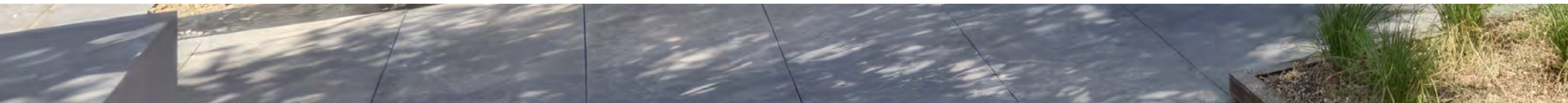
METAL BUILDING SYSTEMS

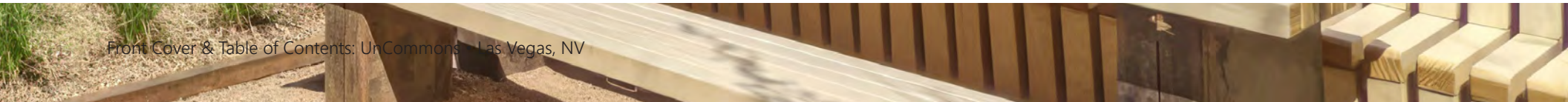
A Sustainable Future

MBMA
METAL BUILDING MANUFACTURERS ASSOCIATION®
Research | Leadership | Education

2023 ANNUAL REPORT

CONTENTS





Front Cover & Table of Contents: UnCommons - Las Vegas, NV

Mark Van Dyken
Chairman

Chairman's Message

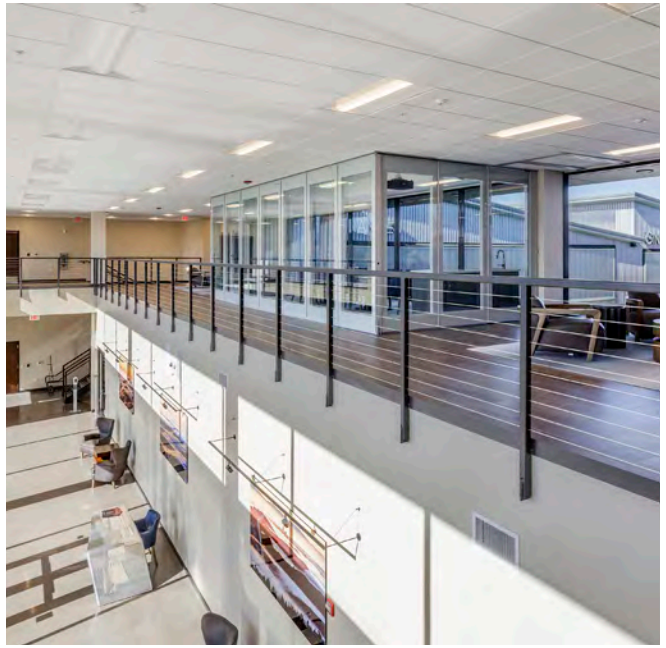
ACTION SUPPORTS INNOVATION

I've served on the MBMA board for a number of years, but spending a year as chairman gave me a much larger perspective. The one thing I now know for certain is that a lot of very exciting activities take place behind the scenes. I am especially impressed by all the work that gets done by the MBMA committees. As you read through the annual report, you'll learn about many of these important actions. But to just give you a taste of what's to come, let me share a couple of highlights with you.

- Members of the Architect Committee set the stage for MBMA to participate in the 2024 AIA Conference on Architecture 24 in Washington, D.C. next June. This will give us a national platform in which to reach out to architects and help them understand the significance of metal buildings and the design alternatives they provide.
- The Statistics Committee launched an important new resource--the Net Promoter Score report. It aggregates data from metal building system customers, showing how likely they are to recommend their metal building supplier to a friend or colleague. Over time, it will help us look at trends for MBMA members individually and for the metal building industry as a whole.
- The Technical Committee has taken on the huge task of updating the industry-leading MBMA Metal Building Systems Manual. First created in 1959 and consistently updated through the years, it remains the standard foundational information source for the metal building community. Now, a task group of 20 volunteers are adding material, revising chapters and updating examples. That's a lot of work; but the committee plans to introduce the new publication by next spring.
- Kudos to the Education Committee that has done a stellar job of enhancing and effectively marketing MBMA's Student Design Competition. Now in its third year, the program has attracted international applicants and teams from across the nation. The committee has also produced seven educational folios – a highly popular teaching tool for academics nationwide. Check out the committee's work at MBMAeducation.org.

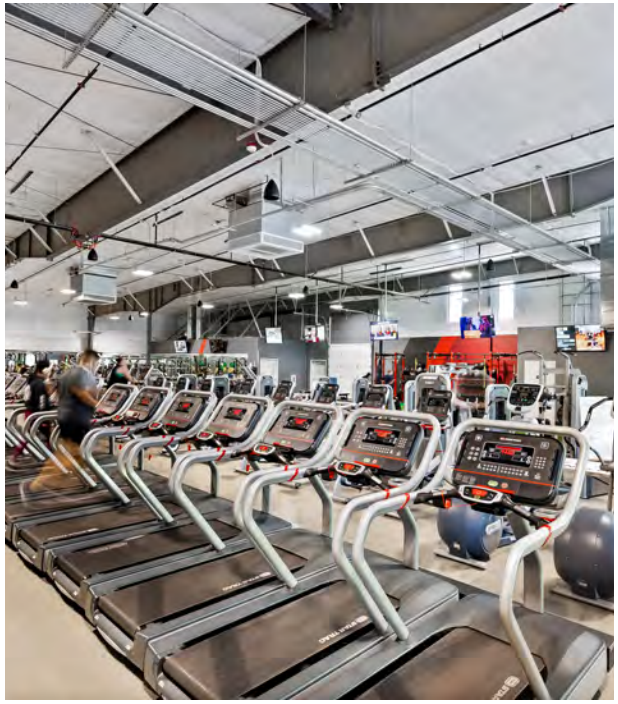
MBMA is truly an industry groundbreaker: a creative, dynamic group of smart people who make our nation better by providing the research, leadership and education that keeps the metal building industry strong. Congratulations to the staff and the volunteers who have made 2023 a stellar year!

Grove Bay Marina Hangars • Coconut Grove, FL



An emerging focus is on designing and constructing buildings that are resilient, meaning they can not only survive but also bounce back quickly after a natural disaster such as wind, seismic and flood events—or a man-made disaster, such as a chemical blast. Metal building structural systems can be optimized for such events with the members, connections and bracing designed precisely for a potential hazard relevant to the project location.

Skyway Center • San Carlos, CA



Fitness Quest Puyallup • Puyallup, WA

MBMA released environmental product declarations (EPDs) for three specific metal building product categories: primary rigid framing, secondary framing and metal cladding for roofs and walls. These provide architects, specifiers, designers and other industry professionals with transparent, third-party documentation of the environmental impacts of products used in metal building systems.

Tony Bouquot
MBMA General Manager

Management Perspective

METAL BUILDINGS' SUSTAINBILITY: A GREAT STORY TO TELL

Sustainability is the theme for this year's annual report. As I travel around the country and, occasionally, around the world representing the metal building industry, the topic of sustainability often comes up. As suppliers of building materials, we usually think of the sustainability of our products: how much energy goes into producing them, how long will they last and what happens to them at the end of their functional lifespan.

