida steel building suppliers advertise frames engineered for wind speeds in excess of 150 mph, and in some cases 180 mph, with engineer-stamped drawings specific to the site. Within the HVHZ, the code's prescriptive wall provisions include concrete masonry walls of at least 8 inches nominal thickness built to the HVHZ masonry chapter. Whatever the frame material, the fastener and coating guidance above applies equally: salt air corrodes steel connectors and embedded hardware in a red-iron or masonry building exactly as it does in a post-frame one.

ALASKA: FROST, PERMAFROST, AND A SHORT BUILDING SEASON

If Florida's defining challenge is wind and moisture, Alaska's is the ground itself. Typical frost penetration across the state runs from roughly five feet to more than eight feet depending on location, and building codes call for foundations to bear below the expected frost depth or to use an engineered alternative. In the interior and northern regions, permafrost adds an entirely different variable: frozen ground that is an excellent foundation only so long as it stays frozen.

A heated building sitting directly on permafrost transfers enough warmth through an uninsulated slab or footing to thaw the ground beneath it. That thaw settles unevenly, since ice content in the soil varies from spot to spot, and the result is a foundation that cracks, racks door and window openings out of square, and opens gaps in the building envelope over time.

SOURCES & RESOURCES

Codes, Standards & Industry Associations

- ASCE 7, Minimum Design Loads and Associated Criteria for Buildings and Other Structures — asce7hazardtool.online
- Florida Building Code floridabuilding.org; miamidade.gov/building/pc-search_app.asp
- Alaska Building Code / International Building Code, Chapter 16 — up.codes/viewer/alaska/ibc-2021/chapter/16/structural-design
- University of Alaska Fairbanks Cooperative Extension Service — uaf.edu/ces
- National Frame Building Association (NFBA) — nfba.org
- Metal Building Manufacturers Association (MBMA) — metalbuildings.org
- Modular Building Institute (MBI) — modular.org
- AceClamp by PMC Industries, Inc — aceclamp.com
- Direct Metals Inc. (Fort Myers, FL) — directmetalsinc.com
- Everlast Roofing, Inc. — everlastroofing.com
- Freudenberg Performance Materials (Dripstop) — dripstop.com
- Graber Post Buildings, Inc. — graberpost.com
- Levi's Building Components — levisbuildingcomponents.com
- Perma-Column, LLC — permacolumn.com
- Plyco Corporation — plyco.com
- Post Protector, Inc. — postprotector.com
- PowerLift Hydraulic Doors — powerliftdoors.com
- Red Dot Products — reddotproducts.com
- rFOIL Insulation Products (Balcan Innovations) — rfoil.com
- Sherwin-Williams Coil Coatings — coil.sherwin.com
- ST Fastening Systems — stfasteningsystems.com
- Trac-Rite Door — tracrite.com
- EMCO Building Products — emcobuildingproducts.com
- United Steel Supply — unitedsteelsupply.com
- S-5! — s-5.com
- Bay Insulation Systems — bayinsulation.com
- Starwood Rafters — starwoodrafters.com

Successful permafrost sites are engineered around keeping the ground frozen, whether by elevating the structure on piles with a ventilated air space beneath, or, on larger commercial projects, using passive or thermostat-controlled ventilation systems built into the subgrade. A Prudhoe Bay maintenance facility, for example, uses a network of steel culverts in its gravel subbase that circulate cold outside air to keep ice-rich soil from thawing under the heated floor above.

For sites without permafrost but with deep seasonal frost, post-frame construction has an inherent advantage: embedding columns below the frost line is a simpler proposition than excavating a full frost wall for a slab foundation. Builders who need a slab still have options, most commonly a frost-protected shallow foundation, which uses rigid insulation placed horizontally and vertically around the slab perimeter to keep frost from penetrating beneath the footing, allowing a shallower, less costly foundation than a traditional deep frost wall in the same climate.

Snow load is the other major structural driver. Alaska is the one state whose ground snow loads appear in a dedicated state table in the model codes, in place of the contiguous-U.S. snow load maps. Values are listed for specific communities at stated elevations, and the table's Anchorage and Homer entries rise by 15 percent for every 100 feet above the cited elevation. Under the reliability-targeted values in ASCE 7-22, Risk Category II ground snow loads are 80 pounds per square foot for Anchorage and Palmer/Wasilla and 96 for Fairbanks, compared with 50, 50, and 60 in the earlier table carried in the 2021 Alaska code, so which edition the local jurisdiction has adopted matters. Agricultural buildings are generally treated as low-hazard Risk Category I structures, which lowers those figures to 64 for Anchorage and Palmer/Wasilla and 77 for Fairbanks, though the building official has the final say on classification. Communities not listed in the table, and sites well above a listed elevation, call for a site-specific case study approved by the building official. Roof pitch, drifting against taller adjacent structures, and heavy wet snow sitting on an already-deep base all factor into truss and purlin design, which is why engineered truss packages sized to the site's own ground snow load, rather than a regional assumption, are the sensible approach.

Alaska's remoteness compounds every one of these technical challenges, and it is a major reason modular and prefabricated construction has gained ground in the state alongside site-built post-frame and steel buildings. Many agricultural sites are accessible only by barge, rail, or air for part or all of the year, so material lists have to be finalized and shipped well ahead of a compressed summer construction season, and a missed order can mean waiting for the next season rather than the next truck. Modular units, built and largely finished at a factory before being trucked or barged to site, reduce the number of weather-dependent days a crew needs on the ground and are engineered to the same International Building Code wind and snow load requirements as a conventionally built structure. Fabric-covered, engineered tension structures see use as well, particularly for equipment storage and temporary buildings at remote sites, and the better-built versions among them are designed to specific area snow and wind loads rather than sold as one-size-fits-all shelters. Extreme cold affects installation itself regardless of framing system, since many adhesive-applied products carry minimum application temperatures, making sequencing and weather windows as much a part of the design conversation as structural engineering.



RYAN TISHKEN-STOCK.ADOBE.COM

MATCHING THE FRAMING SYSTEM TO THE SITE

None of these framing systems is inherently the right or wrong choice for an extreme-climate project; each carries trade-offs that matter more at the edges of the climate map than they do in a moderate one.

- Post-frame construction offers straightforward foundation logic in deep-frost regions, since embedding treated columns below the frost line is simpler than excavating a full frost wall, and it remains a cost-effective, widely available system across both states for barns, shops, and equipment storage.
- Pre-engineered steel, or red-iron, buildings offer long clear spans and a frame material immune to the wood-decay and termite concerns that Florida's climate raises for ground-contact lumber, but every connection and embedded anchor still needs corrosion-resistant hardware in coastal or high-humidity service.
- Modular and prefabricated construction shifts a large share of

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the work into a factory setting, which is a genuine advantage on Alaska's short, weather-limited construction season and on any Florida project where a compressed hurricane-season timeline matters, though transportation logistics and site access still have to be planned well in advance.

- Concrete masonry and fabric-covered tension structures serve narrower niches, masonry for the highest wind-exposure Florida sites and engineered fabric structures for remote or temporary Alaska applications, and both require the same site-specific engineering discipline as the more common framing systems.

WHERE THE SUPPLY CHAIN MEETS THE CLIMATE

Many of the products that address these conditions come from companies that exhibit at Shield Wall Media's Post-Frame Builder Show or are featured in Rural Builder's pages. The notes below draw on those companies' published profiles and on the independent references listed at the end. Performance statements are the companies' own unless attributed otherwise, and none of them replaces site-specific engineering or the product approvals Florida requires.

Corrosion and coatings

Corrosion tends to start where protective coatings are broken: scratches, cut edges, laps, and fasteners. Everlast Roofing, which reports more than 20 years in the metal building component industry, markets steel roofing with AZM and Activate Technology, which the company describes as a self-sealing barrier at scratches and cut edges. For fasteners, ST Fastening Systems of Tyler, Texas, points to corrosion resistance in its ZXL zinc-aluminum alloy molded heads and powder-coat paint system, and Fort Myers-based Direct Metals Inc. supplies 304 stainless cap fasteners that it describes as Dade County code-compliant, along with 304 stainless rivets. Because stainless grade requirements vary with distance from salt water, builders should confirm the grade against the product approval and the local building official rather than assuming one grade fits every coastal site. At the coil level, Sherwin-Williams Coil Coatings lists Fluropon and WeatherXL coatings for demanding environments, EMCO Building Products offers coil with a 70 percent PVDF coating using Kynar 500 technology, and United Steel Supply stocks painted Galvalume coil from six locations, the same zinc-aluminum coated steel discussed above.

