

Inspired Designs

Coast to Coast



Metal Building
Manufacturers
Association

2020
Annual Report

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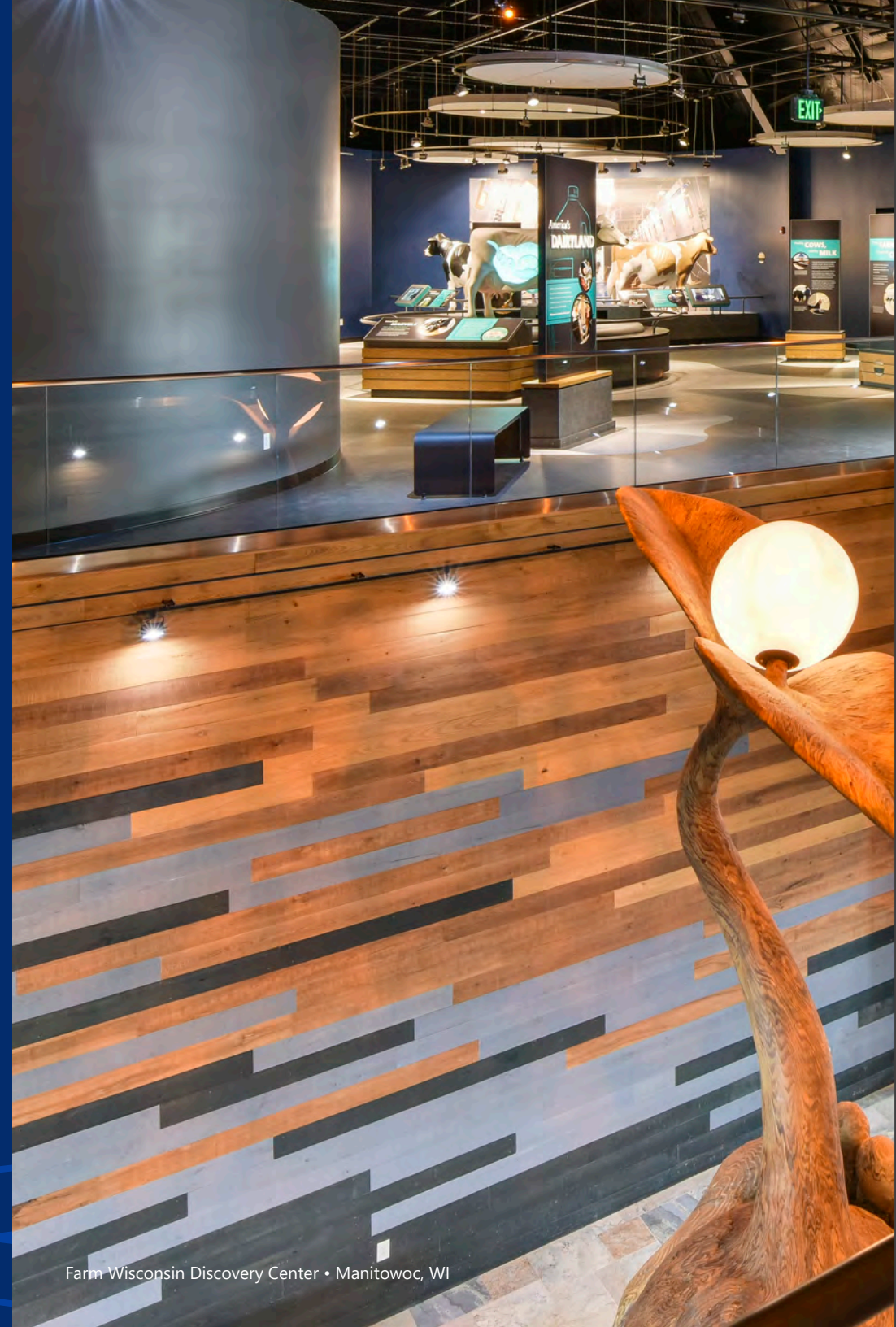
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Placer Valley Event Center • Roseville, CA

Chairman's Message

Looking Ahead with Calculated Optimism

We can and should be proud of our industry, our competitors, our suppliers, our teams. Together, we have found a way to operate, for almost a year, without a playbook. None of us has lived through a pandemic before; each of us had to find our own path. My perception is that, within 60 days of the national shutdown, the construction industry accepted where we were and just picked up and kept going. Kudos to us all!