Metal building systems have a great story to tell regarding product sustainability. Whether I'm speaking to architects at the AIA Expo, contractors at METALCON or members at MBMA events, I'm proud to preach the gospel of sustainable steel. Steel is the only truly circular building material, with a robust lifespan followed by a rebirth as new steel through energy-efficient electric arc furnaces. Metal building systems are one of the most flexible, efficient and resilient uses of steel in construction.

At the annual MBMA Safety Workshop in San Antonio, safety professionals from MBMA member companies discussed a different kind of sustainability: workforce sustainability. During our roundtable discussions, many attendees identified employee turnover as a major safety challenge. Attendees shared best practices toward a common goal of keeping our employees safe.

In 2023, MBMA launched a new video series: Travels with Tony, which represents a commitment to the sustainability of the metal building industry. One of our challenges over the years has been educating design professionals about the versatility of our products. By traveling around the country visiting interesting metal buildings and recording those visits in fun, short YouTube videos, it is my goal to highlight the variety and coolness of metal buildings. This year we filmed three episodes, and we are just getting started. Do you know of a unique or interesting metal building that deserves a visit? If so, give me a call.

Lastly, there is the sustainability of MBMA itself. At 67 years old, MBMA is a healthy, vibrant trade association that continues to adapt to the changing nature of the construction industry. Our financial health is solid. Our membership is robust. Our technical programs are cutting edge. And we continue to strive to create new programs that add to MBMA's value to our members.


OCTOBER 18-2


INSPIRE

Eric F. Pros, AIA, MBA, CPD
Director of Design
DS Architecture

Guest Perspective

METAL BUILDINGS: A RESILIENT SOLUTION FOR ESSENTIAL FACILITIES

In an increasingly volatile world, there is a heightened reliance on the built environment to not only provide shelter, but also to ensure the continuity of essential services to communities when they are most vulnerable—in the wake of a disaster.

Resilience can be understood as a structure's ability to survive extreme natural and human-made challenges with minimal disruption to occupants and critical functions. Whether it be natural disasters, civil unrest or terrorism, there is an expectation that infrastructure and the built environment must be resilient and serve the public in times of greatest need.

Risk categories are assigned to buildings to approximate the consequences and risks to human life that could result from a catastrophic failure of each particular building typology. Public safety facilities, such as fire and police stations (and other essential services such as public water and electrical infrastructure), are assigned higher-risk categories due to their greater potential impact on the quality of human life. It is necessary for these facilities to maintain operations and withstand disasters due to the critical services they provide to the community at large.

Higher-risk categories fundamentally require more stringent design criteria. Resilient design strategies are an imperative planning component for architects to truly uphold their duty to ensure health, safety and welfare for the public. These impacts affect not just the building occupants, but also wildlife ecosystems and the greater community context.

Mass Customization Can Contribute to More Resilient Building Solutions

During the design process, hazards can be identified and the highest risks evaluated, so that the design team can develop design strategies that correlate to a particular building's importance factor and its long-term value.

The strength and durability of steel establish metal buildings as inherently resilient. The flexibility and mass customization available when designing with a metal building system offer a cost-effective solution that can accomplish the resiliency goals of the project and avoid material waste or excessive detailing.

Metal building systems can effectively be designed to withstand seismic activity, high-wind events and many other site-specific hazards, making them capable of enduring for many decades. The strength and pliability of steel provides resistance to disastrous forces, while the design itself can allow for redistribution of forces and redundant structural load paths to minimize the chances of a catastrophic structural failure.

Mass customized solutions for essential facilities can also provide the resiliency characteristics required to ensure the continuity of essential operations; and they can be supplemented with other building systems to provide increased protection from disasters. The exterior structure of a metal building can be designed with a variety of veneer materials to withstand extreme weather conditions and be augmented with a storm shelter to protect occupants in the event of a direct hit from a tornado or hurricane. A metal building can be optimized to provide shelter to a particular threshold, and then incorporate a masonry or concrete solution to provide space for temporary sheltering in the event of a catastrophe. In the aftermath of a disaster, a building's resilience can be understood, not just from its ability to endure a disaster with minimal structural damage, but truly be quickly repaired as needed, and put back into service.

Through thoughtful collaboration between design professionals, metal building manufacturers and end users, it is possible to find more cost-effective and innovative ways to use the metal building system as an effective solution for resilient essential facilities.

Eric Pros is the Director of Design at DS Architecture in Cleveland, Ohio, where he works closely with the firm's Public Safety and Civic Architecture studio to serve fire and police departments nationally. DS Architecture strategically partners with local firms to bring national public safety thought leadership to various communities across the country. Eric has served as a judge for the MBMA's student design competition and wrote the program for the 2022 edition, which tasked architecture students throughout North and Central America with designing a fire station using a metal building structural system that responds to their local climate conditions. He has also served as a judge for the Firehouse Station Design Awards program and is a regular presenter at the Firehouse Station Design Conference and the Fire Industry Education Resource Organization (FIERO) Station Design Symposium. Additionally, Eric serves on the executive board of the Ohio Chapter of the American Institute of Architects (AIA), where he will be president in 2025, and is a director at the local level with AIA Akron.

Public safety facilities, such as fire and police stations … are assigned higher-risk categories due to their greater potential impact on the quality of human life. It is necessary for these facilities to maintain operations and withstand disasters due to the critical services they provide to the community at large.

Galeton Fire Station #2 • Barnesville, CO

Pitt-Ohio • Parma, OH

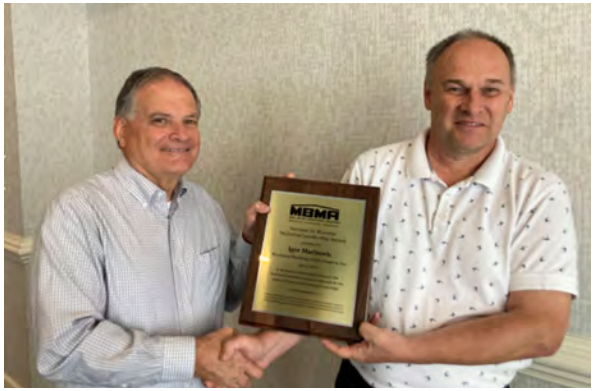
Own It Vista • Lafayette, CO

Grace Christian Fellowship • Mead, WA

HONORS & OVATIONS

Technical Leader Recognized

Igor Marinovic was presented MBMA's Norman W. Rimmer Technical Leadership Award at the July 2023 Design Seminar in recognition of his exemplary service to the Technical Committee and his service as an advocate for the spirit of discovery and the sharing of knowledge. Igor is a senior research engineer at BlueScope Buildings North America. He has served on



MBMA's Technical Committee for 17 years and has taken a valuable leadership position on several important research projects, from conceptualizing the project to assisting with building designs that are needed for studies. This prestigious award has only been presented twice previously since it was introduced in 2015.

Norman W. Rimmer, who passed away in 2008, was a leader in the metal building industry for many years and was inducted into the Metal Construction Hall of Fame in 2014. As a committee member representing Butler Manufacturing Company, he attended the first meeting of the MBMA Technical Committee in 1957 and served as the committee's chairman from 1962 to 1971. He was known for establishing the culture of sharing engineering expertise among metal building manufacturers for the benefit and growth of the entire industry.

