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# Bigger Thinking

If there was a common theme throughout the Post-Frame Builders Show in York this year, it was that our industry refuses to stand still—and keeps pushing toward smarter, stronger ways to build.

The conversations weren't just about building bigger structures—they were also about building smarter businesses, signaling a shift in focus.

One discussion that kept resurfacing was reputation. Word of mouth has always been the backbone of construction, but today that conversation happens online just as often as it does over coffee at the local diner. Reviews, referrals, and digital impressions have become just as important as the quality of the steel leaving your shop, which makes the issue impossible to ignore. Managing your online reputation isn't marketing anymore; it's customer service.

Then there were the doors.

Every year they seem to get a little wider, a little taller, and a little more impressive. Equipment keeps growing, aircraft don't get any smaller, and customers continue pushing designers and manufacturers to think beyond yesterday's limits. As a result, sometimes "big enough" simply isn't.

Efficiency was another recurring topic. As building performance expectations continue to rise, thermal breaks have moved from being a niche consideration to an important part of delivering high-performing metal buildings. They're one of those details that often go unnoticed—until the utility bills arrive, and that



makes their role clear.

Finally, it was impossible to ignore how global our industry has become. Steel buildings are solving problems far beyond North America, adapting to different climates, cultures, and construction methods around the world. Good engineering has no borders.

Whether it's protecting your reputation, designing larger openings, improving energy performance, or expanding into international markets, one thing became clear in York: the metal building industry isn't waiting for the future. It's already building it, one bigger idea at a time.

~Kathleen Riley

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On the cover: Image courtesy of Powerlift Hydraulic Doors

# Go Big or Go Home

## Specifying and Installing Large Doors on Metal Frames

When your client needs a door that makes a statement—and holds up to hard daily use—the details of door type, framing, and hardware selection make all the difference.

There is something undeniably satisfying about a well-engineered big door. Whether it is swinging open on a 60-foot aircraft hangar, rolling back on a cavernous equipment storage bay, or lifting hydraulically on a showstopping barndominium garage, a large door on a metal frame building is one of those elements that customers notice, use every day, and remember when it works—and never forget when it does not.

For metal frame builders, the door conversation is increasingly complex. Clients want larger openings, more customization, smarter operation, and better weather performance than ever before. At the same time, a metal frame building imposes real structural demands that a wooden post-frame does not, and builders who treat a large door specification as an afterthought often find themselves troubleshooting expensive problems after the building is complete.

### WHY METAL FRAME DEMANDS A CLOSER LOOK

Metal frame buildings, whether light-gauge cold-formed or structural red iron, behave differently than post-frame when it comes to large openings. Headers must be engineered, not estimated. The cardinal rule: determine your largest door opening before you order the building. Lock the opening size early so the structure and door work together.

Framing for large doors in metal buildings typically begins with a structural header that transfers the loads imposed by door dead weight and wind pressure down to the foundation. On sidewall openings, the main frame handles most of this. For



endwall openings, pay close attention to column spacing and bracing during the design phase, not during installation. Once the frame is set, the door system choice becomes the next major decision.

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*"PowerLift imposes lower building loads than most doors, delivering style and function with zero maintenance. We build the industry's only single-unit door, with an all-welded frame—doing away with bolts and screws that fatigue and loosen over time."*

— PowerLift Hydraulic Doors

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### CHOOSING YOUR SYSTEM: A DOOR TYPE BREAKDOWN

Not all large doors are created equal, and each system type offers distinct trade-offs in cost, headroom, weather seal, speed, and structural demands. Here is a practical look at the most common options:

#### Sliding Doors

The sliding door remains the workhorse of agricultural and light commercial metal buildings. It is the most cost-effective system for large openings, requires no headroom above the opening, and is straightforward to install and adjust. The

primary limitation is weather sealing—a sliding door cannot seal as tightly as an overhead or hydraulic system against wind-driven rain and snow. Sliding doors also require clear wall space on at least one side of the opening to park the panel.

Track and hardware quality are critical. Heavy-gauge commercial track, solid trolley hangers, and properly tensioned bottom guides make the difference between a door that glides for decades and one that derails and binds within a few seasons. Builders who spec economy hardware on heavy doors tend to get callbacks.

#### Bifold Doors

Bifold doors are a staple in aviation hangar applications and increasingly popular in large agricultural buildings. They fold outward at the midpoint, providing a full, clear opening without the headroom requirements of an overhead roll-up. The upper leaf tilts up while the lower leaf swings down, creating a built-in canopy effect. Bifold systems require a solid header because the door transfers significant load through the hinge track at the top. Proper leveling during installation is essential—a

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bifold door on an out-of-plumb frame will never seal or operate correctly.

### Hydraulic Swing-Up Doors

Hydraulic single-panel doors have made significant inroads in both agricultural and architectural markets. These single-unit doors pivot outward and upward from the bottom, driven by hydraulic cylinders at the sides of the frame. When open, the panel extends as a large overhead canopy—a feature many clients actively want for covered outdoor work. Doors exceeding 100 feet in width are available, and most open fully in 30 seconds or less, which matters enormously in high-cycle applications like flight schools and commercial vehicle storage.

In steel-framed buildings, hydraulic doors are typically welded to the building frame—providing a rigid, permanent connection that must be engineered to withstand the weight and dynamic loads of a large single panel. Backup power options, including tractor hydraulics and battery systems, provide redundancy during power outages. From there, the next concern is how the opening itself is framed to carry those loads.

