

FROM FORM TO FUNCTION











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Responding to a Changing World

CHAIRMAN'S MESSAGE



Tom Boal MBMA Chairman

Metal building systems are growing in popularity and 2022 provided the proof, as metal building manufacturers raced to handle growth. In fact, that growth translated to numbers that were, for some, truly record-setting. Amidst product availability and labor issues that both remain particularly challenging for the greater construction industry, our members are keeping pace with consistently exceptional demand. Strong existing markets and a few emerging markets keep us focused as we look to the future.

The Explosion of the Digital Marketplace ... in America and the World

The need for fulfillment centers for commercial and industrial markets is spawning massive regional hubs for the likes of Amazon, Target, Walmart and many others. Warehouse stores like Costco and Sam's Club also remain strong. While the economy has taken a bite due to inflation and supply chain challenges, metal buildings remain in high demand in this building sector. Not only has a transition to restocking household needs using e-commerce been expanded during the pandemic, but the need to store all the transactional information also created high demand for environmentally controlled data centers using metal building systems. We may see a softening in 2023 as global issues continue to impact the U.S. economy; but that doesn't negate the consistent demand our members are experiencing. For MBMA's Building Systems members (building manufacturers), this category has been the biggest slice of the metal building pie for the last six years.

Infrastructure Growth Increases Demand for Metal Buildings

While many people think of infrastructure in terms of transportation modes (highways, airports, bridges, railways), the term encompasses the totality of physical and organizational structures and facilities needed for the operation of a society. Metal buildings are used for water treatment facilities, oil and gas support buildings, airport hangars, transit management systems, storage, warehousing, maintenance, manufacturing and more. Think about where solar panels and wind turbines come from. They're produced in factory environments, typically requiring massive metal building complexes. Metal







Variant 1 Warehouse • Fargo, N.D.

buildings are foundational to providing the structures that support and protect the systems and processes so needed to keep America's infrastructure growing and strong.

Beyond the Rearview Mirror

A good friend in the industry likes to point out that in every vehicle you drive, you'll always see one thing that never changes—the rearview mirror is only a fraction of the size of the windshield. That analogy reminds us that we need to remember what's behind us, but that our focus clearly needs to be on what is in front of us, on the bigger picture—and plan strategically to deal with whatever is ahead. Speaking on behalf of the MBMA Board of Directors, we encourage all MBMA member firms to plan ahead, to learn from each other, to proactively use MBMA tools and resources to help your firms achieve a competitive advantage and build positive opportunities for the future.

MBMA Staff Hit the Ground Running in 2022

MANAGEMENT PERSPECTIVE



Tony Bouquot MBMA General Manager

What can I say about 2022? After two years of limited travel, MBMA hit the road in full force. And what better way to look at what we accomplished in 2022, than to look at the places visited by MBMA staff along the way?

In March, Vince headed to Washington state for a whole-building air leakage test—our ninth test in the past four years. Lee represented MBMA at a RICOWI meeting in Orlando, while I went to Dallas to speak to architects and building owners about the use of metal buildings for retail applications at the SPECS trade show.

In April, Lee and Vince had a successful trip to Rochester, New York, for the ICC code hearings. For more on that, see Dustin Cole's Technical Committee report. Later that month, the entire MBMA staff traveled to Tucson for the MBMA/MBCEA spring



Fantastic turnout! About 100 people attended our session at the SPECS national conference in Grapevine, Texas. Our presentation focused on the use of metal buildings in retail applications. Speakers were Tony Bouquot from MBMA, Christen Brooker Funk from Butler Manufacturing and George Goddard from Span Construction & Engineering, Inc.

meeting where a record number of attendees were inspired and entertained by keynote speaker and former Navy Seal, Chad Williams.

In May, I headed to D.C. for the AISI Steel in Washington conference. Then, in June, it felt like we moved the MBMA HQ to Chicago! Lee and Vince attended multiple AISC meetings. Vince and I led the MBMA Fire & Insurance Committee meeting, and I represented MBMA members at both the AIA Conference on Architecture and the ASSP Annual Safety Conference and trade show.

In July, we invited MBMA members to visit us in Cleveland where we hosted the MBMA Design Seminar and Technical Committee meeting. In August, Lee and I headed to Nashville for our third annual Architectural Faculty Workshop, and Vince represented MBMA at the FM Global Roofing

Coalition meeting in Massachusetts. We also hosted the MBMA board in Cleveland and even found time for a Guardians game.

In September, Vince headed to Louisville for more ICC code hearings. Lee stopped by an MBMA member's facility to observe an IAS accreditation audit and then gave a lecture to architecture students at Kent State University. Later that month, Lee, Vince and I went to Kansas City for the MBMA Energy & Sustainability Committee meeting.

October ended up being our busiest month. I traveled to Houston for the MBMA Safety Workshop, then to Cincinnati for The Manufacturing Institute's Workforce Summit. Lee and Vince represented MBMA at the AISI Code Forum in Washington, D.C., and at another RICOWI meeting in Cincinnati. Lee also made his way back to Chicago for the AISC Research Committee and then the entire MBMA staff traveled to Indianapolis for METALCON.

In November, I was scouting opportunities for MBMA at the DBIA Design-Build Conference and Expo in Las Vegas. Meanwhile, Lee and Vince headed, where else, but back to Chicago to participate in an AISC Specification Committee meeting. Lee enjoyed it so much he stuck around for the NCSEA Structural Engineering Summit.

On an alternative timeline, December saw me fly to the other side of the world—to Qatar—for the FIFA World Cup! Alas, the work of MBMA is never done, and instead our entire staff convened with our membership at the MBMA Annual Meeting in Fort Myers where you are probably reading this column. If you've enjoyed this MBMA travel log, I encourage you to follow MBMA and our staff members individually on LinkedIn, where you can track our travels in real time.

Happy New Year, everyone!



MBMA hosted a Design Seminar and a Technical Committee meeting in Cleveland.