Today, despite all the unknown factors we'll face in 2021, I see our customers building new buildings and expanding current infrastructure. In my mind, building a building is betting on the future; and I see so many companies with the confidence to place that bet.

I too have placed that bet. I see great opportunities for our industry as corporations repurpose their facilities and as capital becomes more available to stimulate economic growth. When contracts break free in the coming months, the metal building industry will have a leg up due to speed of delivery and flexibility in design, as well as cost and life cycle savings. When the economic snap-back comes, our products will be at the top of the list because of those attributes.

New opportunity often comes through hardship; and although we've faced a difficult time in America's history, the pandemic has forced the growth of one sector of buildings at a pace faster than we'd anticipated—e-commerce. While the e-commerce trend was already expanding the need for warehouse and distribution facilities, the pandemic gave the trend an overnight boost. Today, those buildings are in demand like never before. MBMA members

that manufacture metal buildings report exceptional growth in the sale of buildings in excess of 150,000 square feet. In truth, the big-building business is booming. E-commerce is the future and that trend won't end when our focus on the pandemic moves into the rear-view mirror.

So, here's to us all ... and to our future! Metal buildings are the future for the low-rise commercial market and we will be fortunate to reap the benefits of a growing and stable industry.

Steve Browning
MBMA Chairman





LifeStorage

Management Perspective

Let's Not Do This Again

Unprecedented. Once in a century. A new normal. Okay, enough with the cliches, but it's true that 2020 was a year unlike any other in all facets of our lives. There is no way we can reflect on the year for MBMA and not acknowledge how the COVID-19 pandemic made it unique.

First, there were the meetings. Ten in-person MBMA meetings scheduled for 2020 turned into just one, with seven virtual meetings and two cancellations. While video conferencing still allowed us to "get together" and share information and ideas, we all know that in-person collaboration and relationships forged over a meal are among the most valuable benefits of trade association membership. We are hopeful to be able to be together again for our 2021 events.

Stuck in the Middle Without You

As 2020 passed us by, not only were we not going to meetings, we weren't going anywhere! Many of us who are used to traveling as a big part of our jobs found ourselves grounded, working from home even. We got together for video calls on Zoom, put up a metal building as a virtual background, dressed professionally from the waist up and did our best to sell, design and produce some metal buildings in a challenging economy.

We weathered shutdowns, social distancing, quarantines and masking and sang happy birthday while we washed our hands. We fought for recognition as essential services, knowing full well that metal buildings were supporting the fast-changing needs of a faster-changing economy.

We witnessed changes in our industry and our membership. There were mergers and acquisitions, consolidations and retirements, all in an effort to stay strong and weather the storm.

Through it all, we persisted in producing the important and valuable work of the Metal Building Manufacturers Association. We kept over 50 association projects moving forward representing over three-quarters of a million dollars in investment in metal building research, education and leadership. And we rediscovered the value and support that comes from a community of friendly competitors working together to make a vital trade association stand strong.

Tony Bouquot
MBMA General
Manager





Alamo Beer Brewery • San Antonio, TX
Photo by Casey Dunn

Architect's Perspective

Metal Building Systems Are More Than Utilitarian—They Inspire Architects to Innovate

By Greg Papay, FAIA

I've always admired that over the decades, manufacturers and engineers have refined metal building systems to a point where they're economical, efficient and often truly beautiful. They really just capture all the different aspects of what a building should be.

Open, Adaptive Buildings of Scale

At Lake|Flato Architects, we design structures that enhance their surrounding environments, so when I joined the firm in 1993, it was exciting to see the team embark on its first metal building system project in pursuit of that goal.

The project was for a tractor distributor's headquarters building, which required long spans to accommodate large pieces of industrial equipment that line an impressive exterior tractor porch. I recall being inspired by the beauty of the open system that, instead of being covered in Sheetrock, became a defining characteristic of the architecture itself. It was the first of many Lake|Flato metal designs over the years, most of which became flagship, award-winning projects.