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*“Our doors are constructed with aluminum frames that are light in weight yet incredibly sturdy. This unique combination ensures easy operation without compromising on durability. The aluminum construction also offers excellent resistance to corrosion, making our doors ideal for various environmental conditions. Wind ratings of 115 mph plus provide reliable protection against harsh weather conditions.”*

### — I-Beam Sliding Doors

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## FRAMING THE OPENING: WHAT BUILDERS NEED TO KNOW

Regardless of the door type, the structural framing around a large opening in a metal building must be carefully designed and executed. Here are the key issues builders encounter most often:

### Header Sizing and Load Path

The header above a large door carries wind load, dead load from cladding above the opening, and any reaction loads from door hardware or hinge points. A common mistake is designing the frame for a 20-foot opening and then specifying a 24-foot door after the fact. Get the door

size committed early and let it drive the engineering, not the other way around. That makes the jambs and sill conditions the next pieces to confirm.

### Jamb Posts and Sill Conditions

Jamb posts—the vertical framing members on either side of the opening—must carry header reaction loads down to the foundation through proper connections at both top and bottom. Undersized jamb posts are a frequent source of alignment and seal problems as buildings rack under wind loads.

For sliding doors, the bottom guide system requires a clean, flat, and durable floor surface at the sill. In agricultural settings where skid steers and tractors constantly pass through, a poorly detailed slab at the threshold is a chronic maintenance problem. Consider a thickened slab edge or recessed concrete channel at the sill to protect the bottom guide from equipment impact. After that, hardware and weather detailing determine how well the door performs over time.

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*“MWI Components values solutions that make building on the job-site easier. Since acquiring the slide door track and hardware division from Lawrence Hardware, we have been able to offer a complete selection of American-made round and square track, hardware essentials, and slide frame—giving builders a single source for the components that keep large doors working year after year.”*

### — MWI Components

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## HARDWARE, WEATHER PERFORMANCE, AND CUSTOMIZATION

A large door is only as good as its hardware and weather detailing. For sliding doors, trolley capacity must

match panel weight with a meaningful safety margin. Undersized trolleys fail prematurely, especially on doors exposed to fine-grain dust and debris. Heavy-duty trolleys with sealed bearings outperform standard agricultural hardware in most applications and are worth the upcharge on any door that sees daily use.

### Track and Trolley Systems

For sliding doors, track gauge and trolley capacity must match the door panel weight with a meaningful safety margin. Undersized trolleys fail prematurely, especially on doors that see heavy use or are exposed to fine-grain dust and debris. Heavy-duty commercial-grade trolleys with sealed bearings outperform standard agricultural hardware in most applications and are worth the upcharge on any door that will see daily use.

In terms of weather sealing, hydraulic swing-up doors—especially those sealing against the exterior building face—outperform sliding systems for air infiltration. For climate-controlled environments or severe weather regions, hydraulic or overhead systems are the stronger specification. Overhead roll-up doors fall in the middle ground, with performance that can be substantially improved with bottom seals, compression side seals, and header weatherstripping. Once weather performance is addressed, insulation and accessories become the final customization layer.

Insulation is no longer a specialty item on large doors. Hydraulic single-panel doors can be filled with fiberglass batt or spray foam and clad on both faces with glass, sheet metal, stucco, or wood—making them increasingly



popular in residential and commercial architectural applications. Walk doors, windows, and small porch structures are all routinely incorporated into large door panels. Remote control and smartphone app integration are now standard client expectations on any high-use or commercial installation.

### Insulation Options

Large insulated doors are no longer a specialty item. Hydraulic single-panel doors can be filled with fiberglass batt or spray foam insulation and clad on both sides with virtually any material that attaches to steel, including glass, sheet metal, stucco, and wood. This makes them increasingly popular in residential and commercial architectural applications where a large door is also a visual statement about the building.

For sliding doors, insulated panels are available, but they add cost and weight. Builders should confirm that the track and hardware system is rated for the added weight of insulated panels before specifying them. An insulated panel that is even marginally heavier than the rated trolley capacity will cause premature hardware failure.

## CUSTOMIZATION AND ARCHITECTURAL APPLICATIONS

One of the biggest shifts in the large-door market over the past decade has been the expansion from purely utilitarian applications into architectural and residential applications. Hydraulic doors with full glass cladding are now appearing in upscale barndominiums, brewery taprooms, commercial restaurants, and high-end equestrian facilities. The ability to specify virtually any cladding material for a steel-framed hydraulic door has opened a new market for builders willing to position themselves as design-build specialists, not just structural contractors.

Walk doors, windows, and even small porch structures are all routinely incorporated into large hydraulic and sliding door panels. A 30-foot hydraulic door and a walk door with a vision lite allow the operator to check for obstructions before raising the full panel—a practical safety feature that also

adds to the architectural interest of the facade.

Remote control operation—including smartphone app integration for hydraulic door systems—is now a standard feature expectation rather than a luxury option. Clients managing large agricultural or commercial facilities expect to operate multiple doors from a single device. Specifying systems that include robust remote control capabilities is increasingly a baseline requirement in competitive bids.

## COMMON MISTAKES AND HOW TO AVOID THEM

After talking with builders and suppliers across the industry, a few recurring mistakes show up again and again on large door projects in metal buildings:

- Sizing the building before finalizing the door. The structural and financial cost of retrofitting a larger opening after the fact is always higher than designing it right from the start. Lock down door sizes before you order the building package.
- Underspecifying hardware. Track, trolleys, and bottom guides are not the place to save money on a high-use commercial or agricultural door. Undersized hardware fails early and often, and the labor cost to retrofit is far greater than the original upcharge for quality components.
- Ignoring headroom constraints. Overhead roll-up doors can require 12 to 14 inches of headroom above the door opening, which affects both the rough opening height and the interior clearance for tall equipment. Verify headroom requirements for every door type before finalizing building height.
- Failing to account for backup power. Any large door, whether hydraulically or electrically operated, in a working agricultural or industrial facility needs a backup power plan. Power outages happen, and a door stuck open or closed during one is a significant operational problem. Specify and install backup power capability during initial installation.
- Neglecting threshold conditions. The floor around the door opening is subject to more concentrated wear than virtually any other part of the building. Design the



slab for what will actually be happening there, not for a generic floor condition.