MBMA hosted its third annual Architectural Faculty Workshop in Nashville, Tenn. Workshop attendees were also treated to a tour of a local metal building manufacturing plant.

Teaching Tomorrow's Architects Aboutthe Value of **Metal Building** Technology

GUEST PERSPECTIVE

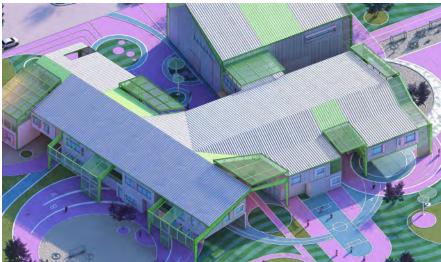


By Kristina Yu, AIA, LEED GA, NCARB, DBIA

In an online ceremony in February 2022, MBMA announced the winners of its inaugural Student Design Competition. My students from the University of New Mexico received first and second place, so you can imagine how we celebrated together that night!

Being involved in the competition was a great learning experience, not just for the two winners but for all of my students. It provided them with multiple opportunities:





- to compete at a national level with other design students;
- to really delve into metal building design—a building construction type that is prevalent here in the state of New Mexico; and
- to be able to study and think further and think deeply on the design of a specific type of building. The competition required the design of an elementary school—a structure to which all students could relate.

The competition was handled very professionally and the students appreciated the opportunity to compete and shine! What was so fulfilling was that the students were not only creating design content for my class but they were using that same content to build entries for the national competition. It allowed the students to not only do well in class, but then to see how their designs would hold up against a field of 64 entrants from a variety of colleges and universities.

Exploring Systems

Importantly, the competition became a great modeling device to help my students think holistically about the essential components of buildings. And, it revealed the additive process and the pieces and parts that make up a very complex thing called architecture. It allowed the students to examine the structural system versus the planning system versus the foundation system as well as issues such as lateral bracing and slab conditions. It helped them to think about components of the design process independently and then very quickly bring them together as a whole.

We also gained from the input of many practicing design professionals. More than 20 of them dropped into our studio to critique the students' work and sometimes coach them one-on-one. These were intense sessions that really helped students to explore how building systems become innovative—not in the way that we need to radicalize the innovation, but how do we push it and nudge it forward to do

something that hasn't really been done to date or doesn't get done all the time. So, it was wonderful to have professionals constantly asking the students questions and requiring them to defend their designs.

Overall, I am grateful to MBMA for providing the competition, the website resources, the videos, the educational folios and the hands-on encouragement to make the design competition truly valuable for faculty and students alike.

Kristina Yu is an architect with McCLAIN + YU Architecture & Design and an associate professor (School of Architecture + Planning) and an associate dean at University College at the University of New Mexico. She holds a master's degree in architecture from Harvard University and a bachelor's degree in architecture from the Illinois Institute of Technology.

MBMA First Annual Student Design Competition

MBMA's inaugural competition for undergraduate and graduate architecture students involved creating an innovative metal building design for a one- or two-story elementary school that would serve approximately 200 students. 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, Ala.; John Underwood, Behlen Manufacturing Company, Columbus, Neb.; and Robert Tiffin with Silvercote in Greenville, S.C.

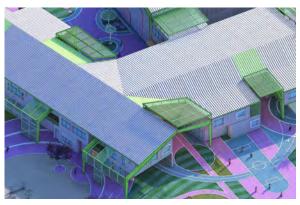
Award Winners





First Place
Brittany Sawyer

Brittney Sawyer of the University of New Mexico (UNM) earned the first-place prize of \$5,000. She was advised by Professor Kristina Yu of the School of Architecture + Planning at UNM.





Second Place

Jade Altheide

Second place, with a prize of \$3,000, was awarded to Jade Altheide, also a student at UNM and advised by Professor Yu.





Third Place

Quinton Frederick

The third-place honor and \$1,500 prize went to Quinton Frederick, a student at the University of North Carolina – Charlotte. His faculty advisor was Josie Holden-Bulla of the College of Arts + Architecture.

"Our goal with this competition was to introduce architecture students to metal building systems. But we at MBMA were introduced to how creative, knowledgeable and enthusiastic all of the students were with their designs."

> -Lee Shoemaker, Ph.D., PE MBMA Director of Research and Engineering

Contest Entries











MBMA Volunteers Make Us Strong

Justin Elper

Bob Elsasser

Tyler Embrey

Craig Abnev Matthew Ackley Gener Acompanado Jeff Adams Jacob Adkisson Jeramy Albert **Edward Aller** Jon Amann Ron Ambrosius Morrie Anderson Arne Anderson Mike Anderson Nabil Andrade **Grea Andrews** Curtis Archibald Ed Armer Leann Arnold Steve Ashton Jonnathan Auduss Roland Augspurger Kevin Babcock Kevin Bahnmiller Michael Bailev **Dustin Baker** Kathryn Baker Robert Baker David Balistreri Danette Ball Jacob Ball Vanessa Banks Chandler Barden Mike Barnes Scott Barrett Joshua Bartlett Robin Bartlett Chris Barton Bill Beals Spencer Becker Jim Beckham Shawn Beears Kyle Beebe Kevin Beishline Richard Beldyk

Darrin Bell Oliver Bell Amanda Bennett Ronald Bennett Russell Benton David Bergholz Keith Bidwell Cole Bigbee Chris Biguenet Christopher Bingham Brian Birch Austin Black Eric Blanscett Kimberly Blanton Tom Boal Andrew Bonde John Boothe Jorge Borghes **Bruce Bortree** Lawrence Bower Dylan Boyle Pat Bradshaw Don Bratcher Marc Brower Steve Browning Matt Brueshaber Dalila Bryan Al Busboom Steve Butler Fred Campana Alfred Campbell Mark Carlisle **Todd Carlson** Jeff Carmean **Andrew Carpenter Curtis Carpenter** Stephen Carr Jake Carrigan Gil Casey Michael Casey Chris Caza Jeremy Childs Andrew Christensen