Condensation, insulation, and ventilation

Moisture control looks different at each end of the climate range. In Florida's warm, humid conditions, the Dripstop membrane from Freudenberg Performance Materials is designed for uninsulated metal roofs: it absorbs condensation as it forms, holds it in pockets within the membrane, and releases it as humidity drops, and the manufacturer notes that adequate ventilation is needed for the membrane to dry out between cycles. Reflective insulation suits the same climate. Balcan Innovations, maker of rFOIL, describes its product as moisture resistant and fiber-free, so it does not harbor mold or mildew. For context, Department of Energy guidance, as summarized in consumer references, finds radiant barriers more effective in hot climates than in cool ones, with typical cooling savings in the range of 5 to 10 percent, and a radiant barrier by itself adds no R-value, which is why it complements rather than replaces bulk insulation.

In Alaska the job flips toward retaining heat and keeping warm interior air from condensing inside wall and roof cavities. Bay Insulation Systems laminates fiberglass blanket to vapor retarder facings, custom cut to each building, and lists laminated R-values from R-10 through R-30. A continuous vapor retarder matters because tears or holes give warm, moist air a path into the insulation, where it can condense in cold weather. Plyco, which has supplied post-frame and metal-clad builders for more than 70 years, carries ventilation products, reflective insulation, fasteners, and closures alongside doors and windows.

Doors and large openings

Openings are the first place wind finds a weakness, and in Florida they also carry product approval requirements: doors installed in the HVHZ must hold a Miami-Dade Notice of Acceptance, while a Florida Product Approval is accepted statewide outside the HVHZ. PowerLift Hydraulic Doors, which reports building hydraulic doors continuously since 1992 and

operating more than 45 local support centers that manufacture, deliver, and install its doors, makes custom top-hinged, pre-framed doors for post-frame and steel buildings. A Rural Builder technical article on wind-resistant hydraulic and bifold doors points out that these large doors rely heavily on the surrounding building structure for support and wind resistance, and it recommends weighing building orientation and prevailing wind direction during site planning. Trac-Rite Door, founded in 1981 and based in Sun Prairie, Wisconsin, manufactures steel roll-up doors for garages, carports, sheds, self-storage, and pole barns, and describes its doors as made in the USA. Whichever door a project specifies, the approval number that matches the site's wind zone should be confirmed before the order is placed.

Roof attachment, snow retention, and trusses

Heavy snow and high winds put roof attachments to the test, making attachment strength, proper system design, and installation efficiency essential. AceClamp®, manufactured by PMC Industries, Inc. brings these priorities together with non-penetrating metal roof clamps and third-party load & vibration-tested snow retention and solar mounting systems. Its patented push-pin clamps arrive fully assembled, eliminating set screws and helping contractors reduce installation time and keep their gloves on. The self-locking design requires no re-torquing, delivering lasting value beyond the initial installation. The AceClamp Snow Titan is a heavy-duty, commercial-grade snow retention system engineered for extreme snowfall areas, high-load spans, and severe weather applications. AceClamp's Color Snap® system features an easy snap-in rail that accepts a color-matching strip, combining installation efficiency with a coordinated roof appearance. AceClamp solutions for standing seam and screw-down applications give contractors flexibility across roof types. As with any roof attachment system, proper engineering remains essential: tested component capacities must be evaluated against project-specific loads, roof characteristics, and attachment spacing to specify a system suited to the job. Levi's Building Components supplies Snow Defender snow guards in more than 40 colors and finishes, and Red Dot Products stocks snow retention alongside coils and fasteners. S-5!, a regular contributor to Rural Builder's Source Book, says its ColorGard snow retention system has been load tested on 500 different roof profiles, materials, and gauges, and it offers WindClamp products aimed at increasing the wind uplift performance of standing seam roofs. Distributors of the mechanically attached ColorGard system note that it can be installed at any temperature, unlike adhesive-mounted guards with minimum installation temperatures, a practical point for cold-season work, and they stress that the system's tested holding strength must be checked against the roof's actual in-service gravity loads before it is specified. That is an engineering step worth taking seriously wherever design snow loads run high.

Below the roof, Graber Post Buildings of Montgomery, Indiana, roll-forms six metal panel profiles and produces nail-laminated columns and pre-engineered wood trusses up to 100 feet clear span. Starwood Rafters, profiled in Rural Builder on its 60th anniversary in 2024, makes Lam-Ply trusses that combine plywood, glue lamination, and dimensional lumber to allow wider truss spacing. Because that profile places Starwood's markets in the Midwest and Northeast, any truss package bound for Alaska or Florida should be engineered to the site's own snow or wind loads rather than a regional default.

Foundations and ground contact

Ground contact is where both climates do their damage, through decay and moisture in Florida and frost in Alaska. Perma-Column of Ossian, Indiana, makes precast concrete columns and skirt boards, FootingPad composite footings, and Sturdi-Wall anchor brackets; the company says its products are ICC certified and designed to address rotting wood in post-frame foundations, and that the bracket system allows post construction on traditional concrete foundations. FootingPad lists a load capacity of up to 9,327 pounds per footing. Post Protector, a slide-on barrier, is designed to keep soil and concrete away from the post and to stop preservative chemicals from migrating out, and the company says its perimeter ribs add uplift resistance, a relevant property in high-wind zones. These are options for the project engineer to evaluate, not drop-in substitutes for frost-depth or uplift calculations.

WHAT THE TWO STATES HAVE IN COMMON

Florida and Alaska sit at opposite ends of the thermometer, but the design lesson is the same in both places: the building code minimum is a floor, not a target. Both states require site-specific engineering rather than off-the-shelf assumptions, both push builders toward corrosion- and moisture-management details that get skipped in milder climates, and both reward builders who treat the foundation, not just the frame and skin, as the place where extreme-environment buildings succeed or fail. A design that would be considered conservative in Ohio or Iowa is often simply the minimum standard in Homestead or Fairbanks.

For builders whose primary market is a moderate climate but who occasionally take on a project in a more extreme location, the takeaway is to treat that project as its own engineering exercise rather than a scaled-up version of a familiar plan set. A local structural engineer, a current site-specific wind and snow load determination, and a materials list matched to the site's corrosion and temperature exposure are not optional add-ons in Florida or Alaska. They are the specification. **RB**

Request editorial topic coverage by reaching out to Kathleen Riley at kathleen@shieldwallmedia.com.



■ TEXAS PAUSES LARGE DATA CENTER APPROVALS PENDING GRID AUDIT

Texas grid operator ERCOT has suspended energization approvals for data centers of 75 MW or more while it audits roughly 300 projects seeking grid connection. Results are due December 10, and state environmental permitting remains on hold until then.

The review follows record strain on the grid. ERCOT hit a peak demand of 91.1 GW this summer, 6% above the previous record, according to the U.S. Energy Information Administration. Interconnection requests now total about 474 GW, more than five times that peak, with roughly 90% tied to data centers.

Demand isn't slowing. Goldman Sachs projects U.S. data center power consumption will more than double from 31 GW to 66 GW between 2025 and 2027, with Texas among the largest growth markets. Builds typically take 18 to 24 months once permitted, yet only 50% to 60% of planned capacity is delivered on schedule, with labor shortages and supply chain issues the most common culprits. STL Partners estimates a one-month delay on a typical 60 MW facility can cost up to $14.2 million.

Contractors are using the pause to get ahead on lift studies, route planning and equipment reservations.

"The regulatory pause will not materially affect demand for digital capacity. What it will change is the pace at which these projects need to be executed," said Victor Martinez, country manager for Houston-based Sarens USA.