### Making the Right Call for Your Client

There is no single right answer when it comes to specifying a large door for a metal-frame building. The best choice depends on the use case, the building's structural system, the climate, the budget, and—increasingly—the client's aesthetic vision. What has not changed is that the decisions made at the specification stage have a long tail. A well-specified, properly framed, and correctly installed large door is something a client will appreciate for the life of the building. One that is undersized, poorly framed, or equipped with marginal hardware is a source of callbacks and reputation risk for the builder.

Take the time to get the opening engineered correctly, select systems and hardware rated for the actual load and use conditions, and work with suppliers who understand the specific demands of metal frame construction. The clients who need big doors are counting on builders who know how to deliver them. **MB**

## RESOURCES

- Metal Building Manufacturers Association (MBMA) | [mbma.com](http://mbma.com)
- National Frame Building Association (NFBA) | [nfba.org](http://nfba.org)
- Steel Door Institute (SDI) | [steeldoor.org](http://steeldoor.org)
- American Institute of Steel Construction (AISC) | [aisc.org](http://aisc.org)
- AAMA (American Architectural Manufacturers Association) | [aamanet.org](http://aamanet.org)

# The New Word-of-Mouth: Managing Your Online Reputation

Referrals used to be simple: You built a great project, and your customer invited friends over to see it. Suddenly, you had two more potential leads because they liked what they saw and heard good things about your crew.

Today, the internet has become a centralized version of that same word-of-mouth process, on a much larger scale. Online reviews are the modern version of referrals, allowing customers to share their experiences with far more people than just their immediate circle. For builders, that's good news. A strong reputation can now reach hundreds or even thousands of potential customers online.

Reviews are how customers, search engines, and AI search tools determine the credibility and quality of your business. They play a major role in shaping how future customers view your company, whether in a positive or negative light. Therefore, managing your online reputation is the next logical step in leveraging your word-of-mouth referrals.

## THE PSYCHOLOGY OF TRUST

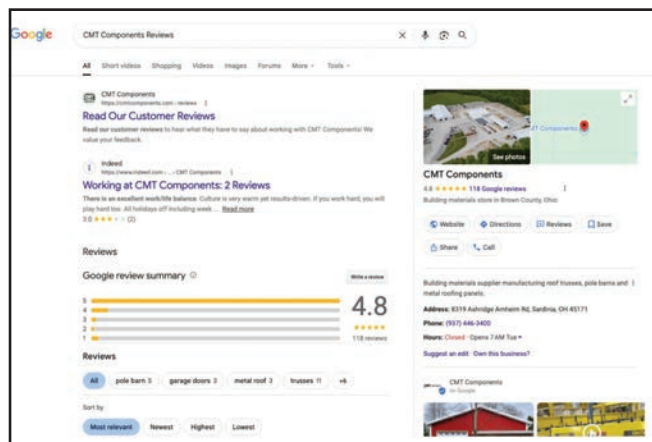
It's incredibly human to look for validation before we try new things. We always want to know that something works before we choose it or invest in it.

Word of mouth and referrals are an extension of that instinct. In particular, in construction or with higher-dollar purchases, having access to recommendations or validation from others feels like a reliable way to gauge how a project or build will turn out.

This is known as social proof, a psychological phenomenon

that describes the tendency to rely on the opinions or actions of others to form our own.

Understanding this principle helps you, as a builder, reassure your future customers that you are the best choice for their project.



## WHERE REPUTATION LIVES

Your Google Business Profile (GBP) is one of the first touch points your potential customers will have with you. In addition to giving customers a clear idea of what you do, where you do it, and how to get in touch with you, it's also the first place future customers can evaluate your reviews, photos, responsiveness, and overall reputation. That means maintaining an active, accurate, and trustworthy GBP is essential for your reputation management strategy. Both photos and reviews are a major part of your GBP. Consistently adding photos and posts to your profile helps build credibility. Proactively asking for reviews, especially reviews with photos, from your customers helps boost visibility for your GBP and trust with potential new customers.

Besides Google Reviews and your Google Business Profile, there aren't any major industry-specific platforms specifically for metal building or rollformers. Even so, places like Facebook and Facebook Recommendations, Yelp, the Better Business Bureau, Trustpilot, and Nextdoor are all spots where potential customers could be discussing your business or your brand. To figure out where you should start, Google your own brand name with the word "reviews" after it, and see where reviews already exist.

Reddit is another place where people may already be asking questions about your business or industry. Especially in subreddits that are either hyper-specific to your industry or to your location, people are likely already asking questions about who the best builders are. You will want your name to show up positively.

People naturally trust reviews on third-party platforms more

What's your opinion of a E-Impact Marketing and how did you come to that conclusion.

My view of E-Impact Marketing > is that it appears to be a legitimate mid-sized digital marketing agency with a generally strong reputation from employees and clients, but with the same caveats that apply to most marketing firms: a lot of the public feedback comes from curated testimonials and self-reported success stories.