Douglas Clark

Delmar J. Clark, Jr. Roy Clay Kyle Cobbley Peter Cobucci **Dustin Cole** James Cole Don Conrad Arnold Corbin Roger Cox Ryan Crist **Gary Cummings** Brandon Cunningham Steve Curry **Brad Curtis** Chris Curtis Joseph Dachowicz Jodi Datema Tim Davis Jessica Davlin Luke Dawson Nanette Dean Paul Deffenbaugh Gerardo DeLeon Ozer Dereli Dan Determan Mark Detwiler Patti DeWalt Edward Di Cesare Dylan DiGregorio Maria Dolz Scott Douglas Bill Downs Jeff Doyle **Chad Draxler** Michael Dubayeh Andrea Duckworth Robyn Edmonds Craig Edwards Greg Effland Jason Ehlers Jon Ekstrom Chad Elliott Keith Elliott

Christopher Ellison

Carey Ewanik Josh Fairchild Chris Falin Jon Faltys James Fanning Shawn Farneman **Bonnie Fater** Jeff Feaster Will Feland Bob Fisette Paula Fisette Ken Fisher Stacey Fisher Cinthva Fonte Oliver Foote Terry Ford Jim Foster Shaunda Fowler Ron Fox Nathan Fries Robert Fryar Rick Fulton Christen Funk Pavan Gadicherla Darin Gardner Jerry Gaston Kenneth Gaul John Gelms Mike George Mark Gies Heather Gillbanks Benjamin Glassner Mark Goble Andrew Goldberg Claudia Gomez Matthew Gomez Michael Gong

Danny Gonzalez

Mahmoud Faytarouni Adam Franzluebbers Jason Freidenberger

Scott Gosselin Eric Haugen Shawn Gould Matthew Havens Joel Grace Amy Hawkins Theresa Grape Cindy Hayden Matt Graupen Patrick Hearne Don Green Brad Heffelmire Wavne Gregory Trey Herren Jim Grimm Mike Herrin Larry Gumpert Ben Hicks Ralph Gutierrez Doug Hicks Chuck Haba Roger Hiesterman Jessica Haddock Alec Highnam Rob Haddock DJ Highnote **Dustin Haddock** Ryan Hill Tom Haic Trevor Hill Rahim Hakimi Brian Hills Amit Halder

Todd Hamilton

Joe Hanson

Todd Harbour

Steve Harper

Mark Harrington

Rodnev Harris

William Hart

Paula Harvey

Jerry Hatch

Kim Harrell

David Hirte

Donna Hise

Bob Hodges

Frank Hogan

Heather Hollis

Rodney Holmes

Karl D. Houser

Mike Houston

Ana Hovivian

Ron Holder

Jim Hruby Rich Huber Leila Hurd Scott Hutchings Jesus Ibanez Elyse Inglese Doug Irbe Ryan Jackson Jay Jacoby Andy Jaworski Rohena Jhensen Beau Johnson Dave Johnson Kevin Johnson Tori Johnson Jane Johnston Jason Johnston **Brian Jones** Cathy Jones Dean T. Jorgenson Craig Joss Thomas Jung Dennis Kaczmarek Russell Karnis Lindsay Kasiska Otto Kasten Zachary Kates Troy Kaylor Lisa Keegan **Bart Kelley** Jonathan Kenowith Neil Kerr Don Key Dan Kile Brandon King Daniel King Jeff King Ryan King Greg Kirby

Scott Kirkman

Paul Howell

Mike Howser



Todd Kister Lorell Kline Craig Klingler Joshua Knadler Fred Koetting Craig Komins Steve Kosir Myron Kottwitz David Koubek Christina Kuhl Luke Ladd Tim Lane Jim Lang Todd Langelaan Joe Lanning Ed Lash Sarah Latham John Lawrence Jordan Lax Delaina Lee Teresa Lee Carl Lewis Richard Lev Bill Li Rick Liberty Joe Lieber Rae Limerick Chris Lingard

Tim Loque

Matt Lorona Pam Lowry E. B. Ludwig, III Robert Lytle Steve Mabee Doug Maclam Bryon Magill Kent Makishi Igor Marinovic Jim Marks Marty Martin Eric Masterson Jim Mathis Matt Matthews David Mazak Lonnie McCarron Russ McCarron Art McCullough Darren McGonigle PJ McHugh Jacob McQuain Michael McWeeney Keith Medick Joey Meggs Rachel Mercado Cam Michael Santiago Millan **Duane Miller Nathan Mimms**

Matt Mitchell Cristopher D. Moen Rob Montoya **Zachary Morris Tanner Moy** Tom Mukavetz Charles Mullaley Matt Muller **Dustin Mullet** Alicia Mummert Shashank Mundrathi Kevin Murphy Mike Murphy Kevin Murray Rob Mutersbaugh Jeff Myers Karen Nebe Christopher Nelson Dale Nelson Don Nelson Rick Nelson Andy Newell Ted Never Brian Ng Matthew T. Nichols Alfred Nkunga **Corey Norris** Patricio Nungaray Matt Oakes

Craig Oberg Tom Oale **David Oksnee** Kristin Olson-Mesick Joe Otten Stephen Owen Mehmet Ozbev Jennifer Parks David Pasciak **Greg Pasley** Cooper Patrick Rvan Peck Patricia Pena Ronnie Peters **Bob Peterson** Carl Petrat Rick Pfeiffer David Phelps **Greg Pirtle** Coy Poret **Amy Porter Quintin Prior** Mike Pugach James Punzel Bernie Reed Colton Reed Stanley Reid Stephen J. Reiners Kevin Reinheimer Robert Reves Chris Richards Charlene Riegger Stan Rinkol Hal Robbins **Richard Roberts** William Roberts Cliff Robinson Cody Rodden Michael Roeder Frank Rosales John Roscoe Dave Rosenberg Michael A. Rosenberry **Brandy Roton** Chris Rouse

Charles Ruggles John Runkle Michael Ryan Robert Sabol Ed Sabre **Anthony Salvatore** John Samaro **Britney Savell** David Scarbrough Louis Scarfo Nathan Schoggins Tim Schwartz Clinton Schwarz **Tommy Scruggs** Steven Sehmer Keith Self Nick Sharp Wayne Shaw Keith Shedd **Brian Shelton** Kevin Sieger **Bob Siktberg** Colton Simmons Barry Sims Casey Sincavage Scott Siverly Brian Smallwood Dave Smigel Carlie Smith Eric Smith Jeanie Smith Judson Smith Mark Smith Mike Smith Shaun Smith **Curtis Smock Anthony Soares** Cindy Sohl Mark Specht Donna Spicer Jeff Spradley Joe Stager John Stahl John Stark

Richard G. Starks, Jr.