Researcher Honored

The MBMA presented Dr. Thomas Murray with the inaugural Dr. Duane S. Ellifritt Research Award. Named after MBMA's original director of research and engineering, this honor will be given to a researcher annually for contributions to the advancement of metal building systems. Dr. Murray accepted the award at the 2023 MBMA Research Symposium in Atlanta.

Dr. Murray is the Montague Betts Professor of Structural Steel Design-Professor Emeritus at Virginia Tech University in Blacksburg, Virginia. He began participating in MBMA-sponsored research in 1981 when he was selected to study the behavior of roof systems under gravity loads. His work resulted in what became known

as the Base Test. It was adopted into the 1996 American Iron and Steel Institute (AISI) Specification and has been extended to address uplift loads. In 1982, he began work on bolted end-plate connections with the aim of unifying the design approach for the most common of these connections used in the industry. The culmination of this work was realized in 2002 with the publication of the AISC/MBMA Design Guide No. 16, now the recognized standard for bolted end-plate connection design.

Safety Rewarded

Each year, the MBMA honors member companies that demonstrate exceptional performance in maintaining workplace safety. These awards are given to Building Systems members as well as Associate members for their performance during the previous calendar year. In 2022, Building Systems members had 44 plant facilities that participated in MBMA's Quarterly OSHA Injury Statistics Program, logging over 15 million hours on the job.

The 2022 Superior Safety Award was presented to four plants that achieved zero recordable cases for the entire calendar year, which is a significant accomplishment. The 20 facilities that received the 2022 Safety Performance Award achieved an incident rate equal to 50% or less than the OSHA industry average. The 2022 Associate Member Safety Award went to seven companies with facilities that achieved zero recordable cases for the year, also a major achievement.

The following is a comprehensive list of 2022 MBMA safety award winners:

2022 Superior Safety Award – In recognition of Building Systems member manufacturing facilities with zero recordable incidents.

- Nucor Building Systems (La Crosse, VA)
- Spirco Manufacturing (Memphis, TN)
- Terry Building Company, Inc. (Oklahoma City, OK)
- Vulcan Steel Structures, Inc. (Adel, GA)

2022 Safety Performance Award – In recognition of Building Systems member manufacturing facilities having achieved an incident rate equal to 50% or less than the industry average as reported by OSHA.

- American Buildings Company (El Paso, IL)
- BlueScope Buildings North America, Inc. (Annville, PA; St. Joseph, MO; Visalia, CA)
- Cornerstone Building Brands (Atwater, CA; Elizabethton, TN; Houston, TX; Mt. Pleasant, IA)
- Inland Buildings (Culman, AL)
- Kirby Building Systems, Inc. (Portland, TN)
- Nucor Building Systems (Brigham City, UT; Swansea, SC; Terrell, TX; Waterloo, IN)
- Pinnacle Structures, Inc. (Cabot, AR)
- Red Dot Buildings (Athens, TX)
- Schulte Building Systems, Inc. (Hockley, TX; Hueytown, AL)
- Sunward Steel Buildings (Walterboro, SC)
- Whirlwind Steel Buildings (Houston, TX)

2022 Associate Member Safety Award – In recognition of Associate member facilities with zero recordable incidents.

- AkzoNobel Coatings (Huron, OH)
- Bay Insulation Systems (Aurora, CO; Baton Rouge, LA; Coppell, TX; Eastlake, OH; Easton, PA; Fresno, CA; Green Bay, WI; High Point, NC; Houston, TX; Indianapolis, IN; Kansas City, MO; Louisville, KY; Memphis, TN; Norcross, GA; Orlando, FL; Pensacola, FL; Phoenix, AZ; Raleigh, NC; Roanoke, VA; St. Louis, MO)
- Curbs Plus (El Dorado, KS)
- IDEAS CONNX, LLC (Magnolia, TX)
- Metallic Products Corporation (Houston, TX)
- Silvercote A Service Partners Company (Byram, MS; Dallas, TX – 2 locations; Denver, CO; Duluth, GA; Fresno, CA; Greenville, SC; Houston, TX; Itasca, IL; Little Rock, AR; Macedonia, OH; Mansfield, OH; Marshfield, WI; Pottstown, PA; Salt Lake City, UT; Scotia, NY; Sioux Falls, SD; Spokane Valley, WA – 2 locations; Springfield, KY; Stockton, CA; Wright City, MO)
- Wurth Construction Services (Hicksville, NY; Phoenixville, PA; Greensboro, NC; Tampa, FL)

Robert Tiffin
Committee Chairman

Architect Committee

SIMPLE QUESTION ▶ POWERFUL NEXT STEP

In 2023, the Architect Committee was active in public outreach efforts to help architects learn about metal building systems and to see how deftly they fit into the resilience theme that permeates the building design community today. As part of that effort, Tony Bouquot and I attended the 2023 AIA Conference on Architecture in San Francisco. We initially attended to support Greg West of the International Accreditation Service with his booth promoting AC472 and AC478—but we got much more than we bargained for. With simple questions like "Are you working on any interesting projects?" or "Have you ever spec'd a metal building system?" we initiated so much interest. Just by being on the floor, interacting with architects, decision-makers and others, sharing the metal building story...we were thrilled to find so much enthusiasm and interest from the architectural community.

As a result of our experience, we went to the MBMA board and asked for funding to have a booth at the 2024 AIA Conference on Architecture 24 in Washington, D.C. next June. The board approved funding and we are very excited to start planning. We want to boldly impact the mindset of architects as we educate and inspire them to an effective, efficient and resilient choice—as our metal building systems are, and can be.

Now, here is where you come in. Anyone can participate in helping us with our strategy to leverage at the booth. We will be developing talking points, scripted responses and the messaging to help us speak with an industry-united voice.

This is the opportunity to broadcast our story—to expand our industry reach in a conference where the architectural, engineering and construction industries gather to define and design the built environment and to connect across industries to build it.

- It is our time to deliver our definition of a metal building system.
- It is our time to show creative design with metal building systems, built on deep (risk mitigating) research.
- It is our time to connect and to unite with 15,000+ AEC professionals.

It is your turn to join the Architect Committee. Your answer to a simple question will yield a powerful first step: Will you join us? 864-501-6573 or R.Tiffin@Silvercote.com.

John Underwood
Committee Chairman

Education Committee

OPPORTUNITY FOR GROWTH

We just don't quit innovating when it comes to lifelong learning! One of the groups that is learning from us is the architectural professors who are teaching tomorrow's architects today. We have been thrilled with their enthusiasm about the student design competition and all of the materials we provide to help them educate the architecture students. Participation in the design competition continues to grow, and last year, we even had an international entry.

This year's competition focuses on the design of a nature center and environmental research facility—a good choice in terms of getting the message of metal building sustainability into the minds of young architects. The 2023 competition will close in January 2024, with the winner announced in February. With graduate and undergraduate divisions and $28,000 in prize money,

Image courtesy of North Lakeland Discovery Center

we have confidence that the program will continue to grow in popularity and will gain even more attention and participation.

Another activity is the rollout of new design folios to teach students about the thought process and design effort that goes into each metal building. This year we added folios on Haulover Marine Center in Florida, the Arbogast Performing Arts Center in Ohio and the Firehouse Ministries Shelter in Alabama.