Here's how I came to that conclusion:

- Employee reviews on Glassdoor > are unusually positive overall (high ratings, praise for culture, leadership, and learning opportunities). That suggests people who work there generally like the environment. However, there are only a small number of reviews, so I wouldn't treat that as definitive proof.
- Their own client testimonial page on their website > includes detailed case-style feedback from businesses saying they saw more leads, stronger SEO performance, and better websites. Since these are hosted by the company itself, I treat them as useful but naturally biased.
- Independent business directories like The Manifest > and GoodFirms > list them as an established agency serving construction, manufacturing, and e-commerce clients, with project sizes and service offerings that look consistent with a real operating firm.
- There are also external reports about company growth and leadership changes, including coverage of Inc. 5000 recognition and ownership transition news. > That adds credibility because it's outside reporting rather than self-promotion.
- I did not find major scam allegations, lawsuits, or widespread complaints tied specifically to E-Impact Marketing itself. That matters because questionable marketing agencies often leave a large trail of negative discussions online.

Asking AI tools about your brand is a great way to get a summary of the kind of conversations about your company that is out there.

than reviews published directly on your own website, but you also want your good reviews to appear to customers already on your site. For that reason, there's nothing wrong with leveraging what people are saying about you on third-party sites and reposting that on social media or on your own website. The goal is to make sure those good reviews are front and center and accessible wherever people interact with your business.

## BUILDING B2B TRUST

In B2B (business-to-business) relationships, trust is perhaps even more essential. These relationships often involve larger, higher-dollar purchases and/or rely on extended working relationships. Because of that, your B2B customers are likely going to pay a lot more attention to who they choose. This may take more reviews, more social proof, and more word-of-mouth referrals to convince them. The most effective reviews may also be those that naturally mention lead times, pricing, and integration with the work.

## HOW TO GET GOOD REVIEWS

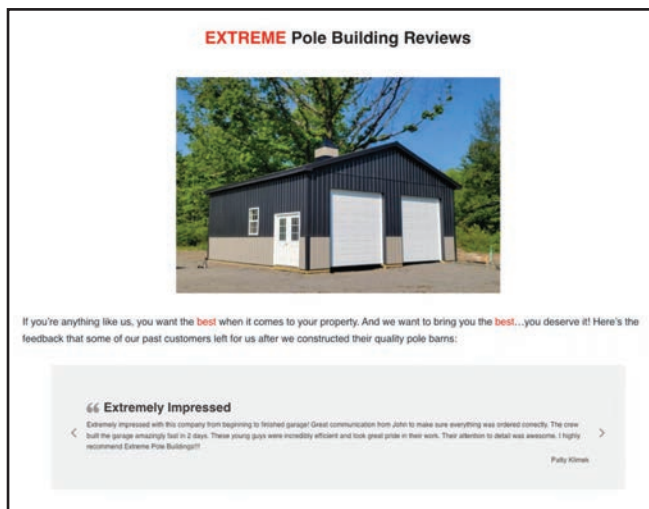
The best thing you can do to get or increase your number of good reviews is to consistently ask for them. Start by making it part of your job process to proactively request a review. Incentivize your crews to request reviews, making it a habit.

To point reviews in the right direction, send clients pictures of their build with review requests, and ask specific questions for them to answer in their reviews. This will help keep reviews specific and even make leaving the review easier.

## HANDLING NEGATIVE REVIEWS BEYOND JUST “RESPONDING”

The most important thing about handling negative reviews is to make sure they don't go unanswered. You should acknowledge every negative review on your Google Business Profile. Sometimes negative reviews are legitimate; other times, they aren't. Either way, people who are discovering you online won't know which is which. So your response to reviews will greatly influence how people perceive you online. Always take the high road, don't get into the blame game, or approach reviews defensively. Respond as professionally and politely as possible, acknowledge any legitimate complaints they had, and then try to take the conversation offline as quickly as possible.

The faster you can respond to a negative review, the better the chance you'll have of actually addressing the underlying problem. In some cases, you may even be able to have someone remove or edit their review. The more proactively you can address negative experiences, the better your chance of softening the impact of that review.



## FIX THESE FIRST: RED FLAGS FOR REPUTATION

Start by searching your brand name along with the word 'reviews' to see what is already out there. If there are any negative reviews you haven't answered, then start with those first. Also, be sure to thank customers for positive reviews!

If you haven't been focusing on reviews, then you're likely not going to have that many. So start asking people to review you. The only people likely to be motivated to review without an ask are those who've had a really positive or really negative experience. That's why your initial step should be to ask proactively for reviews, especially focusing on Google Reviews to start.

Beyond reviews, you can make sure your business looks trustworthy online by ensuring its name, address, and phone number (NAP) appear consistently across the internet.

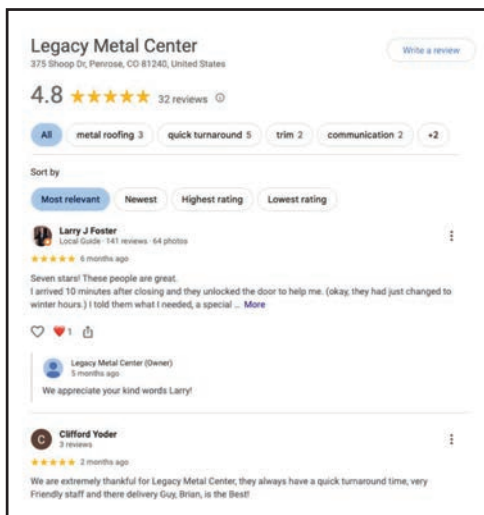
To provide potential customers with more social proof, keep your website or social media updated with photos and videos of real completed projects.