Dirk Stauffer Dan Steed Carsten Steiner Joelene Stevens **Heather Stiles** Matt Stone Craig Storch Amanda Storer Roger Story Tammy Strausbaugh Scott Stuhlmiller Jack Sturdivant Ty Sturdivant Steve Sukup Erin Sullivan Prabhayya Swamy Dan Sweeney Randy Tackett Craig Taliancich Michael Teems Ralph Tenuta Martin Thompson Nick Thompson Philip Thompson Tula Thompson Vinay Thottunkal Robert Tiffin **Brad Tinney Brant Tirello** David Tomchak Scott Tomlin **Corey Tompkins** Ivan Traver Rich Trice John Trotter Mike Tucker Charlotte Tyner Mark Ubl Adam Ugliuzza John Underwood Smokey Underwood Mark Van Dyken Randy Varble Peter Viens

Joey Viselli

Joel Voelkert Joseph Voors Cheryl Wade Craig Wagner Zachary I. Walker Carl Walker Fred Walnut Jeff Walsh **Greq Warsop** Craig Wastell Christian Watkins Dennis Watson Samantha Watson Russell Watts **David Weatherford** Shane Weathers Mark Weaver Teisen Webb Jerod Webber Amanda Welch Ken Welch Travis Wendt **Alexis West** Dena Whitaker Chad Wieberg Deb Wiese Kasi Wilburn Jason Williams Kipp Willams **Todd Wilson** Kellsie Winkler Jesse Winternitz Amy Wirth **Daniel Wise** Dave Woebbecke Jon Woehrer Steve Wright **Travis Yetter** Wes Young Rene Zamarripa



ACCREDITATION COMMITTEE



Tanner Moy, PE Committee Chair

MBMA's 20-person Accreditation Committee oversees activities related to member accreditation through the International Accreditation Service (IAS). This role also requires us to be knowledgeable about all IAS accreditations that impact the metal building industry. Here they are:

472 All MBMA Building Systems members are required to maintain AC472 accreditation as a requisite to membership. Accreditation criteria AC472 conforms to the standards of the International Building

Accreditation Affirms Value ofMetal Building Design & Construction









OE Wheels . Sarasota, Fla.

Code® and related standards. It requires audits of the integrity of the design engineering and manufacturing processes of metal building system manufacturers.

478 MBMA Building Systems members encourage their builders to achieve AC478 certification. It provides the criteria for accrediting metal building system assemblers. It is a seal of approval for companies that perform the on-site building erection.

172 This year, our Accreditation Committee investigated adding AISC Fabricator Certification along with IAS AC172 accreditation when it comes to subcontracting primary-frame production and the associated requirements. This has been submitted to IAS for consideration.

473 Another topic of discussion is when sourcing products from an IAS AC473-accredited supplier, there is still a need to receive material test reports (MTRs). Walter Mershon of IAS recently spoke with

our committee to explain this further, and he said the current AC472 program does not exempt AC473 suppliers from supplying MTRs, but that could be something for MBMA/IAS to explore in how this is audited in the program. This could also apply to sourcing from IAS AC172 suppliers.

We on the MBMA Accreditation Committee actively promote the benefits of 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. We recognize that accreditation adds value for the end customer and differentiates the metal building systems industry from other forms of construction.

ARCHITECT COMMITTEE



Robert Tiffin Committee Chair

The Architect Committee's mission is to positively impact the metal building industry through effective understanding, comprehensive education, and engagement of architects, both at the national and local levels.

We participated in The American Institute of Architects (AIA) Annual Conference as it migrated back from a virtual to an in-person event. We gathered strategic intel that will be the foundation to our strategy for the 2023 AIA conference. Stay tuned!

Influencing Architects Through Education



Collaboration with the MBMA Education Committee delivered a third annual Architectural Faculty Workshop. Professors from the U.S. and one from Guatemala joined us in Nashville in August for an introduction to metal building systems technology.

The workshop participants valued the interactivity and diversity of the speakers (from academia and also practicing architects). The attendees gained working knowledge and access to MBMA's free publications and resources related to design and education. Check out MBMA's education website at www.mbmaeducation.org and share it with design professionals in your network.

At METALCON 2022, MBMA's Tony Bouquot and I spoke on the topic of *Metal Building Systems: A Creative Design Approach*—a fun and interactive session!

The key to our continued success is to entice/garner/invite architects to envision metal building systems as a design alternative for their low-rise building projects. We are seeing the trend grow ... our efforts are making a difference!

Speaking of efforts, here are some ways you can help:

- Join our committee. Send a request to mbma@ mbma.com today!
- Introduce us to architects in your sphere of influence.
- Recommend us as speakers for your local/ regional/state AIA events.
- Share our LinkedIn posts and YouTube videos with architects in your area.

Thank you for your time, your industry passion, and before you go, accept this challenge: Reach out to one architect every day and share how creative and unique a metal building system can be!





i3 Product Development • Middleton, Wis.

EDUCATION COMMITTEE



John Underwood Committee Chair

College architecture and engineering students are learning that metal buildings can be edgy, innovative and an opportunity for creative designers to achieve unique building solutions. This is happening, in part, because of the ongoing efforts of MBMA's Education Committee.