■ FORKLIFT ACCIDENTS KILLED 97 U.S. WORKERS IN 2024

A review of OSHA accident records by Intella Parts identified 97 forklift-related workplace fatalities in 2024, the most recent year with complete data. Deaths occurred across 36 states and territories, with Texas reporting 15, more than twice any other state. Georgia followed with seven, California with six, and North Carolina and Ohio with five each.

Struck-by incidents and collisions caused 23 deaths, followed by caught, crushed or pinned incidents (22) and falling loads or materials (20). Overturns and falls from elevation each accounted for 14, and electrocution for three.

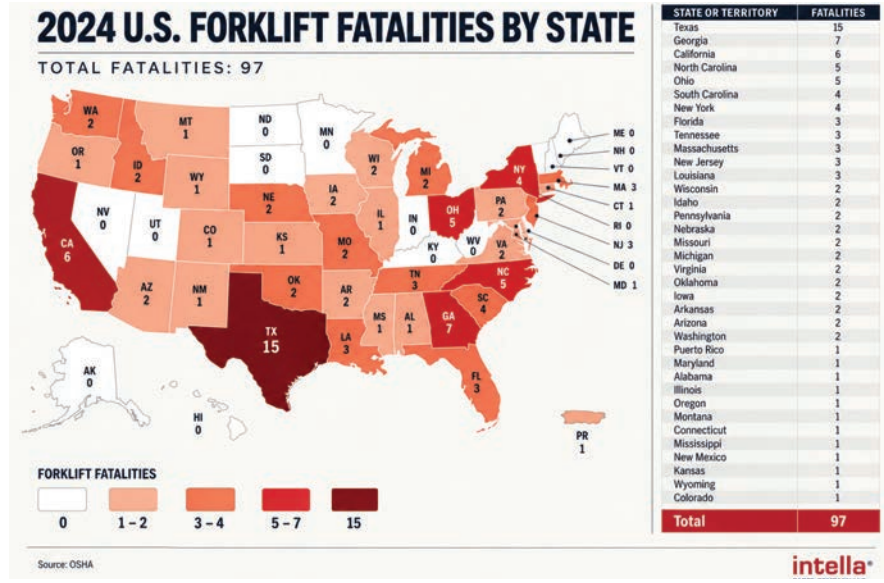
Notably, 21 fatalities happened during maintenance, repairs, inspections or loading preparation, underscoring the need to secure equipment, control stored energy and block elevated components before service work begins.

Recommended safeguards include separating pedestrians from forklift traffic, setting exclusion zones around moving equipment and raised loads, verifying load stability, enforcing seat belt use and checking travel routes for slopes, edges and obstructions. Warning lights and audible alarms can supplement training and near-miss investigations.

"Operator training remains essential, but it's only one piece of the puzzle," said Marcel VandenTop, president of Intella Parts. "Employers must also protect mechanics, contractors, pedestrians and anyone else who works around forklifts, even if they never operate the equipment themselves."

■ ARMA RELEASES 2026 Q3 REPORT ON ASPHALT ROOFING PRODUCT SHIPMENTS

The Asphalt Roofing Manufacturers Association (ARMA) has released its Quarterly Product Shipment Report for the third quarter of 2026. The report covers asphalt roofing product shipments in the United States and Canada in the third quarter, as well as year-to-date



Asphalt Roofing Product Shipments

Shipments (squares)	Q3 2026	Q3 2025	% Change	YTD 2026	YTD 2025	% Change
Shingles – U.S. (including individual shingles)	35,156,884	40,387,814	-13.0%	118,124,942	127,412,368	-7.3%
BUR base, ply, and mineral cap sheets – U.S. (not including saturated felts)	1,067,952	854,240	25.0%	2,842,670	2,970,264	-4.3%
Modified Bitumen – U.S.	10,214,067	8,731,586	17.0%	31,865,455	30,850,975	3.3%
Shingles – Canada (including Individual shingles)	1,958,825	2,243,380	-12.7%	7,719,954	9,269,496	-16.7%

shipment information and a comparison with the prior year's data.

"The shipment report provides valuable insight into the asphalt roofing industry to trade professionals and interested parties," said ARMA's Executive Vice President Reed Hitchcock. "Asphalt roofing data is relevant and meaningful to a number of industries."

Roofing product shipment data is collected from participating manufacturers by an independent third party, Industry Insights, and aggregated to create this report. Companies that are not members of ARMA may examine the free quarterly summaries, and those ineligible for ARMA membership can subscribe to the full, detailed report on the ARMA website.

SHEFFIELD METALS MOVES FLORIDA BRANCH TO LARGER PLANT CITY FACILITY

Sheffield Metals International (SMI), a manufacturer and distributor of coated and bare metal products for standing seam roofing and wall systems, has moved its Florida branch to a larger facility in Plant City.

The new location adds space and upgraded capabilities to serve contractors, manufacturers and architects across Florida and the Southeast. The branch stocks painted and bare metal coils and sheets, accessories and machinery for residential and commercial metal roofing, and includes a machinery showroom featuring



an NTM portable rollforming machine.

SMI first opened in Plant City about two and a half years ago in response to customer demand for a Florida presence.

"For years we heard our customers' voice that we needed to be in Florida," said Adam Mazzella, Sheffield Metals president. "This new facility is a testament to their commitment to Sheffield and Sheffield's commitment to continue to grow with our customers."

The new facility is located at 1530 N. Frontage Rd., Suite 108, Plant City, FL 33563. RB







Historic Look, Modern Build

Extra planning pays off in lasting style.

This modern pole barn was personalized specifically for Extreme Pole Buildings' clients who wanted something that wouldn't look like so many of their neighbors' simple metal pole buildings. In fact, the pole barn was designed to resemble a structure that could have been built around the same time as their customer's home, 1928! Constant communication between Extreme Pole Buildings and their customer ironed out the colors and details of the build. So much work in the planning stage of the build ensured that all the finer details were solidified further down the line.



Once the materials were ordered and construction began, the build was smooth sailing. The results truly speak for themselves and were certainly worth the extra time. The structure is a nice blend of a clean farmhouse aesthetic with practical functionality. The three cupolas add natural ventilation and subtle character, while the expansive glass-paneled sliding doors create a focal point that also adds plenty of natural light to the interior space. The custom slider door was well worth it for the aesthetic value it adds to the building. The building, which is great for workshop use, equipment storage, or multipurpose hobby space, sits amidst the customer's gorgeous property and complements its rural setting. **RB**







THE DETAILS:

Builder: Extreme Pole Buildings
Building Size: 40'x60', 16' height
Location: Clarks Summit, Pennsylvania
Foundation: Concrete pad and apron
Trusses: Engineered trusses 4' o/c
Roof Panels: Wagler Steel 28Ga Paradise Panel (Textured Black, roof & trims), galvanized, 40-year warranty
Wall Panels: Wagler Steel 28Ga Board and Batten (Textured Bright White), galvanized, 40-year warranty
Coating: Sherwin-Williams Coil Coatings Weather XL
Windows: MI Windows 3x4 single hung, MI 3500 series
Entry Doors: AB Martin 3.0x6.8 9-lite Pre Hung window. Grizzly Series
Slider Door: Custom aluminum 16'x14' split slider door with glass, manufactured by a local Amish company: Sunset Valley Metalcrafts
Posts: AB Martin 3-Ply Glu Laminated 2x6 Columns, 8' o/c
Ventilation: Wagler Steel vented soffit and ridge vents
Insulation: R-19 fiberglass insulation in the walls and R-30 fiberglass insulation in the ceiling

For more information:
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Schweiss enjoys the distance. At his Hall of Fame induction, he recalled asking an installer to supervise a job in Dubai. The man asked where that was. "I told him it was on the other side of Minneapolis!"

A FOUNDER'S COMPANY, A FAMILY'S COMPANY

Schweiss is now in his 70s and remains the owner. His brother Dave has been there from the start and is the company's face at farm and aviation shows and its troubleshooter by phone. His wife, Julie, has long handled quoting and customers. Daughter Brook Schweiss Mead has spent about two decades in sales and shipping, and daughter Lark Schweiss now works in marketing and management. When Schweiss accepted his Hall of Fame plaque, he brought a granddaughter on stage and mentioned that his grandchildren are at the plant with him every day.