Another place where reviews can impact your business is from employers on places like Indeed.com or Glassdoor. I've seen instances where a company had great customer reviews but negative employee reviews about working there. Customers do care about the quality of a workplace they work with.

## TRUST IS THE COMPETITIVE ADVANTAGE

Today, your reputation is constantly shaped by reviews, photos, recommendations, social media discussions, and how your business appears online. As a result, your future customers are looking for reassurance before they choose who to work with, and the businesses that can earn their trust are the ones that win them over.

MB



# Break the Bridge

## Why Thermal Breaks Are the Most Overlooked Line Item in Your Insulation Spec—and What It’s Costing Your Customers

**Y**ou spec the fiberglass. You installed it correctly. You hand the building over to the owner and tell them it’ll be comfortable year-round. Then January rolls around, the heating bill shows up, and nobody’s happy. Sound familiar?

If you’ve been in the metal building game for more than a few seasons, you already know the culprit: thermal bridging. The steel members that make your buildings strong and durable are the same ones quietly hemorrhaging heat every hour of every day through every purlin and girt in the roof and wall assemblies. Standard fiberglass blanket insulation doesn’t stop it. Neither does double-bubble reflective insulation used alone. And the R-value stamped on the roll you put in? Once that insulation gets compressed at the structural connection points, that number becomes largely theoretical.

The solution isn’t a mystery. It’s a thermal break—a low-conductivity material strategically placed between the exterior metal panel and the steel framing below it. The concept is straightforward. Getting builders and owners to understand why it matters, and to spec it from day one, is where the real work starts.

We sat down with three companies deep in the metal building insulation and thermal performance space—Dutch Tech Industries, rFOIL Reflective Insulation, and Thermal Building Concepts—to get a ground-level look at where the industry stands, what’s working on real job sites, and why addressing thermal bridging isn’t a luxury upgrade. It’s table stakes for any conditioned metal building in today’s energy code environment.

### THE PROBLEM IN PLAIN ENGLISH

Steel is one of the most thermally conductive common building materials on the planet. It conducts heat at a rate roughly 1,400 times faster than a comparable thermal break material. That’s not a typo. When a steel purlin runs from your exterior roof panel down into the building’s conditioned interior, it acts like a radiator fin in reverse—pulling heat out of the building in winter and pumping it back in during summer.

In a conventionally insulated metal building, the fiberglass blanket lies between the framing members and the exterior panels. But right where it should be doing the most work—at the purlin or girt flange—it gets compressed. Compressed insulation doesn’t insulate. The air pockets that give fiberglass its thermal resistance get squeezed out, and you’re left with little more than a thin layer of matted glass fiber at exactly the spot where the thermal bridge is worst.

The result is a building that performs far below its rated R-value. Research from organizations, including the Pacific

Northwest National Laboratory, has shown that thermal bridging in metal building roofs and walls can reduce effective R-values by more than 50% compared to the labeled value. Some studies on wall assemblies put it even higher for buildings with dense girt spacing.

Energy codes have been tightening for years, and ASHRAE 90.1 and the IECC now demand that metal buildings meet assembly U-value targets that simply can’t be achieved with single-layer blanket insulation systems that don’t address thermal bridging. If you’re still quoting single-layer systems to owners of conditioned buildings without having the thermal bridge conversation, you’re setting up future problems—for them and for you.

### REFLECTIVE INSULATION DOES THE HEAVY LIFTING ON RADIANT LOAD

Before you can understand why thermal breaks matter, it helps to understand what standard insulation does and doesn’t address. Mass insulation—fiberglass, mineral wool, rigid foam—handles conductive and convective heat transfer. What it doesn’t stop is radiant heat, which accounts for a substantial portion of heat gain and loss in metal buildings. That’s where metalized reflective insulation products come into play.



The best reflective insulation products for metal buildings are built around the physics of metalizing—applying vaporized aluminum to a substrate to create a highly reflective surface. Top-tier products block up to 97% of radiant energy, a figure that becomes significant when you consider that radiant heat transfer can account for up to 75% of total building heat gain or loss, depending on the application.

What separates high-quality reflective insulation in the field isn’t just the thermal specs—it’s the material construction. Installers have historically griped about bubble-wrap-style

#### DUTCH TECH INDUSTRIES — Therma Guard Reflective Insulation

“The R-value system was created by the fiberglass industry. It was never designed to account for radiant energy. When you’re dealing with a metal roof sitting in the sun, radiant heat is the primary problem, and a pure R-value spec will lead you right past the real solution.”

reflective insulation because it tears, sags, blows off in the wind during installation, and is difficult to get wrinkle-free on large roof spans. Products with woven polypropylene or scrim-reinforced backings address all of those complaints directly. Staples hold. Edges don’t pull away. The material can be wrapped around an entire building at once without babysitting it in breezy conditions.

Practical roll dimensions—designed around how metal buildings are actually built—matter more than builders sometimes realize at spec time. For a standard 40-by-60 structure with 12-foot walls, predictable coverage per roll makes a real difference when you’re quoting a job and ordering materials.

The broader point that resonates throughout the industry is that reflective insulation and mass insulation address fundamentally different heat transfer mechanisms. They’re not competing products; they’re complementary. A well-designed metal building insulation system typically uses both, layered strategically to address the full spectrum of thermal challenges.

### REFLECTIVE PERFORMANCE THAT’S BUILT NORTH AMERICAN TOUGH

Some insulation manufacturers in the metal building space have been at this for more than three decades, and the track record shows. The most durable reflective insulation systems have built their reputations on a straightforward proposition: control heat transfer, manage condensation, and hold performance over time—without the degradation problems that plague traditional fiberglass systems in wet or humid environments.