First, we "train the trainers," educating architecture and engineering faculty from colleges and universities nationwide about the creative and sustainable benefits of metal buildings. We held

Education Activities Prove Metal Buildings **Are Smart** Solutions

our third annual Architecture Faculty Workshop in August. Presentations were given *by* professors *for* professors. The attendees were very excited about all they learned about metal buildings from their peers. They went back to their schools armed with a new palette of ideas for educating their students in architectural and structural design.

Another educational tool we created was the MBMA Student Design Competition. 2022 marked the second year for our competition, which garnered 64 entries during its inaugural year. The inaugural contest was a great success and financial awards were presented to four of the nine finalists. The 2022 competition winners will be announced in the first quarter of 2023. If you know people who might want to participate in future competitions, they can download details at our education website, www.mbmaeducation.org.

Our third major achievement involves the ongoing creation of metal building folios for use in higher education courses aimed at architects and engineers. Each document is about 20 pages long and focuses on one unique building project. These folios provide insights from design professionals involved in the projects. The folios guide students from the project planning and design processes though construction. We've completed three folios so far: Alamo Beer Company in San Antonio, the Michelle and Barack Obama Sports Complex in Los Angeles and the Boston Sports Institute in Wellesley, Mass. These are available for free download on our education website. If you know anyone who could benefit from these resources—students, new hires, architects—please share with them.





Alma Del Mar • New Bedford, Mass.

ENERGY & SUSTAINABILITY COMMITTEE



Greg Effland, PE Committee Chair

At the beginning of 2022, MBMA merged the Energy Committee and the Sustainability Committee into one team. That move makes a lot of sense. Since the two groups had similar missions and goals, it was logical to pool our resources. In fact, our efforts are more efficient and effective by having the members of both committees now working together.

Better Together









Oceola Community Center • Howell, Mich.

Some of our activities are managed by subcommittees. Currently, we have five groups working on specific objectives. Below, you'll see some of the work we are performing.

We are wrapping up our air leakage testing, which has been ongoing since 2019. That research is the foundation for a new air leakage testing best practices guide that will help firms design and construct metal buildings to meet or exceed the International Energy Conservation Code (IECC) and ASHRAE 90.1 energy code requirements. The guide will benefit MBMA members, architects, contractors, builders and building owners.

As a result of our air leakage research, we were invited to speak to various groups across the country. These presentations culminated in a comprehensive program presented this year at METALCON, the largest international event in the metal construction industry. The speakers were two of our longtime committee members, Dave Tomchak and Robert Tiffin, along with Vince Sagan, MBMA senior staff engineer.

In addition, we continue to develop fact sheets, courses and training materials to educate and inform people across the spectrum of our industry regarding the energy/sustainability attributes of metal buildings. We will continue to perform life cycle assessments and provide up-to-date environmental product declarations (EPDs) for primary rigid framing, secondary framing and metal cladding for roofs and walls. We will also develop additional AIA courses for architects and keep speaking to groups of all audiences nationwide.

FIRE & INSURANCE COMMITTEE



Andy Jaworski, PE Committee Chair

MBMA's Fire & Insurance Committee provides resources to promote safe, code-compliant and insurable metal building systems. It has been my honor to chair this committee for nearly eight years. As I now prepare to pass on this leadership responsibility, I look back on what's been accomplished and where we've been.

We're More Interesting Than You Think!





In my tenure as committee chair, I've seen the committee become far more proactive and forward-thinking. We now engage regularly with code officials and have increased contacts in the insurance industry. Today, we are actively involved in the code development process, particularly as it relates to fire safety. As a result, the American Iron and Steel Institute asked us to participate with them in fire safety research related to cold-formed steel.

One of our successes is in expanding fire protection assembly options in the UL database. We've also been thinking about constructability and how to make metal building components more attractive to the market by adding product flexibility and improving the contractor experience.

On the insurance side, we've worked on raising member awareness about how metal building systems are viewed by the insurance industry. We also completely overhauled MBMA's 10 insurance bulletins to enhance relevancy from a user's perspective. The bulletins provide building owners, designers and builders with information on rating systems and on hazards and conditions that can impact insurance costs. These are available for free download at www. mbma.com/Insurance.html.

Fire and insurance issues aren't generally seen as the most stimulating topics to explore, but they're actually pretty cool. I encourage you to get involved with the committee. You don't have to be a technical wizard—just a person who likes to get things done. Join us! I'll continue to be involved and I hope to see you there!



Evans Building Company • Maize, Kan.

MARKETING COMMITTEE



Brian Shelton Committee Chair

What does MBMA's Marketing Committee do? We advocate and educate. We help people understand metal building systems. Through our efforts we aid code officials in making their decisions about the ways they approve aspects of metal building construction. We educate building owners so they can make choices about which type of building they would like for their next facility. We guide architecture students so that they can realize and recognize that metal building systems are a viable design alternative. Yes, our work impacts a broad spectrum of society.

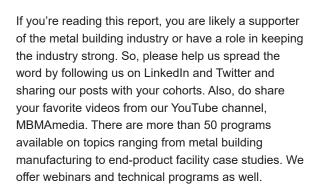
Communication Actions Grab Attention











Some of our most meaningful work comes through

example, we developed the marketing campaigns

for the Architectural Faculty Workshop, the Student Design Competition and the architectural student folio

program on behalf of the Education and the Architect committees. We're also updating and modernizing the design of MBMA's popular *Fire Resistance Design Guide for Metal Building Systems* on behalf of the Fire & Insurance Committee. In addition, we share news about committee achievements through our consistent

press release campaign.

promoting the efforts of other MBMA committees. For



Boeck Seed Services • Exeter, Neb.

MEMBERSHIP COMMITTEE



Darren McGonigle Committee Chair

MBMA's Membership Committee is proud to announce that the association had a record year for new member recruitment, largely due to the committee's work in 2020 and 2021 to educate and inform potential members. We feel these efforts have been instrumental in positioning MBMA as "the place to be" for anyone interested in the metal building industry. Here is a list of our recent additions:

Breaking All Records







Rock Creek Curling Center • Lafayette, Colo.