For a company built on one inventor's instincts, the obvious question is who carries product development forward. The company's answer is a bench, not a single heir. "Mike has structured and surrounded his company with very talented employees and engineers," it said, "along with his daughter, who has been groomed and trained to keep the innovation going for years."

NEXT: A THIRD DOOR, AND THE BUILDING AROUND IT

Two projects will define the next chapter.

The first is a tilt-up door, a design distinct from both the bifold and the outward-swinging hydraulic. An active Schweiss patent covers its linkage arms, and the company says the design is about 75% complete, with the door expected to be available shortly. Schweiss describes a robust pivot shaft, a heavy-duty hydraulic system, and a structural frame that eliminates the exterior truss on doors up to 50 feet wide. It has no cam rollers or tracks.

The differences from the hydraulic door are mostly structural. With no hinges, the tilt-up pivots into the building rather than swinging out from the wall, so it does not hang as far outside when open. It also puts less load on the structure. Most of the forces go to the footings, the company said, which lets building manufacturers design "a completely different endwall that they seem to like."

The second project is bigger, and older than it looks. About 20 years ago Schweiss manufactured seven steel buildings. Door sales were climbing, the company ran short of people to do both, and it set buildings aside to concentrate on doors. Buildings are now back in development, with no launch date set. The aim is to sell the door and the building envelope as a package.

The company is candid that timing depends on the core business. If door sales ever level off and it goes looking for another product line, "it would be buildings," it said. "Time will only tell."

The logic is easy to follow. On a hangar or a big farm shop, the opening is the hardest part of the structure to engineer, and the door maker already knows the loads. The freestanding header moved some of that responsibility from the building supplier to Schweiss five years ago, and the tilt-up moves more of it to the footings. A package extends single-source accountability from the door to everything it hangs on.

The obvious risk is channel conflict. Schweiss doors reach the market partly through builders and steel building companies, and a door maker selling buildings could see them as a new competitor. The company sees it differently. "We work with everyone from steel building companies to end users," it said, and a package would be "a convenient option for all of our customers who are not in the building business." It also notes that many steel building companies do not manufacture their own buildings; for them, Schweiss would be one more manufacturer to buy from.

Metal building manufacturing is still a scale business with entrenched suppliers, and a company of 65 people will again be choosing where to spend its factory time, as it did 20 years ago. This time it has a much bigger plant to work with.

The 14-by-14 in Franklin, the one its builder says he got wrong in every respect, still goes up and down. Schweiss is betting that the next time a customer asks for a big door, he can sell them the building around it as well. **MB**

TIMELINE

- **1971:** Mike Schweiss graduates from high school and goes to work on the family dairy.
- **1976 Drought year:** With three employees in the shop, he leaves dairying to manufacture full time.
- **1980:** A conversation at a wedding dance leads to the first Schweiss bifold, a 14-by-14 for a county highway shed in Franklin.
- **1990:** A trip to the EAA fly-in at Oshkosh opens the aviation market.
- **Late 1990s:** One-piece hydraulic door added.
- **1998:** Schweiss begins the liftstrap patent.
- **Mid-2000s**: Schweiss builds seven steel buildings, then sets buildings aside to keep up with door demand.
- **2008:** First doors for SpaceX.
- **2012:** Red Power hydraulic pump introduced.
- **2013:** Liftstrap conversion kit offered for cable doors of any make.
- **2015:** 20,000-square-foot electrical building opens; 90-by-61-foot bifold ships to Cape Canaveral.
- **2021:** Freestanding, self-supporting header frame for hydraulic doors.
- **2023:** New weld shop opens at the plant, showcasing freestanding doors.
- **2024:** Schweiss inducted into the Minnesota Aviation Hall of Fame; production begins on 228 doors for Dubai.
- **2026:** Tilt-up door design about 75% complete; tallest doors to date in engineering; metal buildings in development.



turnarounds.

Factory control also makes the service promise credible. A door is a decades-long purchase, and Schweiss supports old ones with replacement parts and with upgrades as designs change. Keith Peterson, a fourth-generation farmer at Hector who has known Schweiss since middle school, still has a cable door from the company's earliest Quonset production. When he put up an 80-by-180-foot shed, he went back to Schweiss.

ROCKETS, ARENAS AND 228 GARAGES IN DUBAI

The marquee projects are what Twin Cities television station WCCO had in mind when it titled a 2017 segment on the company "Small Town Minnesota Door Business Goes Galactic." Schweiss has supplied SpaceX since 2008 at Cape Canaveral in Texas and at Vandenberg in California. A bifold shipped to the Cape in 2015 measured 90 feet wide by 61 feet tall, weighed about 53,000 pounds once sheeted and insulated, and needed four bottom-drive motors and 31 liftstraps to raise it. It was rated for 150-mph wind. Its companion on the same shipment was only 40 feet wide but 69 feet tall.

Those records are about to fall. Schweiss has an order through engineering for four doors, awaiting the customer's approval of drawings before production starts. Two are what the company calls "normal" at 50 by 25 feet. The other two are the tallest it has engineered. One will have a clear opening of 68 feet wide by 69 feet tall, in an 80-foot-tall door overall. The other will clear 68 by 74 feet, with a total door height of 86 feet.

The architectural work, which the company runs as its Designer Door division, depends on the same heavy frame. It will carry glass, wood, metal panel, or nearly any other cladding, so a door can match a façade or vanish into it. Five bifold doors, roughly 29 by 41.5 feet, form the main entrance of the Kings' Golden 1 Center. Others hang at the Guthrie Theater in Minneapolis, Yankee Stadium, and the Under Armour headquarters in Baltimore.

A recent big order points somewhere new. Beginning in July 2024, Schweiss built 228 liftstrap bifolds for Nad Al Sheba Gardens, a luxury residential development in Dubai, under contract to Dosteen Doors and Engineering Services. These are garage doors, 18 to nearly 25 feet wide and 8 to 10 feet tall, loaded into containers in Minnesota, sent to an East Coast port, shipped to Oman and clad on site in ribbed aluminum. A company known for enormous doors spent more than a year building comparatively small

underneath. Schweiss replaced them with wide polyester straps and began the patent process in 1998.

The engineering case is simple enough to make at a trade show booth. The company rates its 3-inch strap at 29,000 pounds of tensile strength, against 7,200 pounds for a quarter-inch cable. As the strap winds onto its drum, the effective diameter grows, so the door starts slowly and gathers speed as it rises. You can inspect a strap by looking at it. Schweiss backs the system with a 10-year warranty, and it later extended the idea to the latch, replacing cables, chains, sprockets and pulleys with a strap-driven autolatch that it says has 90% fewer moving parts.

Customers voted quickly. In the company's own materials over the years, the share of Schweiss bifold buyers choosing straps climbs from 80% to 90% to 96%. The company says it now stands above 99%.

The shrewder move came in 2013, when Schweiss began selling a conversion kit that puts its straps on cable doors of any make. Every aging cable bifold in the country, including the ones competitors built, became a sales lead. It is an aftermarket business that doubles as a customer-acquisition program.

ONE PIECE, FEWER PARTS

The other half of the catalog arrived in the late 1990s: the one-piece hydraulic door, a single rigid frame that swings out and up on two cylinders and forms a canopy when open. Builders and owners choose it for its clean appearance, large clear opening, relatively small number of moving components, and the fact that it needs less headroom than a bifold.

Since 2012 Schweiss has reworked the design one component at a time, and the sequence shows how the company thinks about product improvement: as a manufacturing exercise before it is a marketing one. A redesigned pump unit, branded Red Power, arrived that year. Larger cylinders ride on spherical bearings so they do not bind as the frame flexes. A wrap-around hinge with grease fittings followed in 2016. A vertical pump layout introduced in 2024 puts the motor, filter, gauges, and backup fittings within easier reach.