#### rFOIL REFLECTIVE INSULATION — Covertech Inc.

“Traditional insulation products like fiberglass and cellulose are effective at reducing conductive and convective heat transfer, but they do very little to prevent radiant heat. In a metal building, that’s the battle you’re actually fighting. Aluminum has the ability to redirect those invisible rays—it’s the same reason NASA uses reflective insulation in spacesuits.”

One of the performance arguments that often surprises builders is about R-value stability over time. Fiberglass insulation can lose more than a third of its effective R-value in the first two years after installation in metal building applications—due to compression, moisture infiltration, and settling. Quality reflective products don’t compress, don’t collapse in moisture, and don’t degrade in the same way. The R-value you install on day one is the R-value the building owner has on day 3,000.

The ability to act as a vapor barrier is particularly important in metal building applications. Condensation is a persistent enemy in steel buildings where warm, moist interior air comes into contact with cold structural surfaces. A double-bubble reflective

core acts as a thermal break between the exterior metal and the conditioned interior, keeping connection surfaces above the dew point and shutting down the condensation cycle before it starts.

Product innovation in this category has been focused on post-frame applications, where woven scrim mesh constructions deliver outstanding tear resistance when stapled to wood purlins—a pain point that has historically plagued reflective insulation on post-frame structures. Multiple width and facing options give builders and installers the flexibility to spec the right configuration for each application.

Market recognition from publications like Metal Roofing Magazine speaks to the kind of credibility that comes from decades of consistent product performance in demanding applications—the sort of track record that matters when an owner is making a long-term investment in their building envelope

### CLOSING THE LOOP: THE CASE FOR THERMAL SPACER BLOCKS

Here’s where the conversation gets granular—and where many builders are still leaving significant performance on the table. Even if you’ve done everything right with your insulation products, the steel purlin or girt sitting in your roof or wall assembly is still a thermal highway right through your envelope. Reflective insulation addresses radiant load. Fiberglass blankets handle the convective and conductive field between framing members. But neither one eliminates the direct metal-to-metal contact at the structural connection points.

That’s the gap that thermal spacer blocks fill—and it’s a gap that specialists in thermal break systems for metal buildings have made their core business.

#### THERMAL BUILDING CONCEPTS

“Builders are often surprised when they see the actual thermal modeling data. You can install a high R-value blanket system and still be failing your energy code because the purlins are conducting heat right around it. A thermal spacer block isn’t an accessory. It’s the component that makes the rest of your insulation system actually perform to spec.”

The physics here aren’t complicated, but they’re often misunderstood. When you place a thermal spacer block between a metal roof panel and a steel purlin, you’re doing two things simultaneously: you’re interrupting the direct conductive path between the exterior and the structural framing, and you’re creating additional cavity space that allows your insulation to maintain closer to its full designed thickness at the connection point.

The result is a continuous insulation layer—what ASHRAE defines as insulation that is uncompressed and continuous across all structural members, without thermal bridging from fasteners or service openings. That definition is the benchmark your buildings need to hit to comply with current ASHRAE 90.1 and IECC requirements in most climate zones for conditioned occupancies.

The payoff numbers are real and documented. Hot box testing on assemblies incorporating thermal spacer blocks has

demonstrated insulation performance improvements of up to 100% in certain screw-down roof configurations compared to the same assembly without them. Return-on-investment timelines of 12 to 18 months for energy savings are supported by real-world building data. That's not a hard argument to make to a building owner who's going to be paying utility bills for the next 30 years.

There's a structural dimension to this conversation that builders sometimes overlook. A thermal spacer block isn't just foam sitting between two steel surfaces. It has to have the compressive strength to support the loads at the purlin connection without deforming to the point where it loses its thermal benefit. Products engineered specifically for this application carry tested structural data. Generic foam tape does not. That distinction matters when your building manufacturer is reviewing the insulation spec.

## **BUILDING THE SYSTEM: HOW IT ALL WORKS TOGETHER**

The most effective metal building insulation strategies aren't about picking one product. They're about layering solutions that address different parts of the thermal problem. A high-performance conditioned metal building typically incorporates at least three elements working together.

At the base level, a reflective barrier handles the radiant heat load from the roof and wall panels. Installed between the exterior panels and the structural framing, it reflects radiant energy before it can be absorbed into the building's thermal mass and re-radiated into the conditioned space. It also provides a vapor management layer that reduces the risk of condensation at the panel surface.

The second layer is mass insulation—fiberglass blanket insulation filling the cavity space between framing members. This accounts for the bulk of convective and conductive heat transfer within the assembly's field. In climate zones requiring higher performance, double-layer systems with perpendicular upper layers help maximize the usable insulation thickness without thermal compression losses.

The third piece—and the one that ties it together—is the thermal break at the structural connection. Thermal spacer blocks at purlins and break tape at girt flanges prevent the insulation system from being short-circuited by direct steel-to-steel conduction at every fastener point. Without this, your field R-value doesn't reflect what's actually happening at the framing, and your whole-assembly U-value will likely fail to meet code requirements for conditioned occupancies.

The interaction between these layers is where builders who understand the full picture pull ahead of the competition. An owner who gets a building that performs to its rated spec—one that heats and cools predictably, manages moisture without condensation issues, and arrives at energy code compliance without the expensive retrofit conversation two years later—is an owner who calls you back for the next project.