Other activities include a new AIA design course. We have created a number of courses that provide continuing education for AIA architects. AIA members are required to complete 18 Learning Units each calendar year, and we have found that many of our courses have really attracted their attention. We also maintain various capstone courses for engineers which are mainly an initiative of the building system members. These represent more opportunities to educate design professionals.

Our committee remains dedicated to providing a wide range of learning opportunities. We know that, over time, these actions will pay dividends for our member firms in terms of more customers, employees and opportunities for growth.

MBMA ANNUAL STUDENT DESIGN COMPETITION

MBMA's annual competition for undergraduate and graduate architecture students challenged each participant to create an innovative metal building design for a fire station and department headquarters. Judges for the contest were Eric F. Pros, AIA, Director of Design for DE Architecture, Cleveland, Ohio; Terri Meyer Boake, LEED AP, Professor, School of Architecture, University of Waterloo, Cambridge, Ontario; Lauren Gwaltney, AIA, Senior Associate with Williams Blackstock Architects, Birmingham, Alabama.; John Underwood, Behlen Manufacturing Company, Columbus, Nebraska.; and Robert Tiffin with Silvercote in Greenville, South Carolina. For more details about the competition and winners, visit mbmaeducation.org.

Award Winners

OVERALL WINNER
Bobby Buttrick
University of Massachusetts - Amherst
Faculty Advisor: Stephen Schreiber

1ST PLACE GRADUATE
Pranav Amin
University of Massachusetts - Amherst
Faculty Advisor: Stephen Schreiber

2ND PLACE GRADUATE
Samantha Spitzer
University of New Mexico
Faculty Advisor: Kristina Yu

1ST PLACE UNDERGRADUATE
Tree City Team (Harris Cheifetz, Sarah Joseph, Jaret Lesure, Aaron Muth & Gunnar Norberg)
Kent State University
Faculty Advisor: Robert Kobert

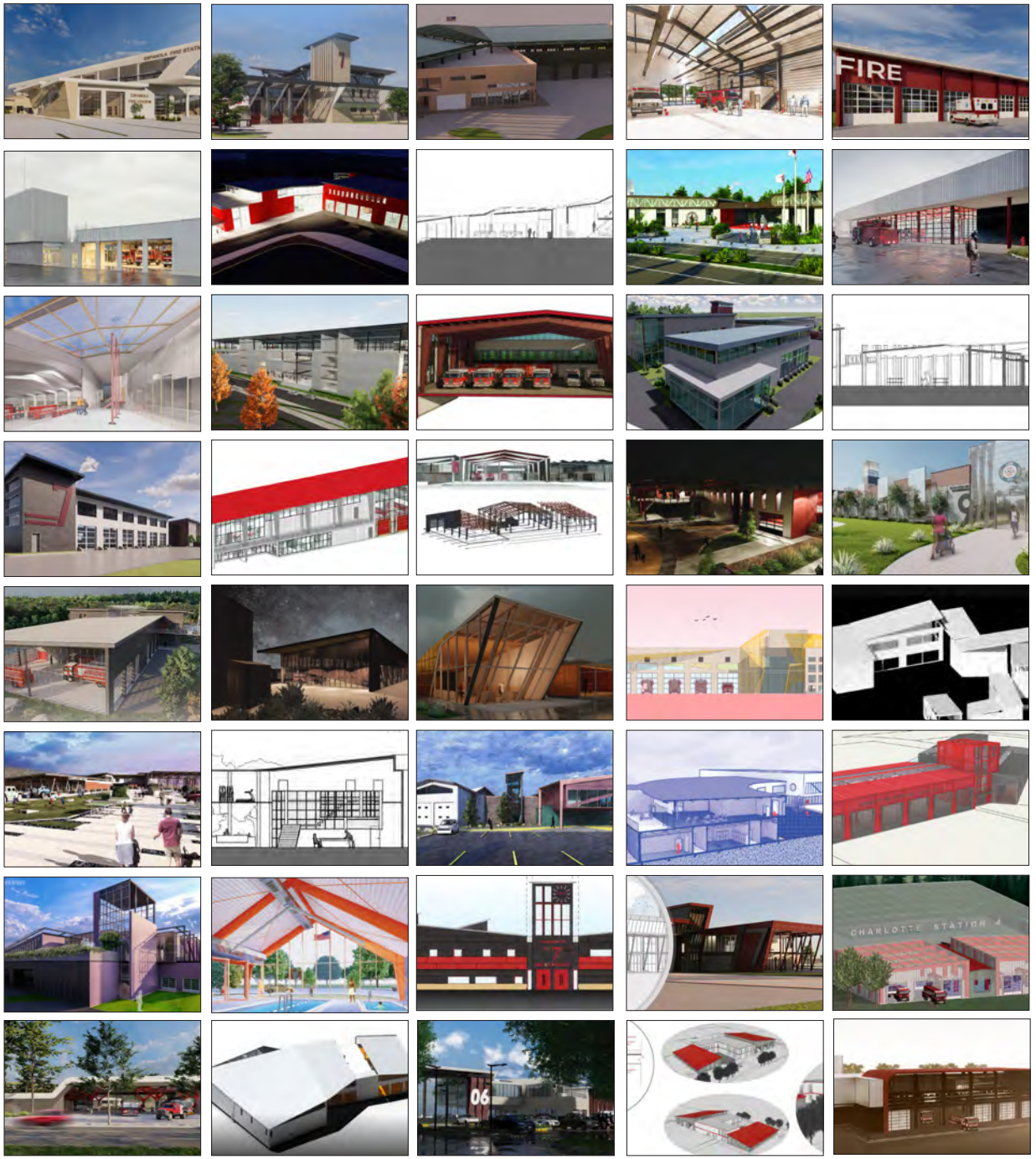
2ND PLACE UNDERGRADUATE
Brianna Westbrook & Elias Vasquez
Texas A&M University
Faculty Advisor: Marcel Erminy

3RD PLACE UNDERGRADUATE
Miguel Alecio
Universidad del Istmo
Faculty Advisor: Hans Schwarz Bassila

Competition Entries

"I am amazed about how much my students learned about putting together any building (structure, skin, mechanicals, etc.) because of this competition. It was the right size, the right program and the right time. And the MBMA team was so helpful in providing introductions, resources and webinars."

- Robert Kobert, Adjunct Professor
Kent State University
College of Architecture &
Environmental Design



Tanner Moy
Committee Chairman

Accreditation Committee

ACCREDITATION-AFFIRMING ACTION

MBMA's 20-person Accreditation Committee oversees activities related to member accreditation through the International Accreditation Service (IAS). We actively promote the benefits of both IAS accreditation programs that impact the metal building systems industry and share our knowledge freely through published articles, virtual presentations to companies and industry groups, and virtual meetings.

This role, of course, requires us to also be highly knowledgeable about all IAS accreditations that impact the metal building industry. Here they are:

472 All MBMA Building System members are required to maintain AC472 accreditation as a requisite to membership. Accreditation Criteria AC472 conforms to the standards of the International Building Code® and related standards. It requires audits of the integrity of the design engineering and manufacturing processes of metal building system manufacturers.

478 MBMA recognizes the value and importance of builders achieving AC478 certification. It provides the criteria for accrediting metal building system assemblers and is a seal of approval for companies that perform building erection.