The most consequential change for metal builders came in 2021 with a freestanding header frame. The door carries its own structure on a three-leg frame that sends the load to footings, so the building no longer needs a truss or header engineered to hold the door. Schweiss showcased the idea in 2023 on a new weld shop at its own plant, fitted with three such doors, the largest 37 feet 7 inches wide. In hindsight, it was also an early sign of where the company was heading.

SAFETY IS NOT AN OPTION PACKAGE

A large door is a heavy object suspended over people, aircraft, and machinery, and Schweiss treats that as a design premise. Velocity fuses on both cylinders are standard on every hydraulic door; if a hose or line fails, they lock the door where it is. Tractor-hydraulic backup fittings are standard too so that a door can be raised or lowered without electricity. On the bifold side, the company cites a 5-to-1 safety factor on its straps and double chains on its gearboxes.

None of this is sold as an upgrade. The company says redundancy belongs in the base price. Its literature is blunt about competing designs that rely on flow restrictors alone, which it argues will not stop a door after a line rupture.

EVERYTHING UNDER ONE ROOF

Schweiss builds its doors at one site and builds nothing else there. Mike Schweiss argues that a shop making a few doors alongside another business never gets good at them, and that manufacturers who farm out welding leave owners stranded when the weld shop closes. "We like to brag about the quality of our doors," he told Midwest Flyer in 2022.

The capital spending follows the argument. A 20,000-square-foot electrical and assembly building opened in 2015, attached to the existing plant so the whole operation sits under one roof. A 2023 addition brought six welders and custom hoists for moving frames. Longtime employees started out cutting parts with chop saws and band saws; those gave way to plasma. Over the past four to five years, the company has put what it calls substantial money into equipment, moving from plasma to laser cutting and adding a high-end CNC turning lathe.

"The laser allows us to dial in on exact, precise measurements, and the quality of our production parts has increased immensely," the company said in written responses to Metal Builder. The lathe lets Schweiss machine door parts in-house, which it says makes them smarter and cheaper to produce and cuts the long lead times that came with buying them outside. The bigger payoff, the company says, is room to innovate: designs it could not attempt without in-house capability are now on the table.

In-house programmers wrote software that itemizes each door down to the hinges and bolts and turns out a quote and CAD drawings in minutes. In 2022, the company was citing two-to-three-week

WHERE THE DOORS GO

- **Agricultural:** Clear width and height for combines, sprayers, planters, and semis as equipment keeps growing.
- **Aviation:** Private hangars, FBOs, corporate flight departments, maintenance facilities, and museums.
- **Commercial:** Storefronts and dealerships where security and appearance both count; frames accept nearly any exterior material.
- **Industrial:** Manufacturing plants, loading areas and equipment bays with heavy, frequent use.
- **Marine:** Some of the tallest openings in the business, for yacht construction, storage and repair.
- **Residential:** Garage doors clad to match the house, so the opening blends into the exterior.



Schweiss factory/farm today.

spare time for extra money, then expanded into hog equipment, trailers, and a dozen other farm items. When drought hit the region in 1976, he already had three full-time employees. He got out of dairy and put his time into the shop, which, by the company's account, began in what had been the milking parlor.

The chicken plucker mattered more than its name suggests. Schweiss has credited it with giving the business both name recognition and its early cash flow. At least one current door customer, a farmer near Atwater, Minnesota, has said he first knew the Schweiss name from the plucker his father owned.

That farmer-to-fabricator path is common in this part of the state. Loftness Manufacturing, also in Hector, was started by a farmer in 1956, and the regional development foundation notes that manufacturing employs a larger share of workers in southwest Minnesota than it does nationally. Schweiss fit the pattern, with one difference: Once he found doors, he dropped nearly everything else.

The door business started slowly. He has said the company sold one or two doors the first year, found customers by running a newspaper ad and waiting for the phone to ring, and grew one sale at a time. Through the 1980s, nearly all of those sales were to farms. He was a farmer selling to farmers, and he understood the problem they were trying to solve.

That problem kept growing. When Schweiss began, a 20-foot-wide door was typical on a machine shed. He pushed to 24 feet, then 30, then 36. By 2015, he called a 40-by-18-foot door common on farms and reported plenty of 50-footers. Combines, sprayers and planters have kept getting wider, and every increase retires another generation of sliding doors.

THE OSHKOSH EFFECT

The second market arrived by invitation. In 1990, a friend brought Schweiss along to the Experimental Aircraft Association's annual fly-in at Oshkosh, Wisconsin. He came home having met hangar owners from around the world with the same problem his farm customers had: more expensive equipment parked behind the door. Hangar doors, he has said, moved the business up a level.

He also caught the flying bug, soloing in a Cessna 172 in 1991. And he found a sales tactic that suited him: Any prospect who wanted a hangar looked at could have his time for free by flying into the Hector airport to pick him up. He collected many airplane rides that way. One of the company's largest single aviation orders went to Bult Field, a private airfield near Chicago, which was re-equipped with 132 Schweiss liftstrap bifold T-hangar doors. In April 2024, the Minnesota Aviation Hall of Fame inducted him for the strap-lift bifold and the one-piece hydraulic hangar door.

Trucking warehouses followed in the mid-1990s, then glass-clad doors for shopping centers and restaurants. In 2015, Schweiss put the mix at about half agriculture and 30% aviation, and he was candid about why he liked a spread: When aviation softened in 2009, agriculture was picking up. The balance has since shifted toward the airport. The company now puts aviation and agriculture at 40% each, with commercial and industrial work and Designer Doors at 10% apiece.

> "I just can't stop thinking about them."
>
> *MIKE SCHWEISS, ON DOORS, IN A 2015 PROFILE*

CUTTING THE CABLE

If one product decision explains the company's position, it is the liftstrap. For decades, every bifold door on the market was raised by steel cables winding onto a shaft. Cables fray, rust, overwrap, and need adjusting; when one lets go, something valuable is usually parked

SCHWEISS DOORS AT A GLANCE

- **Founded:** 1980 (first bifold door); the shop dates to the 1970s
- **Headquarters:** Schweiss family farm in Renville County, Minnesota, equidistant from Hector and Fairfax; address: Hector, Minn.
- **Founder and owner:** Mike Schweiss
- **Ownership:** Private and family-owned; sales figures not disclosed
- **Employees:** About 65
- **Plant:** About 350,000 square feet
- **Market mix:** 40% aviation, 40% agriculture, 10% commercial and industrial, 10% Designer Doors
- **Products:** Bifold liftstrap doors, one-piece hydraulic doors, Designer Doors, cable-to-strap conversion kits; patented tilt-up door in final design; metal buildings in development
- **Size range:** 6 to 140 feet wide and up to 70 feet tall (2021); taller doors now in engineering
- **Largest bifold delivered:** 90 by 61 feet, Cape Canaveral, 2015
- **Tallest in engineering:** 68-by-74-foot clear opening, 86 feet overall
- **Website:** SchweissDoors.com

BY KATHLEEN RILEY

The Big-Door Business

Schweiss Doors

Mike Schweiss started with a chicken plucker and an idea he picked up at a wedding dance. Forty-six years later, his family company hangs doors on farm shops, NBA arenas and rocket hangars from a factory on the home farm in Renville County, Minnesota. Next, it wants to build the building, too.

In 1980, at a wedding dance at the Gibbon Ballroom in southern Minnesota, a man approached Mike Schweiss with a business idea. Schweiss had quit milking cows four years earlier and ran a small shop that built what farmers needed: farrowing crates, trailers, tile plows, snowblowers, and a mechanical chicken plucker that carried his name around the countryside. The man wanted to know whether he would consider building bifold doors. See me next week, he said, and we'll talk.

The meeting never happened. As Schweiss has told the story many times since, the man died of a heart attack on the dance floor later that night. The idea outlived him. About six months later Schweiss built his first door, a 14-by-14-foot bifold for a county highway department shed in Franklin, about 10 miles from his shop. "We made it wrong every which way," he said years afterward. The door is still in service.