## **THE CODE REALITY YOU CAN'T IGNORE**

Energy codes have moved aggressively in recent years, and metal buildings haven't been exempt from the shift. ASHRAE

## **FOR MORE INFORMATION**

- Dutch Tech Industries - [www.dutchtech.com](http://www.dutchtech.com)
- rFOIL Reflective Insulation - [www.rfoil.com](http://www.rfoil.com)
- Thermal Building Concepts - [www.thermalbuildingconcepts.com](http://www.thermalbuildingconcepts.com)

90.1-2019 and the 2021 IECC both contain prescriptive and performance-based requirements for metal building wall and roof assemblies that are significantly more stringent than the versions that were standard practice a decade ago.

The key concept is continuous insulation—CI in code language. The prescriptive approach for many climate zones now requires continuous insulation in addition to the cavity insulation between framing members. For metal building applications, thermal spacer blocks at purlins are one of the recognized strategies for achieving that continuous insulation requirement without resorting to expensive add-on rigid board systems.

The important nuance for builders is that the tested assembly matters. Many hot-box-tested insulation systems that are used to demonstrate code compliance are tested with specific thermal block products as part of the assembly. If you substitute a different block or omit the block entirely, you can no longer claim the tested performance value. That means the R-value you put on the compliance documentation may not reflect what was actually installed—a liability position no builder wants to be in on a commercial or institutional project.

Working closely with your insulation suppliers to understand which tested assemblies apply to your specific building design, climate zone, and occupancy type is the kind of pre-job diligence that separates builders who lead with expertise from those who find out after the inspection.

## **THE BOTTOM LINE**

Thermal bridging is not a new problem. The steel members in metal buildings have been conducting heat through envelope assemblies since the first post-frame structure went up. What's changed is the energy code environment, the availability of tested solutions, and the expectations of building owners who are more energy-cost-aware than any previous generation.

The good news is that the products and systems exist to address it—and they're not cost-prohibitive when specified from the beginning of the project. High-performance reflective insulation handles radiant heat loads with durable, installer-friendly systems that maintain performance for the life of the building. Proven reflective platforms with decades of track record in metal building applications deliver code-recognized performance and condensation control. And specialized thermal spacer block solutions interrupt thermal bridging at the connection points where blanket insulation can't go.

Together, they represent a complete approach to metal building thermal performance—one that goes beyond stamping an R-value on a roll of insulation and calling it good.

The bridge isn't going to break itself. But it's not hard to break, either—if you understand where it is and what to do about it. **MB**

# Steel Without Borders

## How Metal Building Is Going Global

The construction industry is experiencing a global transformation. Metal building technology, once shaped by local codes, climate, labor, and supply chains, is now expanding beyond North America. This technology is rapidly gaining traction in Europe, Asia-Pacific, the Middle East, and other regions, creating significant global growth opportunities for North American companies.

The global metal building systems market reached \$67.8 billion in 2024 and is projected to grow to \$124.8 billion by 2033, reflecting a 6.9% annual growth rate. Prefabrication, sustainability requirements, urban housing shortages, and skilled labor scarcity are driving global adoption of solutions that have long been used in North America.

### A MARKET WITH DEEP ROOTS OUTSIDE THE U.S.

American builders should recognize that light-gauge steel (LGS) framing is well established internationally. In Europe and Australasia, cold-formed steel systems for wall panels, floor joists, and roof trusses have been standard for decades, whereas in North America, it is still catching up.

Framing systems that include trusses, floor joists, and wall systems using LGS have their deepest roots in Europe. Overseas companies are actively courting the entire framing package market for trusses, floor joists, and wall and roof panels in the United States, reversing the historical direction of technology transfer.

The international market is not waiting for American expertise. In metal building technology, particularly light-gauge steel fabrication and offsite panelization, other regions have led innovation. North American builders entering global



markets should do so with both curiosity and confidence.

### IRELAND: A CASE STUDY IN RAPID ADOPTION

Ireland demonstrates rapid international growth in metal building construction. With a severe housing shortage and construction rates at half the required level, the country needs faster, more efficient building methods. Light-gauge steel framing has emerged as a leading solution.

Howick Ltd., a New Zealand-based manufacturer of precision roll-forming equipment, has identified Ireland as one of its fastest-growing markets, with its machines operating in more than 80 countries. The company points to the country's housing crisis as a structural driver of demand rather than a cyclical one.

Remagin Ireland, formerly Horizon Offsite, illustrates the market's evolution. Founded in 2017 to address off-site construction needs, the company initially exported up to 90% of its prefabricated components to the UK. As Ireland's housing crisis intensified, domestic

demand exceeded exports. By operating four Howick machines, Remagin became a national leader in off-site construction within eight years.

"The machines are part of our business. Critical to our business. We don't have a business without the Howick," Remagin Ireland Country Manager Ger Fahey said of the roll-forming equipment at the center of the company's operations.

Ireland's experience offers valuable insights for North American builders monitoring global markets. Housing shortages also impact the UK, continental Europe, Australia, and Asia-Pacific. Urgent demand, labor shortages, and acceptance of prefabricated metal are driving growth in these regions.

### THE LABOR EQUATION

Skilled labor shortages are the primary driver of international adoption of metal buildings, a challenge familiar to American contractors. Smaller labor pools, rising wages, and increased risks make traditional methods less viable worldwide.

Tom Reed, Howick's sales representative at the company's Pittsburgh office, has

spoken directly to how this calculus is changing, even in the traditionally wood-centric U.S. market. “It’s very easy to snap together... “ It’s really about speed,” Reed noted in comments cited in Rollforming Magazine. He also pointed out that the cost gap between light-gauge steel and wood framing has closed substantially when labor savings are factored in.