Building Systems Members

Baker Industrial Fabrication *Frederick, Colo.*

Sunward Steel Buildings *Denver, Colo.*

Terry Building Company Oklahoma City, Okla.

Associate Members

Building Envelope Consultants

Building envelope design, inspection and testing company

Donovan Group

Manufacturer of the DonoBrace steel rod
bracing system

IDEAS CONNX
Design, analysis and engineering software supplier

Intertape Polymer Group

Manufacturer of vapor barriers and retarders

Nucor Sheet Mill Group Flat-rolled steel producer

Our Barndominium Life
Barndominium designer using metal building
system technology

Pacific Insulated Panel

Manufacturer of R-Seal insulation system

RunToSolve
Engineering modeling and simulation company

Simpson Strong-Tie Company Global supplier of structural building products

These successes energize the committee to exceed our 2022 new member recruitment activities and we are excited to continue a robust outreach effort. Any employee of an MBMA member firm is welcome to join our committee and help us increase our activities. And, if you know of any firm that serves the metal building industry and is not a current member, please send a note to Tony Bouquot at mbma@mbma.com and he'll work with us to reach out and engage with the appropriate company leaders.

SAFETY COMMITTEE



David Weatherford Committee Chair

Employee retention has become an overarching aspect of our industry during these trying times, and this means that a robust safety program has become an even more important part of holding onto our most precious resource, our experienced employees.

The primary goal of the MBMA Safety Committee is to provide an important service to the MBMA member firms. We reach out and educate their employees in manufacturing plants, product warehouses and

A Committee Committee Committed to Personnel Safety







TEC Alabaster • Calera, Ala.

company offices so they will keep safety top of mind and do their part to assure safe behaviors in their workspaces. The way that we help them most effectively is to provide safety webinars that they can view individually or in group settings. Most often, the webinars are played in a break room or conference room where people can listen and learn together. After they watch each webinar, we ask them to discuss how to implement what they've learned and analyze how to adapt those lessons in their specific environments.

Some of the subjects we've covered in webinars include:

- Distracted Driving
- · Crane & Rigging Safety
- Safety Zone and No Touch Solutions
- Safety Culture
- Safety Best Practices
- Incident Evaluation

The MBMA Safety Committee recognizes that a company can't have a solid safety culture without a good safety education program—and an action plan for implementation. Any time you see a committed safety culture, if you dig deep, you'll find there's a good education program at its core. So, when our Safety Committee meets, we focus on continually improving the educational programs we create.

In the year ahead, we will explore more ideas and alternatives to keep employees and families out of harm's way. It's our mission and our job.

STATISTICS COMMITTEE



Dylan DiGregorio Committee Chair

The MBMA Statistics Committee is focused on providing timely and relevant data about the metal building industry to assist member companies in making sound and informed business decisions. We were excited to hold our biennial meeting in September 2022. It was also my first official meeting as the chair of this committee. Many thanks to Donna Hise who previously led the Statistics Committee and who has been instrumental in its success. We had several new MBMA member firm representatives join the committee this year, bringing fresh ideas and new perspectives.

Proprietary Statistics Bring Unique Value to MBMA Members





Junga's Ace Hardware • Saline, MI

A survey of the Statistics Committee conducted this past spring found that a discussion of potential new reports and surveys was the second-most selected topic of interest. With that in mind, the biennial meeting included a discussion of potential new reports and surveys and we brainstormed ideas for additional new research. Our intent is to ensure that the reports continue to align with the data-driven needs of member companies. Just to be clear, we look at the MBMA statistical reports every year to make sure they remain relevant; but we also work to ensure consistency of reports over time. We keep an eye on the past and one on the future to make sure we can always, as they say, compare apples to apples. I'm proud to report that we will continue the work of providing the quality and depth of industry-specific data not found anywhere but here, at MBMA.

An important task we completed this year was to add new categories to the Federal Information Processing Series (FIPS) codes. The FIPS reports compile sales data by county and provide a universal system to



Midway Market, Car Wash & Gas Station • Ostrander, Ohio

uniquely identify geographic areas. They add value by allowing MBMA members to map metal building sales activity in sectors across the U.S.

TECHNICAL COMMITTEE



Dustin Cole, PE, SE Committee Chair

While the Technical Committee oversees many valuable industry research projects, our overarching goal is to make sure that metal building systems are addressed fairly in codes and standards.

Considering that goal, I am pleased to report that we were successful in having a definition of metal building systems added to Chapter 2, a section in Chapter 17 ("Special Inspections") and a section in Chapter 22 ("Steel") of the 2024 edition of the International Building Code (IBC). The IBC will provide a clear explanation of what constitutes a metal

Codes & Standards: Major Hurdles Overcome

building system, what the design requirements are, and what to address when special inspections are performed. This will remove confusion and speculation and help architects and engineers to differentiate clearly between metal buildings and conventional steel construction. It also brings attention to metal building systems as an accepted structural solution, comparable to other types of buildings that are constructed using wood, concrete, etc.

Our work with the IBC also laid the groundwork for incorporating results from our seismic research into codes and standards. The committee has been overseeing MBMA's seismic research projects for more than 10 years and has affirmed that the potential exists to recommend changes to current code limits for metal building systems. Design limitations are present in the code based on overall historical performance across all types of construction in areas of high-seismic

activity. Our research will allow limits on roof weight, heavy walls and building height to be expanded. This will enlarge our market and increase metal building use in high-seismic regions.

The IBC and ASCE 7 (American Society of Civil Engineers Standard No. 7) define minimum load requirements for buildings in order to produce safe structures. MBMA continued its success of codes/ standards treating metal buildings fairly by overcoming a movement to increase conservatism (safer design at higher cost) with a significant simplification of Allowable Strength Design (ASD), or the outright removal of this approach when it is used in metal buildings, wood framing and other materials.

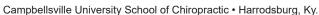
All in all, it's been a very good year and we look forward to further successes in 2023.