The company that grew out of that door now runs a plant of about 350,000 square feet on the Schweiss family farm outside Hector, Minnesota, equidistant from Hector and Fairfax and two hours west of the Twin Cities. Schweiss Doors employs about 65 people and says it has delivered to every continent. Its products open farm shops across the Corn Belt, the main entrance of the Sacramento Kings' arena, and SpaceX rocket hangars at Cape Canaveral. It is privately held and family-owned, and it does not disclose sales figures.

What makes the company worth a close look is how narrow it has stayed. For more than four decades, Schweiss has sold essentially one thing: a very large door that lifts out of the way and clears the opening. Large doors are the core business, the company says, and never a sideline. That discipline is about to be tested. Schweiss is finishing a third door design, and it is developing a product that will get every reader of this magazine's attention: metal buildings.



ALL PHOTOS COURTESY OF SCHWEISS DOORS

Schweiss farm in 1960.

OUT OF THE MILKING PARLOR

Schweiss graduated from high school in 1971 and went to work on the family dairy. Farm income was what it was, so he started building chicken pluckers in his



more than 45 years in the industry, produces trim roll formers that can run up to five profiles from a single frame, with edge-hemming models designed to eliminate cracking at the hem and hold consistent widths from a quarter inch to a half inch. That kind of tooling precision lets a rollforming shop or manufacturer produce trim that lines up cleanly at every seam, gauge after gauge, coil after coil — the unglamorous manufacturing step behind a building's glamorous curb appeal.

FASTENERS THAT DISAPPEAR INTO THE PANEL

Few things undercut an otherwise sharp-looking building faster than a field of mismatched, rust-streaked fastener heads. Builders have increasingly leaned on color-matched and bonded washer systems to keep fasteners visually quiet against the panel.

Aztec Washer Company, a Poway, California-based manufacturer that has produced bonded sealing washers since 1968, notes that its Master Seal bonded washer assemblies can be painted to match the color of the panels they're fastening—a small spec detail that keeps a roofline or sidewall looking uniform instead of speckled. On the supply side, Coil Spot's Wildcat Fasteners line features multilayer paint protection and a mechanical zinc coating, designed to hold color and resist corrosion over the long haul, not just at installation.

ROOF ACCENTS: SNOW GUARDS, CUPOLAS, AND WEATHERVANES

Roof-mounted accessories have quietly become one of the more visible cosmetic upgrades a builder can offer, especially on standing seam roofs where the lines are clean enough that any add-on stands out — for better or worse. Snow guards are a good example: for years they were treated as a purely functional afterthought, clamped onto a roofline in a shape nobody chose on purpose.

Grandura, a manufacturer of stamped-aluminum snow guard systems, built its product line around that complaint, offering standard and custom snow guard designs in more than 40 powder-coated colors meant to complement a roofline rather than clutter it. Cupolas and weathervanes remain the classic finishing touch on agricultural and residential metal buildings — small-footprint. These high-visibility accessories read as craftsmanship even though they add little to the structural bill of materials.

PANEL PROFILES AND COLOR AS A DESIGN TOOL

Color and profile selection is still the single biggest lever a builder has over how a finished building reads to the customer. Board-and-batten profiles, in particular, have found a strong following on residential and light-commercial jobs where customers want a metal building that doesn't look like a warehouse.

Everlast Roofing manufactures its Everlast II panel in a board-and-batten pattern, available in a wide range of factory colors, for agricultural, industrial, and commercial siding and roofing applications where builders want a distinct, structured look alongside a full line of matching trim and accessories.



COURTESY OF J&E GRILL

KEEPING THE FINISH LOOKING FINISHED

A cosmetic upgrade is only as good as its long-term appearance, so touch-up and repair products belong in the same conversation as trim and fasteners. Field damage — a dropped tool, a scuffed corner during erection — is inevitable on any job site, and how a builder handles it afterward affects whether the customer remembers the building as flawless or as "the one with the scratch by the door."

Coil Spot, which supplies rollformers and builders with coil, cut-to-length soffit, and Wildcat Fasteners under one account, has built its growth strategy around giving fabricators a single source for the accessory categories — soffit, fasteners, sealants — that otherwise require juggling multiple vendors and lead times on a single job.

THE BOTTOM LINE FOR BUILDERS

Cosmetic accessories and components rarely show up as a dramatic line item on a bid. Still, they're disproportionately responsible for how a finished building is judged — by the customer standing in the driveway, and by the next prospect who drives past. Builders who treat trim, fasteners, roof accents, and color consistency as design decisions rather than afterthoughts tend to be the ones whose finished buildings do the marketing for them. **MB**



JAMES STEIDL-STOCK.ADOBE.COM

Beyond the Bones

Cosmetic Accessories and Components That Finish the Job

Structural steel gets a building standing. Trim, fasteners, roof accents, and color details get it noticed—and that's where builders can add real margin.

A metal building's frame, panels, and fasteners do the heavy lifting. Still, the details a customer points to when they show off a new building — crisp trim lines, a color-matched fastener head, a snow guard that looks intentional instead of bolted-on — separate a commodity structure from one the owner brags about. For builders, cosmetic accessories and components are also where a modest line-item investment can translate into a noticeably higher perceived value, fewer callbacks over color mismatches, and a stronger portfolio of finished projects to show the next customer.

None of this is new information to anyone who has stood in front of a customer holding two nearly identical paint chips. What has changed is how much choice is now available in the accessory categories that used to be an afterthought: trim, fasteners, roof accents, and touch-up systems. Here's a look at where the cosmetic end of the metal building business is headed, and who's supplying it.

TRIM AND FLASHING: THE ROLL-FORMED DETAIL

Trim is the connective tissue of a metal building's exterior — it's what makes eave lines, corners, and door and window openings look finished rather than improvised. Because trim is typically produced from painted coil to match or complement a building's panel color, the equipment used to form it directly shapes how clean, tight, and consistent the finished profile looks on the wall.

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- J&E Grill - horsebarnsupplies.com
- ASCO Machines - asco-machines.com/

construction — has become a growing point of leverage for steel. Because CFS is non-combustible and does not add fuel to a fire, insurers increasingly treat steel-framed projects as a lower-severity risk than comparable wood-framed ones, particularly during the vulnerable construction window before fire suppression systems are active.

Builders could save 25 to 75 percent on risk insurance by building with steel.. That range isn't theoretical. Trade coverage has pointed to real project comparisons — one cold-formed steel hotel project carried a builder's risk premium of roughly $92,000, versus $450,000 for a similar wood-framed project, a difference of more than 75 percent. Industry sources also point to a run of high-profile construction fires on wood-framed multifamily and commercial projects in recent years as a factor pushing underwriters to re-price risk on combustible framing more aggressively, even outside catastrophe-prone regions. The Midwest the past two years have actually had the most property losses from tornados and lightning-related damage.

WIND AND HAIL PERFORMANCE FACTOR IN, TOO

Fire isn't the only performance category insurers are watching. Wind and hail losses have become one of the fastest-growing drivers of property insurance costs nationally, and roof and wall assembly performance is now a standard part of how policies get priced. The Insurance Institute for Business & Home Safety (IBHS) maintains the FORTIFIED construction standard, which several states now require insurers to offer discounts for structures built or retrofitted to meet it. In some markets, wind and hail discounts under FORTIFIED have run as high as 45 to 55 percent, depending on the insurer and the state.

Metal roofing and panel systems with a UL 2218 Class 4 impact rating—the highest hail-impact classification—have separately qualified for discounts in roughly the 10 to 35 percent range in several markets, according to insurance-industry reporting. For post-frame and metal building owners in hail-prone regions of the Midwest and Plains, that combination of non-combustible framing and impact-rated roofing is increasingly something an agent can quantify on a quote, not just a talking point in a sales pitch.

WHAT IT MEANS WHEN THE BUILDING GOES TO A LENDER

On the financing side, the picture is more nuanced. For most commercial and agricultural lenders, industry guidance is consistent: the framing material itself is rarely the deciding factor in whether a loan gets approved. What matters more is the building's use, its income-generating potential, the strength of the borrower's plans, and — critically — the as-completed appraisal.