473 When sourcing products from an IAS AC473-accredited supplier, some members have asked: Is there still a need to receive material test reports (MRTs)? Walter Mershon of IAS explains that the current AC472 program does not exempt AC473 suppliers from supplying MTRs, but that could be something for MBMA and IAS to discuss in the future. This consideration could also apply to sourcing from IAS AC172 suppliers.

We recognize that accreditation adds value for the end customer and differentiates the metal building systems industry from other forms of construction. We fully believe that accreditation affirms the value of metal building design and construction.

David Weatherford
Committee Chairman

Safety Committee

PRIORITIZING PEOPLE

Each year, MBMA honors member companies that demonstrate exceptional performance in maintaining workplace safety. These awards are given to Building Systems members as well as Associate members for their performance during the previous calendar year. We presented safety awards for the 2022 year during our 2023 MBMA Spring Meeting held in Nashville, Tennessee, last May. We are proud to honor our members who consistently and persistently strive to achieve exceptional safety records.

We're also working hard to educate the employees in our member firms to help them continuously improve their knowledge about safety issues. This year, we added a new educational session on hand safety in the workplace, and we are also getting traction with two other workshop programs: Distracted Driving and Crane and Rigging Safety.

Our goals are to keep boosting workshop attendance and to continue to add new programs that will help us all stay well informed.

I'm also pleased to report that our Safety Committee is composed of more than 40 individuals who prioritize the importance and value of a safe and healthy workplace. This fall, our committee came together in San Antonio, Texas, to discuss current issues and to plan for next year. One objective we discussed is the updating of MBMA's Construction Site Safety Information booklet. The handy guide was created to distribute on job sites to help promote a "safe worker" attitude and to provide common resources to help impact worker safety and reduce the potential for accidents and incidents. Updating and enhancing this book will be a benefit for all members and for the crews who build metal building structures.

Caring about the well-being of our people is the essence of successful leadership. Good safety and health is good business and has a positive impact on employees. Engaging people in safety and health will contribute to improved business results.

MBMA Safety & Health Principles Guidance Book

Something as seemingly simple as a shade pavilion can make a world of difference. To create a resilient environment for student athletes, Poteet High School in Mesquite, Texas, added a metal pavilion that protects the entire football practice field from North Texas' sweltering summer sun. The school's football coach, Rodney McLain, told WFAA TV reporters that the cover lowered temperatures by 20 to 25 degrees, allowing the team to practice safely throughout the preseason.

Poteet High School • Mesquite, TX

AHN Montour Junction Soccer Complex • Coraopolis, PA

Metal buildings are generally manufactured from at least 65% recycled steel, substantially reducing the need for virgin materials excavated from the earth. Then, at the end of a building's life, the raw steel can be 100% recycled to be used in various products, such as cars, appliances, buildings and bridges.

Brian Shelton
Committee Chairman

Marketing Committee

MAKING OUR MARK

MBMA's Marketing Committee is busy making things happen to promote the industry. Hopefully, you've seen our Travels with Tony videos on MBMA's YouTube channel, MBMAmedia. They've been extremely popular, and we're looking forward to his next on-road adventure that will take Tony into America's heartland. Publishing these short videos about visiting metal buildings allows us all to see inside places we probably never even knew existed. The committee has enjoyed helping build the plan for this travel series.

We're also pleased to provide support to the media activities going on this year. MBMA feature stories have been published in Consulting Specifying Engineer, Metal Architecture, Rural Builder, American City & County, Inside Self Storage, Parks+Rec Business, Metal Builder, and Metal Construction News, among others. Our robust publishing efforts have led to great coverage for MBMA over many years.

The committee has also helped with the MBMA folio program, titled: Architectural Significance in Metal Buildings: An Educational Series. These 20-plus page case studies are jam-packed with interesting information, each focusing on a specific metal building project.

They all include candid interviews with the facility owners, architects, engineers and builders. Designed as teaching tools for architecture professors to share with graduate and undergraduate students, they're highly informative and fascinating to read. Share them with your employees and clients. They're free to download at MBMAeducation.org/resources.

Another interesting aspect of our committee activities involves overseeing the development of a new MBMA website. As we all know, websites need facelifts now and then and, in this case, it's going to be a whole new look. Be prepared to have a great variety of metal building research materials at your fingertips, lots of facts and figures, and a great user-friendly format to help you navigate with ease. Watch for the new site in 2024.

Darren McGonigle
Committee Chairman

Membership Committee

BUILDING NEW RELATIONSHIPS

The Membership Committee is pleased to welcome two new companies to MBMA's membership ranks this year. Ascent Buildings, LLC joined as a Building Systems member and RMG Erectors & Constructors, LLC came on board as a new Associate member firm.

Ascent Buildings is a metal building manufacturer based in Portland, Tennessee, and is a wholly owned subsidiary of Pennar Industries Limited. RMG Erectors & Constructors, located in Sewell, New Jersey, is one of the nation's largest metal building systems erectors.

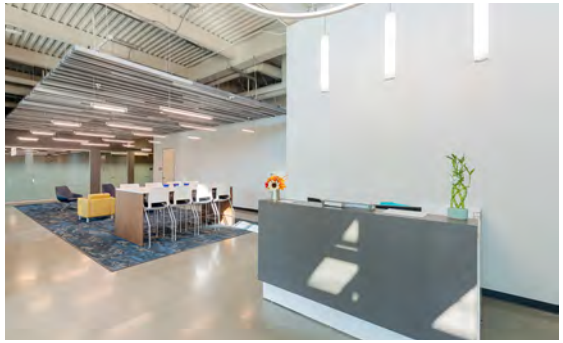
The Membership Committee lets companies know that MBMA serves as the voice of the metal building systems industry and that we have two membership categories: Building Systems members, made up of metal building system manufacturers, and Associate members, which includes metal building systems suppliers, architecture and engineering firms, and related service providers. MBMA's Building Systems members are the heart of the metal building systems industry, producing approximately 28,000 buildings every year. Associate members help shape MBMA's direction and activities through such affiliations as the Associate Member Advisory Council and through participation in MBMA's standing committees.

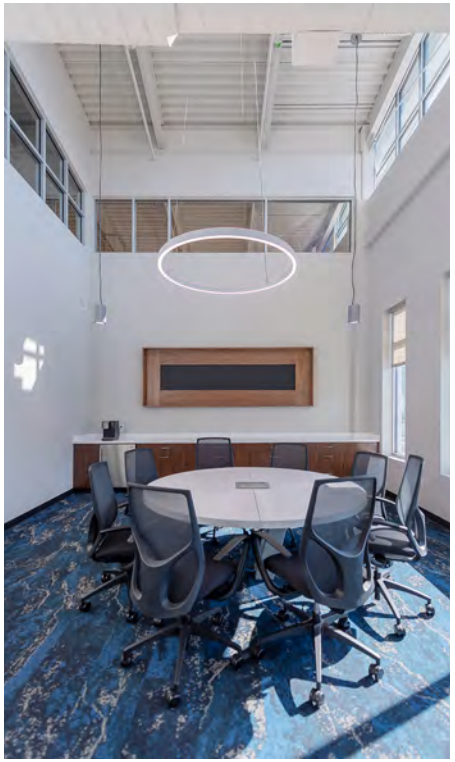
As a committee, we are energized to move into 2024 with a renewed commitment to building the association's member base and to being a support to new members as they become acclimated to MBMA. Would you like to help us? Any employee of an MBMA member firm is welcome to join our committee and participate in our efforts.