METAL BUILDING SYSTEM

An integrated set of fabricated components and assemblies that form a complete or partial building shell that is designed by the manufacturer. This system typically includes but is not limited to primary framing comprised of built-up structural steel members, secondary members that are coldformed steel or open-web steel joists, a metal panel roof system and exterior wall cladding. The system is manufactured in a manner that permits plant and/or field inspection prior to assembly or erection.

This verbiage to appear in 2024 updates to the International Building Code.







Helping Architects Succeed

"Because many architects spend much of their time in non-metal building construction, there's a good deal of mystery about what services the metal building manufacturers provide and how the design and engineering process for these buildings differs from more familiar building types."

-Tim Wybenga is principal at Portland, Ore.-based TVA Architects, as quoted in *Metal Architecture* magazine, June 2022

Metal building experts welcome opportunities to help architects explore design options in the preliminary design phase of a project—or even before! Since most architects don't work with metal structures daily, they often appreciate input and ideas from those who are most familiar with the latest and greatest metal building design concepts.

The graphic to your right shows some of the typical ways that metal building professionals provide input to architects every day.

For answers to any of these questions, architects can contact MBMA directly or reach out to any of the AC472-accredited building manufacturers listed on pages 39-40.





Educational & Technical Resources

TECHNICAL MANUALS & GUIDEBOOKS

Download previews and full documents or order print versions at www.techstreet.com/mbma.









2018 Metal Building Systems Manual
Metal Roofing Systems Design Manual - Second Edition
Fire Resistance Design Guide for Metal Building Systems
Energy Design Guide for Metal Building Systems - Second Edition
Seismic Design Guide for Metal Building Systems
Guide for Inspecting Metal Building Systems, Second Printing

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.

Using Metal Building Systems to Meet and Exceed the Energy Code
Advanced Sustainability Potential Using Metal Building Systems
Creative Building Solutions with Pre-painted Metal Panels
Specifying a Metal Building System
Life Cost Assessment/Sustainability of Metal Buildings
Creative Metal Building Design Alternatives

TECHNICAL & EDUCATIONAL RESOURCES

Download these free documents at www.mbma.com.

AC472 Accreditation Program

Acoustical Performance of Insulated Metal Building Roof and Wall Assemblies

Athena Impact Estimator Case Studies

Concrete Masonry Walls for Metal Building Systems

Energy Code Compliance: A Guide for Metal Building Contractors

Environmental Product Declarations: Primary Structural Steel Frame Components, Secondary Structural Steel Frame Components and Roll-Formed Metal Wall and Roof Panels

Fire Protection for Metal Buildings Fact Sheet

Insurance Bulletins (10)

Insurance Facts

MBMA Annual Reports

CASE STUDIES

Download these free documents at www.mbma.com.

Educational Campus Facilities

Government Facilities

Commercial Communities

Distilleries & Breweries

Warehouses & Storage

Retail & Wholesale

Recreation & Fitness

Vehicle Sales & Service

Roofing & Solar



POPULAR VIDEO RESOURCES

All videos are accessible at www.youtube.com/MBMAmedia.

How It's Made: Metal Building Innovations Are Revolutionizing Low-Rise Commercial Construction

How It's Built: Metal Building Construction Raises the Bar for Low-Rise Commercial Structures

How Do I Know Metal Building Systems are Right for My Project?

Metal Building Systems: Wind Loads - Longitudinal Metal Building Systems: Wind Loads - Transverse

Metal Building Systems: Gravity Loads Metal Building Systems: Nomenclature

AC472: Why Accreditation Matters

An Introduction to Metal Building Systems

Metal Building Systems 101

Come Build Your Future (plus 13 career option videos)

Get More with Metal: Recreation & Fitness

How Metal Buildings Compete in Today's Market (Parts 1-3)

Interview with Professor Marci S. Uihlein, University of Illinois at Urbana

Champaign School of Architecture

Metal Building Systems Speed of Construction

Sustainability for Metal Building Systems

What Do You Know About Metal Buildings?

Why Choose Metal Building Systems?

Why Join MBMA?

Why Metal Building Systems? with Dr. Lee Shoemaker











WEBINARS

All MBMA webinars are accessible at www.youtube.com/MBMAmedia.

Energy Code Compliance for Metal Building Systems (Parts 1-4b)

Fire-Resistance Design for Metal Building Systems (Parts 1-5)

Sustainability for Metal Building Systems

Using EPDs to Drive Value with Metal Building Systems

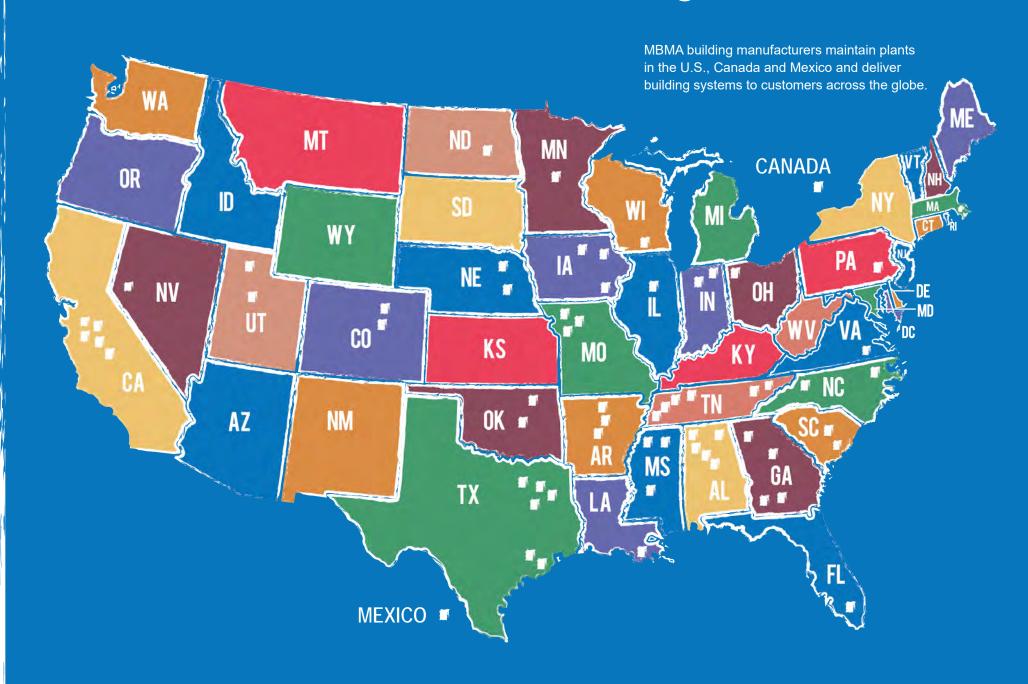
Metal Building Systems and Life Cycle Assessment