From a lender's perspective, the building material is less important than the building's use, condition, value, and income-generating potential. That said, appraisal and comparable-sales data can still work against a project simply because fewer directly comparable metal-building sales exist in a given market, which is where relationship lending tends to matter. Farm Credit institutions and other agricultural lenders, along with local community banks, are frequently cited as the most metal-building-fluent financing sources, largely because they underwrite based on long-term durability and construction quality rather than defaulting to a generic appraisal model built around wood-framed structures.

Engineered, pre-manufactured building systems also tend to produce more predictable construction schedules than site-built framing, which several financing sources note is itself a factor lenders weigh favorably — a clearly scoped, engineered project with a defined draw schedule is simply easier to underwrite than one with more construction-phase uncertainty.

THE TAKEAWAY FOR BUILDERS AND THEIR CLIENTS

None of this means every steel-framed project automatically gets a lower insurance bill or an easier loan approval — discounts vary by state, insurer, and lender, and documentation requirements (like a verified FORTIFIED or UL 2218 rating) usually must be met before a discount applies. But the direction is clear: fire performance, wind and hail resistance, and construction predictability are all becoming line items that insurers and lenders can price, not just qualitative selling points. For builders, that means the conversation with a client's insurance agent or loan officer is worth having earlier in the process, not after the building is up.

Note: Insurance and financing terms vary significantly by state, insurer, lender, and project type. Builders and owners should confirm current discount programs and underwriting requirements directly with a licensed insurance agent and lender before relying on any figures cited here.

Request editorial topic coverage by reaching out to Kathleen Riley at kathleen@shieldwallmedia.com.

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The Effect of CFS on Insurance and Financing

How cold-formed steel framing is reshaping risk assessments, premium calculations, and lending decisions for metal building projects



COURTESY OF BUILDSTEEL.ORG (STEEL FRAMING INDUSTRY ASSOCIATION)

For years, the case for cold-formed steel (CFS) in post-frame and metal building construction centered on strength, speed of erection, and resistance to pests and rot. Increasingly, though, the strongest argument may be showing up somewhere builders don't always think to look first: the insurance binder and the loan document. As underwriters and lenders sharpen their tools for pricing risk, the material a building is framed with is starting to carry real, measurable weight in what it costs to insure and finance.

FIRE RESISTANCE MOVES THE NEEDLE ON PREMIUMS

Builder's risk insurance — the policy that covers a structure while it's under



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terials commitment can take the steel portion of a package off the table. The rules should state what is locked, for how long, and what reopens pricing, such as design changes or delivery delays.

Rebuild your contingency. One 2026 analysis recommends 15 to 20 percent earmarked for escalation on material-heavy scopes, in place of a flat 5 percent. Treat that as a data point to test against your own margins, not a standard.

Protect your takeoff. An undercounted takeoff stacks an estimating error on top of a pricing problem.

Put the contract language in order. Spell out who bears tariff changes after signing, and whether the price is fixed, indexed or subject to a surcharge.

On jobs with long delivery schedules, six months or more from bid to delivery, an escalation clause that lets the price adjust past an agreed percentage is increasingly common. Owners and general contractors who once resisted it are more willing to accept it, because the alternative is a contractor who pads every bid enough to survive the worst case.

TALKING TO CUSTOMERS ABOUT TARIFF LINE ITEMS

Transparency does more for a customer relationship than a padded number. Breaking out a tariff-related allowance or escalation amount as its own line lets customers see what they are paying for. It also gives sales staff a plain answer when a customer asks why a quote is higher than last year's: steel costs are up because mill prices are up and because tariffs, a federal tax, have raised the cost of steel in the U.S. market, and the quote reflects that.

Steel market volatility is not going away, and neither is the trade policy behind part of it. The manufacturers and dealers who protect margins through 2026 and 2027 will treat quoting as a living process, built on current index data, defined validity windows and honest conversations about where the cost comes from, rather than a single number frozen on the day it was typed.

Information current as of October 7, 2026. Tariff rules and mill prices change frequently; confirm before quoting. **MB**

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new orders from August 10, and mill lead times for hot-rolled coil were reported at three to five weeks. For quoting, the lesson is that a price held for 60 or 90 days in this market can be stale before the customer decides.

HOW WE GOT HERE: A TIMELINE OF SECTION 232

Much of the cost pressure traces to the Section 232 program, which lets the president adjust duties on imports found to threaten national security. The rules have changed repeatedly:

February 10, 2025: Proclamations expanded Section 232 coverage and ended existing exemptions, effective March 12, 2025.

June 4, 2025: Steel and aluminum tariffs doubled to 50 percent for all countries except the United Kingdom, which stayed at 25 percent.

August 2025: After the first inclusions process, Commerce added more than 400 product codes to tariff coverage.

April 6, 2026: A new proclamation applied duties to the full customs value of covered products rather than only their metal content, with tiered rates (50, 25, 15 and 10 percent) depending on the product.

June 8, 2026: A further proclamation set a temporary framework through December 31, 2027. Many Annex I-C products carry a default 25 percent duty; agricultural equipment and certain residential HVAC products moved from 25 to 15 percent; steel racks were added at 25 percent; and the U.S.-melted threshold for the 10 percent preferential rate fell from 95 to 85 percent.

The pattern matters more than any single date. This is an ongoing regulatory process that can change again, and quoting practices need to assume it will.

A TARIFF IS A TAX, AND THE BUYER PAYS IT

A tariff is a tax. It is collected by U.S. Customs and Border Protection from the importer of record when covered goods enter the country. A foreign government or foreign mill does not pay it. The U.S. company that brings the steel, or the steel-containing product, across the border does.

There are two paths by which that tax reaches a metal building quote.

Directly, on imported material. If a manufacturer or dealer imports coil, panels, trim, fasteners or other covered items, the duty is part of the landed cost. Since April, it is assessed on the full value of covered products, not just the steel inside them.

Indirectly, through domestic prices. Tariffs raise the cost of competing imports and cut import volumes. With less foreign steel competing, domestic mills have room to raise their own prices. The recent run of Nucor increases, reported alongside a significant drop in imports, shows how that works. A buyer who never imports a ton still pays more.

From there the cost moves through the supply chain like any input: mill, service center, fabricator, building package, customer invoice. The Tax Foundation estimates that tariffs overall amount to an average tax increase of about $900 per U.S. household in 2026. That is a figure for all tariffs across the economy, not steel alone, but it illustrates the principle: the buyer carries the cost.

This framing helps when explaining a price change. A tariff-related increase is not a markup and not a penalty paid by a foreign supplier. It is a federal tax that becomes part of the cost of steel before an estimator sees a number. Whether and how it can be passed through on a given job depends on the contract. Tariffs are assessed on imported goods, but a builder may absorb costs, change suppliers, or pass them through only when the contract allows it, and a new tariff alone does not give anyone the right to reprice a signed agreement.

WHAT VOLATILITY MEANS FOR YOUR QUOTES

Estimating and sales teams are converging on a similar set of practices.

Shorten validity. Sixty- and 90-day holds are giving way to 15 to 30 days, or to language tying the quote to a specific material purchase date. At least three 2026 industry sources describe this shift.

Add an escalation clause. Tie a defined portion of the price to an objective index, such as the Bureau of Labor Statistics Producer Price Index for steel mill products, so the price moves automatically beyond an agreed threshold instead of forcing a renegotiation.

Lock material early. A deposit that triggers an immediate ma-

What Changed in 2026

April 6: Section 232 duties now apply to the full customs value of covered products, not just metal content.

June 8: Temporary adjustments run through December 21, 2027, including a default 25% on many Annex I-C products and 15% on agricultural equipment and some residental HVAC.

Mill prices: Nucor raised hot-rolled coil spot prices nearly every week from late January through June 22, then resumed in July and August.

Lead times: Reported at three to five weeks for hot-rolled coil in August.

Quoting: Validity windows are shrinking to 15 to 30 days; escalation clauses and early material commitments are spreading.



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Quoting to Account for Steel Market Volatility

Mill prices have climbed all year and tariff rules keep changing. Metal building manufacturers and dealers are shortening how long they hold a price, and rewriting what a quote promises.