In regions where LGS is advanced, labor efficiency is a compelling argument. For example, a Basque villa in Spain, framed with Howick technology and LGS, was built in 10 days by two people. Projects that once required larger teams and more time are now accelerating LGS adoption in southern Europe and beyond.

### ASIA-PACIFIC: THE LARGEST GROWTH ENGINE

Asia-Pacific is the largest growth engine for metal buildings, leading global demand with a \$28.9 billion market in 2024 and projected annual growth of 7.5% through 2033.



China and India are the main drivers, fueled by urbanization, government infrastructure programs, and expanding manufacturing and logistics sectors. The Asia Metal Building Design and Industry Expo, scheduled for Shanghai in August 2026, highlights the region’s commitment to the sector. Growth also extends to Southeast Asian nations such as Vietnam, Indonesia, and the Philippines, which

are investing in modern construction infrastructure that favors prefabricated metal systems.

For North American builders and suppliers, Asia-Pacific presents both opportunities and challenges. Chinese and Japanese manufacturers dominate, and local content requirements can create entry barriers. Companies entering through equipment, technology




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partnerships, or licensing achieve greater success than those exporting finished products at scale.

## EUROPE: REGULATION AS A GROWTH DRIVER

Europe's metal building market, valued at \$12.7 billion in 2024, is influenced by regulation as much as by demand. The EU's Green Deal and Construction Products Regulation encourage the use of sustainable materials. Steel, which is fully recyclable and can be produced using low-carbon methods, aligns with these requirements.

Germany, the UK, and France lead market development in Europe, each with distinct construction practices. The UK's National Health Service modernization, which involves building new healthcare facilities, is a key driver for advanced systems such as LGS and modular metal construction.

FRAMECAD, a New Zealand-based roll-forming equipment manufacturer with decades of international experience, reports that steel framing is rapidly being adopted across Europe as a proven alternative to traditional methods. The company serves hundreds of clients worldwide with its design-to-manufacturing system and recently launched Steel Framing Connections, a podcast documenting global cold-formed steel applications, reflecting the sector's demand for shared knowledge.

## THE MIDDLE EAST AND LATIN AMERICA: EMERGING DEMAND

Beyond Europe and Asia-Pacific, the Middle East is attracting attention in the metal building sector. Infrastructure investments and economic diversification in Gulf Cooperation Council nations make pre-engineered metal buildings appealing. Hot, arid climates and tight project timelines further increase their attractiveness for developers and agencies.

Latin America is in the early stages of adopting metal buildings, but interest is increasing. Companies such as USG LATAM are working to modernize construction practices across the region. Urbanization, limited skilled labor, and new roll-forming technology are expected to drive growth over the next decade.

## WHAT NORTH AMERICAN BUILDERS SHOULD KNOW

For builders and manufacturers in the United States and Canada, the key message is that international markets are evolving in ways that will increasingly intersect with the North American industry, whether or not companies choose to participate.

International equipment suppliers are already active in the U.S. Howick and FRAMECAD, both based in New Zealand, maintain U.S. offices and are building domestic customer bases. Scottsdale Construction Systems, based in Australia, is another overseas company in the North American LGS market. These companies bring extensive experience from markets where steel framing is standard and are now sharing that expertise in the U.S.

For builders considering international opportunities, the barriers are real but manageable. Building codes vary widely by country and region. Material sourcing relationships must often be established from the ground up. Currency risk and longer project

## SOURCES & RESOURCES

- Howick Ltd. [howickltd.com](http://howickltd.com)
- FRAMECAD [framecad.com](http://framecad.com) Steel Framing Connections podcast available through [BuildSteel.org](http://BuildSteel.org)
- Remagin Ireland formerly Horizon Offsite; part of the Etex Group [remagin.world/en/](http://remagin.world/en/)
- Scottsdale Construction Systems [scs.com.au](http://scs.com.au)

## INDUSTRY ORGANIZATIONS

- Steel Framing Industry Association (SFIA) – [sfia.memberclicks.net](http://sfia.memberclicks.net)
- [BuildSteel.org](http://BuildSteel.org) – [buildsteel.org](http://buildsteel.org)
- Metal Building Manufacturers Association (MBMA) – [mbma.com](http://mbma.com)

## MARKETING RESEARCH

- Growth Market Reports: Global Metal Building System Market (2024–2033, CAGR 6.9%, \$67.8B to \$124.8B)
- Data Bridge Market Research: Global Light Gauge Steel Framing Market (\$37.45B in 2022, projected \$56.18B by 2030)
- Valuates Reports: Global Light Steel Framing (LSF) Market (\$23.57B in 2024, projected \$43.66B by 2031)
- PS Market Research: Global Structural Metal Products Market (\$510.3B in 2024, projected \$764B by 2030)

## INTERNATIONAL TRADE SHOWS

- Asia Metal Building Design and Industry Expo (MBE 2026) – Shanghai, August 2026
- Batimat – Paris, France September 2026
- Offsite Expo – United Kingdom September 2026
- METALCON – USA October 2026

timelines require financial discipline. However, companies that have overcome these challenges, including many clients in the global LGS and metal building sector, describe international markets as transformative for their businesses.

Ireland's Remagin provides a model: the company developed deep expertise in a single technology, invested in reliable equipment, and built a reputation for full-service delivery, setting it apart from competitors offering only components. This approach led directly to rapid national market leadership.

The global housing and infrastructure challenge will persist. The United Nations projects that 2.5 billion more people will move to cities by 2050, most of them in Africa and Asia. Traditional construction methods cannot meet this demand. Metal building systems, which are precision-engineered, factory-produced, and rapidly assembled, offer a viable solution. The question for North American companies is whether they will help shape this narrative. **MB**