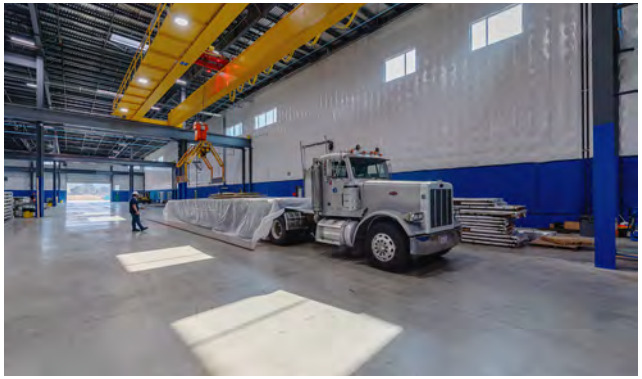
And, if you know of any firm that serves the metal building industry and is not a current MBMA member, please send a note to Tony Bouquot at mbma@mbma.com and he'll work with us to reach out and engage with appropriate leaders from each company.

Plimpton & Hills • Manchester, CT

Steel's recyclability exceeds other comparable construction materials and its contribution to a circular economy is increasing. Steel products are becoming more lightweight and designed for diverse applications and extended useful life. In particular, metal buildings are more lightweight (use less material) than other forms of steel construction and have less embodied carbon than many competing forms of construction.







Ryerson Steel • Centralia, WA

Greg Effland, PE
Committee Chairman

Energy & Sustainability Committee

RESILENCE & ENERGY PLANNING

The Energy & Sustainability Committee has been busy this year. Our biggest accomplishment was the publication Best Practices to Comply with Whole-Building Air Leakage Testing Requirements for Metal Building Systems. It required that we complete important testing to confirm our findings and to provide the framework for our recommendations. This document is now available on the MBMA website at www.mbma.com/Energy_Efficiency.html. Whole-building air leakage testing is specified in the latest energy code updates. As more and more states and municipalities adopt these codes and testing requirements, our new guide will help manufacturers, builders and owners meet these demands by following some basic steps. As energy codes get stricter regarding air leakage requirements, our best practices guide and coming videos can help our builders and erectors deliver energy-efficient and sustainable buildings that will be more resilient to changes in climate.

We're also updating Energy Code Compliance: A Guide for Metal Building Contractors which synthesizes comprehensive information on how to design, construct and maintain metal buildings to be energy efficient. It is being updated to incorporate recent code changes.

Further, the committee has reactivated two subcommittees: 1) COMcheck Solutions for Code Compliance and 2) Energy Codes & Standards. These will allow us to proactively plan for ways to address constituent needs and to help them make wise energy-saving decisions. In addition, we created a new Spray Foam Insulation Task Group. All of these groups will benefit MBMA members and the entire industry as we proactively plan for the future.

In 2024, we'll be developing videos to complement the Best Practices publication on whole-building air leakage testing, and we will continue our hygrothermal analyses to provide guidance on performing hygrothermal modeling for unique metal building situations and to identify potential condensation issues. We will also develop resources for MBMA members and architects to help them understand how to use COMcheck to both investigate metal building envelope options to save energy and to show compliance with current energy codes.

If you're interested in resiliency and energy issues, I hope you'll join our committee. Reach me at greg.effland@bsbna.com.

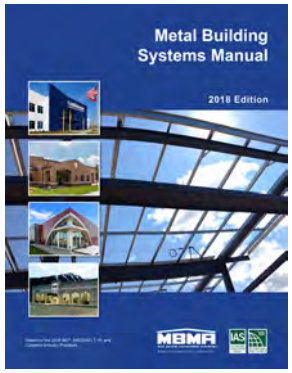
Dustin Cole, PE
Committee Chairman

Technical Committee

BUILDING FOUNDATIONS

This year, MBMA's Technical Committee has been laying the groundwork for several highly significant activities. As you may know, technical strides require projects that typically take years to analyze and complete.

One of our big efforts is to update the MBMA Metal Building Systems Manual (MBSM). First published in 1959, this internationally recognized reference manual is a primary resource for the metal building industry. It has been updated consistently over time to incorporate the results of continuing research undertaken by MBMA, its member companies and other industry groups. In many respects, it reflects refinement and advances in the knowledge of load application methods and design. As a result, all examples in the current manual are being updated to align with 2024 IBC and ASCE 7-22, along with a significant amount of new material.



Kudos to our MBSM task group consisting of 20 volunteers. They are busily adding new material based on MBMA's most current research, revising eight chapters of the existing manual and updating all examples. The task group meets monthly and is making good progress. Our goal is to complete work for manual publication in spring 2024.

Parallel with the manual update, we are working with code bodies regarding a new cycle for ASCE 7-28. ASCE 7 Minimum Design Loads for Buildings and Other Structures is updated every six years and the next update will be published in 2028. ASCE 7 defines the loads used in the design of buildings in the United States and it serves as an essential guide for structural engineers around the world for protecting the public. Our continuing increase in knowledge gained from MBMA's wind and seismic research will help us as we push for important changes that will impact our industry.

While the technical committee oversees many valuable industry research projects, our overarching goal is to make sure that metal building systems are handled fairly in codes and standards. We will continue to keep this goal as the foundation of our work.

RESILIENCE BY DESIGN

The American Institute of Architects developed a useful chart called The Fundamentals of Resilient & Climate Adaptive Design. In it, they explain eight basic principles to help designers focus on building elements that support a forward-planning perspective that accommodates potential impacts of natural and human-made impacts. The document states that these design principles are meant to reduce harm and property damage, adapt to evolving conditions and, more readily, effectively and efficiently recover from adverse events. These principles are:

- Place based
- Risk prepared
- Equitable
- Precautionary
- System centric
- Ready
- Service-life focus
- Adaptive

By design, metal building systems adhere to these principles, providing solutions to bring resiliency and adaptivity to every project. The graphic on your right shows you how. To see the AIA's Fundamentals of Resilient & Climate Adaptive Design document, go to https://content.aia.org/sites/default/files/2021-04/Fundamentals_of_Resilient_and_Climate_Adaptive_Design_2021-0402_portrait.pdf.

EQUITABLE. Metal buildings can easily accommodate people with all types of needs and abilities. Large clearspan expanses allow for easily adaptable floor space and room configurations. Low-rise design enables accessibility.

SYSTEM CENTRIC. By exploring the impacts of the project at the building and community scale, metal buildings provide harmonizing solutions with community-centric facades, color coordination for community cohesiveness, and building scale and size parameters to blend functionally and aesthetically with the surroundings.

SERVICE-LIFE FOCUS. Studies of the durability of metal roof systems show how Galvalume metal roofs, commonly used on metal buildings, can provide for long-lasting roofs in all types of weather and climate conditions, exceeding 60 years.

READY. Metal buildings can be designed to easily support the operation of a building after an emergency or disruption. This is one of the factors that have made metal buildings a popular choice for fire stations.

ADAPTIVE. Every metal building is unique and custom to the needs of its owner; each can incorporate virtually any dimension. The steel spans of a metal building system are designed to easily reconfigure building areas, allowing quick accommodation for changes in function, ownership, equipment and regulations.