Not long ago, a quote was good for 90 days and everyone counted on it. A customer could shop a bid around, sleep on it, and the number on the page would still be the number at signing. That is getting harder to count on. Steel is one of the most exposed line items in a metal building package, and the exposure comes from two places at once: a domestic market that has climbed steadily for most of 2026, and a tariff regime that has been rewritten several times in under two years.

For manufacturers, dealers and builders, this lands in the estimating department. It shows up on the quote that goes out the door, and in the margin that either survives to closeout or gets eaten by a mill increase that arrived between bid and buyout.

WHERE STEEL PRICES STAND NOW

The picture as of early October is less a series of wild swings than a long, steady climb. Nucor raised its weekly hot-rolled coil spot price almost every week from late January through June 22, paused, then resumed. Its price reached $1,155 per short ton for the week of August 3, the third consecutive weekly increase, with the company pointing to strong demand and a significant decline in import volumes. By September 8, Steel Market Update's average hot-rolled coil price stood at $1,225 per short ton, up $20 from the prior week.

For context, one dealer forecast page put prices in the low-to-mid $800s per ton in mid-2025. Comparing the two (different sources and dates) suggests mill prices are on the order of 40 percent higher than roughly a year ago.

Long products are moving too. Gerdau Long Steel North America announced increases of $30 to $80 per short ton on

THERMAL BREAKS IN COLD-FORMED STEEL FRAMING

The same principle applies at a larger scale in cold-formed steel (CFS) buildings, where thermal strips, shims, and slotted studs are used at structural connection points to reduce metal in direct contact with heat-exposed surfaces. Cladding attachment systems—clips and girts that hold exterior panels to the frame—can become significant thermal bridges if they aren't isolated from the structure, which is why thermally broken attachment hardware has become standard detailing on well-designed CFS envelopes.

GETTING THE DETAIL RIGHT ON THE JOBSITE

- Specify the thermal break material, thickness, and R-value on the structural or insulation drawings — don't leave it to field judgment
- Install spacer blocks or thermal strips at every purlin and girt connection, not just at a sample of locations
- Avoid compressing insulation flat at fastener points; a properly seated spacer block keeps the insulation at its rated loft
- Pair thermal breaks with a continuous, sealed vapor retarder — a thermal break reduces cold spots, but it doesn't replace vapor control
- Verify assembly U-factors against ASHRAE 90.1 or IECC tables for the local climate zone before panels go up

None of this requires exotic materials or specialized labor. A thermal spacer block is inexpensive, installs in the same motion as the panel screw-down, and pays for itself the first winter the building doesn't sweat. Historically, the higher cost has come from builders not knowing the detail existed—or assuming a thick enough insulation batt would compensate for a steel frame that was never isolated from the weather in the first place. It won't. The break has to be built in. **MB**

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Creating Thermal Breaks to Prevent Heat Conduction

Steel is one of the best structural materials in the building industry — and one of the worst insulators. A framing member that runs from the cold outdoors to the conditioned indoors acts like a metal spoon left in a hot cup of coffee: heat (or cold) travels straight through it, bypassing whatever insulation surrounds it. Engineers call this thermal bridging, and in metal buildings it happens at every purlin, girt, clip, and fastener that touches both the exterior panel and the structural frame. A thermal break interrupts that path, and getting it right is one of the simplest ways a builder can deliver a tighter, more comfortable, less complaint-prone building.



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WHY STEEL NEEDS A THERMAL BREAK

Metal conducts heat far more efficiently than the wood or masonry alternatives builders typically detail around. Cold-formed steel framing, in particular, transfers heat at a rate many times greater than comparable wood members, which is why insulation strategies that work in a stick-framed wall often underperform when the same R-value is compressed against steel.

In a typical metal building systems, roof panels attach to purlins and wall panels attach to girts. Fiberglass metal building insulation is draped over or behind those members and then compressed flat the moment panels are screwed down. At each compression point, the insulation's effective thickness—and therefore its R-value—drops sharply. Left unaddressed, that repeated compression can cut a wall or roof assembly's actual thermal performance is negatively affected &/or is reduced when fiberglass insulation is compressed beyond the thickness to allow it's intended R-value.

The consequence isn't just a higher energy bill. Steel framing members that stay in contact with cold outside air become cold spots on the interior face. When warm, humid indoor air reaches those cold spots, it condenses — and condensation on purlins, girts, and fasteners is one of the most common causes of rust, stained insulation facing, and callbacks in the metal building industry.

WHERE THERMAL BRIDGES FORM

- Clips and standing-seam attachment points, where metal-to-metal contact runs straight through the insulation layer
- Base plates, eave connections and wall-to-roof transitions, where inside and outside skins meet
- Fasteners and screws that penetrate the full assembly, each one a tiny, repeated bridge across the envelope

THERMAL SPACER BLOCKS AND THERMAL BREAK STRIPS

The most direct fix at a purlin or girt connection is a thermal spacer block — a rigid strip of extruded polystyrene or similar closed-cell foam installed between the metal panel and the framing member. Instead of panel meeting steel meeting compressed insulation, the spacer block holds a layer of low-conductivity material at the exact point where the bridge would otherwise form, preserving the insulation's loft on either side of the connection.

Industry guidance published jointly by the North American Insulation Manufacturers Association and ASHRAE calls for a minimum R-3 thermal spacer block at these connections in most conditioned metal building assemblies, with thinner thermal break strips acceptable only where continuous insulation is also present. Spacer blocks are typically installed in standard widths of about three inches and thicknesses between a half-inch and one inch, sized to the purlin or girt flange they're protecting.

CONTINUOUS INSULATION: THE BELT-AND-SUSPENDERS APPROACH

Where energy codes demand more performance than a spacer block alone can deliver, continuous insulation (CI) is the industry's standard answer. ASHRAE defines continuous insulation as insulation that runs uncompressed across all structural members without thermal bridges other than fasteners and service openings — in practice, a layer of rigid board applied to the exterior face of the framing, outside the purlins and girts entirely, so the steel never has an uninterrupted path to the outdoors.

Continuous insulation systems have become more common in metal buildings over the past decade as commercial energy codes — chiefly ASHRAE 90.1 and the International Energy Conservation Code — have tightened. A rigid board system installed over the framing, combined with a compressed fiberglass layer inside, gives builders a way to meet required U-factors without relying on a single insulation layer to do all the work.

Ham, Raccoons and the Price of Steel

There's that look the builder gets when he opens up a steel quote he got three weeks ago and realizes it's now worth about as much as a free car wash coupon. I've seen it. It's the same look my mother got that Christmas when she discovered the ham had spent the night in the garage and raccoons had broken in. Shock, then grief, then a very quiet calculation as to who was going to take the fall.

Steel prices this year have been as erratic as a squirrel crossing a county road and that's where this story begins. Our piece on quoting in a volatile market looks at escalation clauses, the shorter quote windows and how you can have the price discussion prior to the customer even signing. When it gets weird, the weird ones write the escalation clauses. No one likes that conversation. Everyone would rather have it than eat the difference.

Then there are thermal breaks which sound like something a hockey coach would say when the rink freezer goes. They're the little unspectacular bits that sit between your customer's heating bill and the cold of the outside world. Steel is a good conductor of heat (a good thing in a frying pan, a bad thing in a wall assembly). We look at where the breaks are required and what happens when someone just doesn't put one in.

Cosmetic bits get their turn as well: cupolas, wainscot, trim packs etc. you know the lot that turn a metal box into a building you actually slow down to look at. Call it lipstick if you like. Lipstick sells buildings.

We finish with insurance and financing for cold formed steel. The underwriters and lenders are still catching up with regard to what cold formed steel can do and that lag is costing your customers actual money. We look at where the gap is closing.

It's December. The roads could be all glazed over with ice, the shop heater is making that noise again and somewhere out there a chap is still waiting for his steel delivery which was promised for Halloween. Hang in there. Read this one by the stove.

Kathleen Riley
Editor

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On the cover: *Courtesy of Schweiss Doors*

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