Safety in the Workplace (11-Part Series)

UL Webinar: Environmental Product Declarations

Athena Presentation: Life Cycle Assessment

MBMA Member Manufacturing Plants



ALABAMA

Cullman Eufaula Florence Hueytown

Muscle Shoals Rainsville

ARKANSAS

Cabot

North Little Rock Pine Bluff

CALIFORNIA

Atwater Lathrop Lockeford Turlock Visalia

COLORADO

Denver Frederick

FLORIDA

Fort Myers

GEORGIA

Adel

Cedartown Lithia Springs Thomasville

ILLINOIS

El Paso

INDIANA

Rensselaer Waterloo

IOWA

Monticello Mount Pleasant

Sheffield

LOUISIANA

Harahan

MASSACHUSETTS

Sutton

MINNESOTA

Freeport

MISSISSIPPI

Batesville Brookhaven Columbus Satillo

MISSOURI

Cameron Kansas City St. Joseph

NEBRASKA

Albion Columbus Grand Island

NEVADA

Carson City

NORTH CAROLINA

Greensboro Rocky Mount

NORTH DAKOTA

Jamestown

OHIO

Kenton

OKLAHOMA

Claremore Oklahoma City

PENNSYLVANIA

Annville

SOUTH CAROLINA

Swansea Walterboro

TENNESSEE

Caryville
Elizabethton
Jackson
Lexington
Memphis
Portland

TEXAS

Athens Hockley Houston Irving Terrell Tyler

UTAH

Brigham City Ephraim

VIRGINIA La Crosse

WISCONSIN

Evansville

CANADA Ancaster

MEXICO Monterrey





MBMA Members

BUILDING SYSTEMS MEMBERS

ACI Building Systems

AGI Sentinel

Alliance Steel, Inc.

American Buildings Company

Associated Steel Group

Baker Industrial Fabrication

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

Notificial Building Cysteria

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.

Union Corrugating Company

Varco Pruden Buildings

Vulcan Steel Structures

Whirlwind Steel Buildings

ASSOCIATE MEMBERS

ABIS

Akzo Nobel Coatings

All Weather Insulated Panels

Applied Testing & Geosciences

Atlas Bolt & Screw Company

Bay Insulation Company

Benchmark Consulting & Inspection

Birmingham Fastener

Building Envelope Consultants

Building Products Development

Building Research Systems

CADeploy

CertainTeed Corporation













CIDAN Machinery

Commercial Metals Company

Crane Composites

Curbs Plus

Diamond Door Products

D.I. Roof Seamers

Donovan Group

DuPont

Dynamic Fastener Service

Expi-Door Systems

Framecad

Glasteel/Stabilit America

Global Building Products

IDEAS CONNX

Intertape Polymer Group

Intertek

ITW CCNA

ITW Polymers Sealants North America

Konecranes

Lamtec Corporation

Lincoln Electric Company

Metal Building Software

Metallic Products Corporation

Metl-Span

Modern Trade Communications

New Millennium Building Systems

Nucor Sheet Mill

Our Barndominium Life

Owens Corning

Pacific Insulated Panel

Palram Americas

PDL Building Products

PowerLift Hydraulic Doors

PPG Industries

Precoat Metals

Preferred Solutions

Preformed Line Products

Premier Steel Doors and Frames. Inc.

Quality Roof Seamers

Roof Hugger

RunToSolve

S-5! Attachment Solutions

Sealed "N" Safe

Service Partners

SFS intec

Sherwin-Williams Company

Silvercote

Simpson Strong-Tie

Steel Dynamics

Tell Manufacturing

Telling Industries

Therm-All

Thornton Tomasetti

TopHat Framing Systems

Triangle Fastener Corporation

United States Steel Corporation

Wurth House of Threads

About MBMA

The Metal Building Manufacturers Association (MBMA)

- Founded in 1956
- Serves metal building manufacturers and suppliers
- Works to promote the metal building systems industry
- Provides a wealth of useful information on its website, MBMA.com
- Creates resources including technical materials, research reports and design guides

MBMA's members supply high-quality buildings and building products for use in commercial, retail, office, industrial, institutional and other end uses.

MBMA Managed by TAI

MBMA has been managed by Thomas Associates, Inc. (TAI) since 1956.

TAI is one of the oldest association management firms in the U.S.

TAI's technical team supports game-changing codes, standards and research goals of its client associations.

MBMA Senior Staff

General Manager Tony P. Bouquot

Director of Research and Engineering W. Lee Shoemaker, Ph.D., PE

Senior Staff Engineer Vincent E. Sagan, PE



1848 Construction Office & Shop • Madison, Wis.



Norwalk Flex Building • Norwalk, Conn.



Marc Motors Nissan • Sanford, Maine



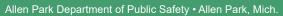
San Jose Retail • Jacksonville, Fla.



Waco Aircraft Corp. • Battle Creek, Mich.









Dudley Common • Saskatoon, Saskatchewan



Metal Building Manufacturers Association 1300 Sumner Avenue Cleveland, Ohio 44115-2851 (216) 241-7333 MBMA@MBMA.com www.MBMA.com