PRx Performance • Fargo, ND

Russell Benton
Committee Chairman

Fire & Insurance Committee

PUBLICATIONS, PRESENTATIONS & PREPARATIONS

The publication of the second edition of the MBMA Fire Resistance Design Guide is the Fire & Insurance Committee's signature accomplishment for the year. The new guide has been well developed, and we've added a lot of substantive information. It will soon be available on TechStreet for purchase, and we are confident it will be invaluable to the entire metal building industry. The primary author of the design guide is Nestor Iwankiw, PE, SE, Ph.D., in conjunction with MBMA's Fire & Insurance Committee. Dr. Iwankiw is a consultant with Jensen Hughes, a firm specializing in consulting for fire protection engineering, forensic engineering and security. This second edition of the design guide is updated to reference the 2018 IBC and to cover related fire resistance developments since 2010, including:

- newer fire-resistance-rated assemblies and joint systems developed by MBMA,
- fire resistance of metal roofs that support photovoltaic panels, and
- current code requirements for fire protection of voids between rated fire barrier walls and unrated roofs.

We are also busy promoting our hail research projects through presentations at the IIBEC convention, the RICOWI fall seminars and the ASTM 10th Symposium on Roofing Research and Standards Development, helping the construction industry understand metal roof resiliency.

Insurance bulletins are another responsibility of our committee. We developed a new insurance cost comparison bulletin for a brewery to help architects, building owners and general contractors make wise building product decisions.

For 2024, our committee will continue to work on resources to improve the constructability of fire-safe metal buildings. We will be working on new head-of-wall joint system details which we'll then share with architects via the AIA conference; we're also working on a study to extend the rating for head-of-wall joint systems from one to two hours. In addition, we will develop end-of-wall details to address a condition common in metal buildings. And, with a new code development cycle beginning, we'll be monitoring building codes for changes that impact metal building systems.

Dylan DiGregorio
Committee Chairman

Statistics Committee

NEW STATS = NEW INSIGHTS

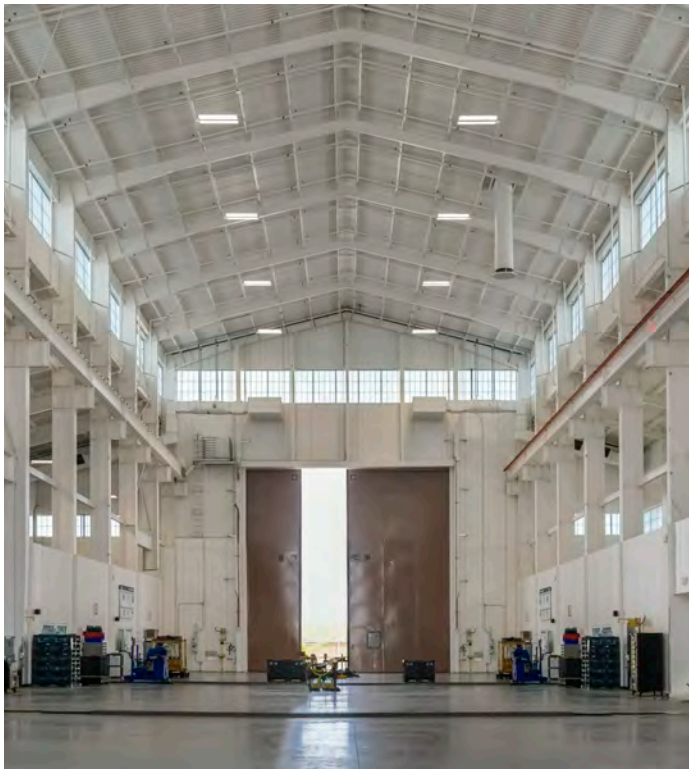
In April 2023, the Statistics Committee launched the Net Promoter Score (NPS) report. It aggregates data from metal building system customers, showing how likely they are to recommend their metal building supplier to a friend or colleague. Customers respond on a scale from zero (not at all likely) to 10 (extremely likely). Each quarter we share an overall report with all member firms. In addition, all metal building manufacturing firms with five or more ratings receive individual reports. The information is valuable, useful and not available from any other source. Over time, it helps us look at trends for MBMA members individually and for the metal building industry. In 2024, we look forward to learning more, since we add new data every quarter. And with the success of the NPS, we are brainstorming other statistics that might be useful to members and looking into launching additional surveys.

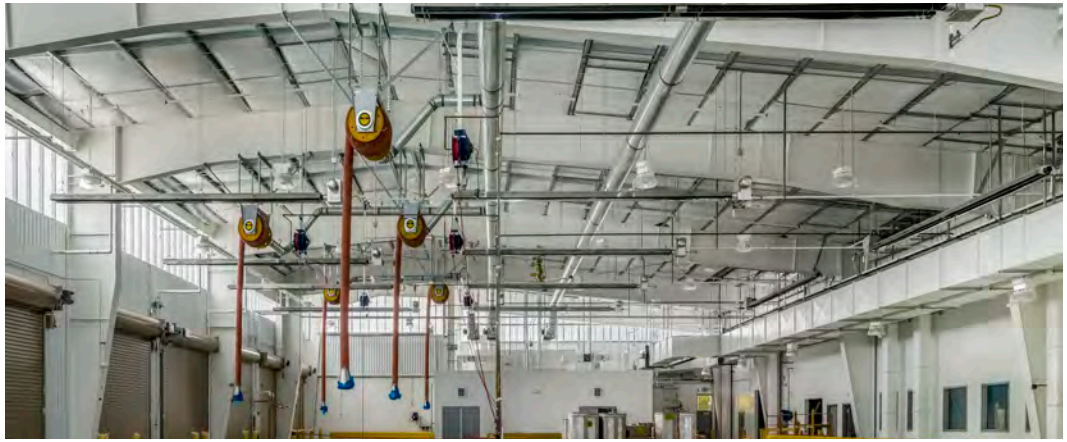
One area we'll explore is to look at NPS satisfaction levels and how they may change over time. Our committee met in the fall to discuss feedback we've received throughout this report's inaugural year and to talk about possible changes and improvements. We hope all members will promote the survey among their builders and encourage them to participate. If you haven't seen the report, contact Tony Bouquot for a copy.

We are also pleased to have added several new committee members this year. Our teams meet in-person every two years, and we meet twice a year virtually. In between, we have task groups that are reviewing several of our quarterly reports to ensure they are current and continue to meet our members' needs. We will also continue to review our data collection forms, methodologies and reporting responsibilities to ensure that they continue to align with the function and data needs of member companies.

Net-zero carbon steel, manufactured in the U.S., provides emissions-free steel products to help architects meet their sustainability goals. It is also important to note that, today, the United States is the cleanest place in the world to make steel, accounting for less than 2% of the GHG emissions from the global steel industry.

Sleeping Giant Winery • Napa, CA

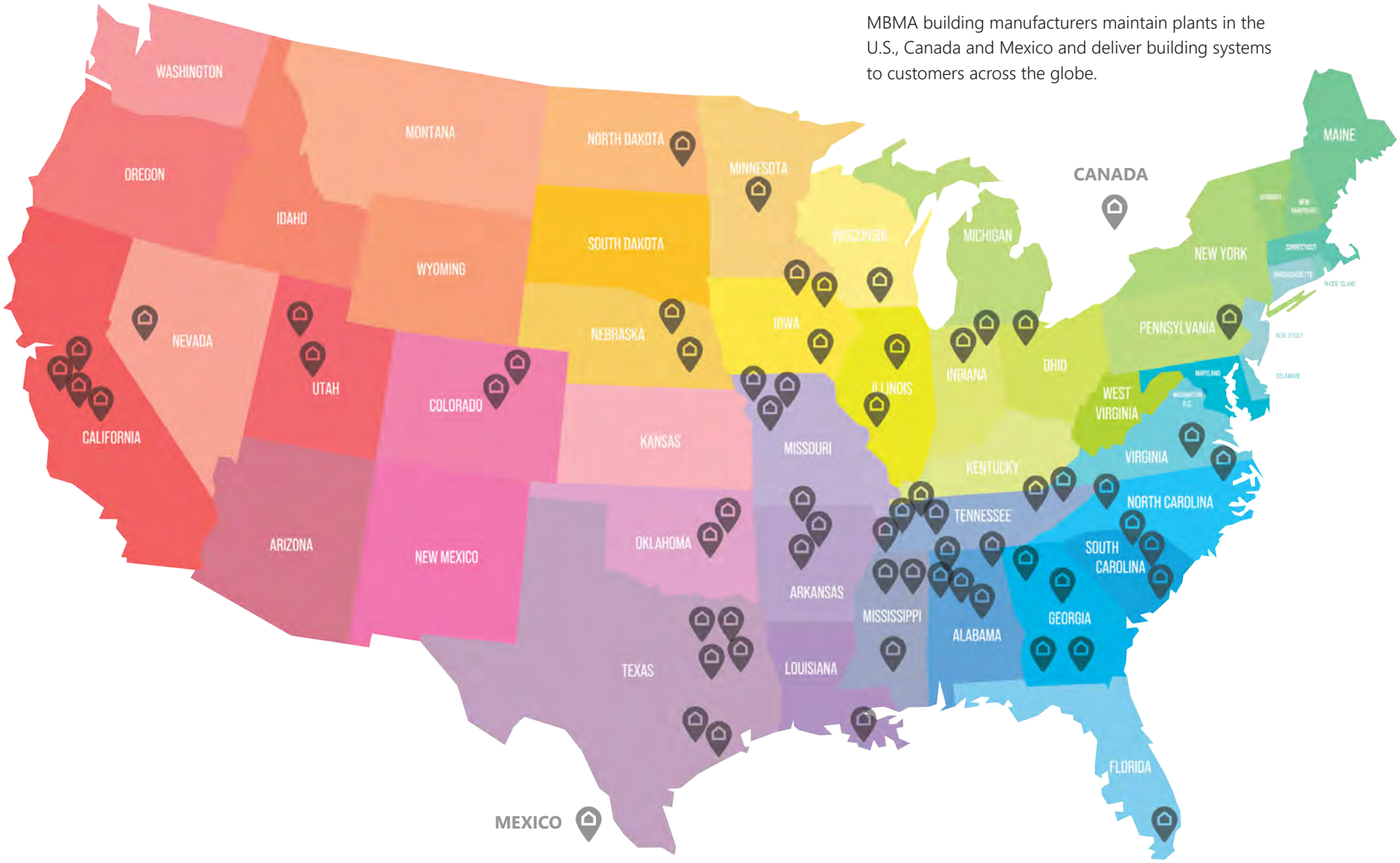




Undersea Rescue Command • Coronado, CA

MBMA MEMBER MANUFACTURING PLANTS

MBMA building manufacturers maintain plants in the U.S., Canada and Mexico and deliver building systems to customers across the globe.



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Cabot
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Ancaster

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Monterrey

Miller Sunset Pavilion • Winona Lake, IN

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Transcendia • Hebron, OH

MBMA MEMBERS

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ACI Building Systems
AGI Sentinel
Alliance Steel, Inc.
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Ascent Buildings, LLC
Associated Steel Group
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Behlen Building Systems
Bigbee Steel Buildings
BlueScope Buildings North America
Butler Manufacturing
CBC Steel Buildings
Ceco Building Systems
Chief Buildings
CO Building Systems
Cornerstone Building Brands
Dean Steel Buildings
Golden Giant
Heritage Building Systems
Inland Buildings
Kirby Building Systems
Ludwig Buildings Enterprises
Metallic Building Company
Northern Building Systems
Nucor Building Systems
Package Steel Systems
Pinnacle Structures
Red Dot Buildings
Reed's Metals
Robertson Building Systems
Schulte Building Systems
Spirco Manufacturing
Star Building Systems
Sukup Manufacturing Company
Sunward Steel Buildings
Terry Building Company
Trident Building Systems
Tyler Building Systems, L.P.
Varco Pruden Buildings
Vulcan Steel Structures
Whirlwind Steel Buildings

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Applied Testing & Geosciences
Atlas Bolt & Screw Company
Bay Insulation Company
Benchmark Consulting & Inspection
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Building Products Development
Building Research Systems
CertainTeed Corporation
CIDAN Machinery
Commercial Metals Company
Crane Composites
Curbs Plus
Diamond Door Products
D.I. Roof Seamers
Donovan Group
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Expi-Door Systems
Glasteel/Stabilit America
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IDEAS CONNX
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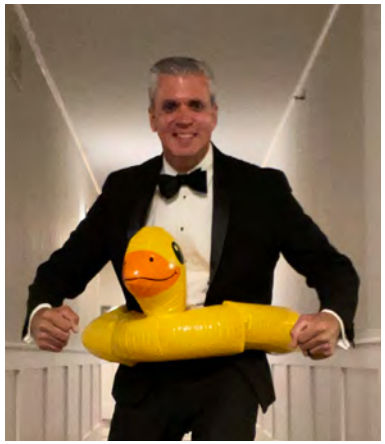


CRANE TEC


MTX


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Grace Church • Dumfries, VA

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Heat and Control Inc. • Lancaster, PA

All American Ford • Springville, AL

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Technical Manuals & Guidebooks

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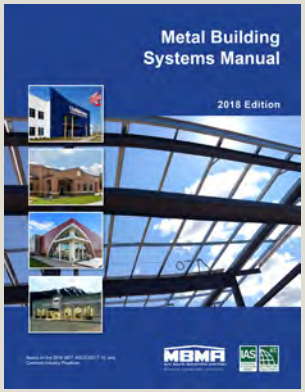
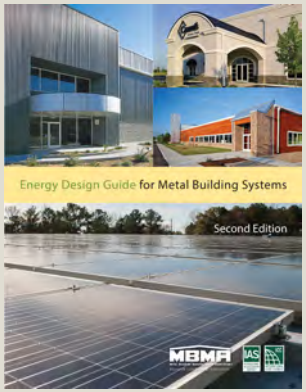


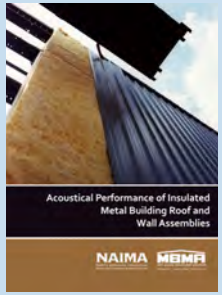


Case Studies

Download free case studies at mbma.com.

Technical & Educational Materials

Download a variety free materials at mbma.com.



Continuing Education For AIA Credits

Produced in partnership with the American Institute of Architects (AIA) and Architectural Record magazine, MBMA's CEU/LU courses are extremely popular with AIA members and others in the architectural community. Each program is now available through Architectural Record's Continuing Education Center: www.architecturalrecord.com/topics/2141-architect-continuing-education.

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Over 50 video resources are accessible at www.youtube.com/MBMAmedia.

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