Architects who see metal buildings as more than purely utilitarian structures can harness their unique ability to create projects of tremendous scale and scope. These open, adaptive systems release us from limitations in ways that traditional concrete and wood structures simply can't, allowing us to explore new shapes that become exceptional moments in our designs and rich spaces for our clients.

Low Cost, Low Maintenance, High Aesthetic

When we designed the Alamo Beer Brewery in San Antonio, Texas, we knew the low-maintenance materials of a metal building were right for our budget-focused client's production space, offices and a beer hall. Located in an industrial warehouse district overlooking the historic Hays Street pedestrian bridge, metal frames and Corten skin played well off the adjacent railroad tracks and rust-colored box cars.

When it won an AIA Design Award, a juror said, "One of the things that captivated us was the urban relationship to the bridge ... we really appreciated the kind of placemaking that was going on here, as well as just a wonderful material strategy and detailing."



An Energy-Efficient Solution

Struck by the beauty and simplicity of large agricultural structures in the Rio Grande Valley, we designed the headquarters for IDEA Public Schools in Weslaco, Texas, using a metal building. The 50,000-square-foot facility took shape as two long, linear office and training buildings that appeared cut down the middle and pulled apart to create a courtyard.



Due to the simplicity of its shape, we were able to design a highly efficient building envelope with solar panels, so the facility is close to achieving net-zero energy use. The main building includes a community stairway that leads up to a 35-foot-wide structural bay, which became a defining feature. The major frame elements are exposed and the ceiling floats between those frames, creating the feeling that you're in an aircraft hangar.

Modern, Reimagined Spaces

At Lake|Flato, we're always working to stretch a building's potential and move it into a modern interpretation of what's possible. Metal building systems have proven to be the perfect backbone for that. By being a common solution they've created a great economy of scale—you can do a little to them, tweak the design just a bit, and discover you've reimagined them in a profound new way.

About the Architect



Greg Papay, FAIA has been a partner at Lake|Flato Architects since 1998. He has been influential in the firm's growth and has led the design of significant civic and institutional buildings in Texas,

California, New Mexico, Colorado, Alabama, Georgia, Kentucky, Indiana, Michigan and the Cayman Islands.





Project Notes: When Lake|Flato was commissioned to design the Whitcomb Art Center on the outer edges of the historic Knox College campus in central Illinois, the architecture firm sensed that it could stretch the expression out more than if it were amongst the 150-year-old brick buildings. The result is a three-bay, 35,000-square-foot building that houses innovative art studios, dynamic public spaces and high volumes for students to display their large pieces of art.



Knox College Whitcomb Art Center • Galesburg, IL
Photos by Andrew Pogue

ABOUT MBMA

Founded in 1956, the Metal Building Manufacturers Association (MBMA) serves manufacturers and suppliers as it works to promote the metal building systems industry. Its membership supplies high-quality buildings for use in commercial, retail, office, industrial, institutional and other end uses. The association provides a wealth of useful information on its website, MBMA.com, for anyone who works with or is interested in metal building systems. Resources include technical materials, research reports and design guides.



MBMA MANAGEMENT

MBMA has been managed by Thomas Associates, Inc. (TAI) since 1956. TAI is one of the longest-running success stories among association management firms in the United States. It has an extensive and diverse technical team that can support the codes, standards and research goals of its various client associations. Such synergy allows it to expand research capabilities and bring in human resources that enhance the technical strength of MBMA.



General Manager
Tony P. Bouquot

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

Senior Staff Engineer
Vincent E. Sagan, PE



MBMA Volunteers Make Us Strong

MBMA THANKS 500+ COMMITTEE VOLUNTEERS: Craig Abney - Andrew Ace - Jeff Adams - Jerrod Adams - Jeremy Albert - David Alexander - Jeff Alexander - Jon Amann
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Robert Baker - Kathryn Baker - Jacob Ball - Vanessa Banks - Chandler Barden - Mike Barnes - Scott Barrett - Robin Bartlett - Chris Barton - Aaron Batchellor - Tom Batterbee - Bill Beals - Spencer
Becker - Jim Beckham - Shawn Beears - Kyle Beebe - Kevin Beishline - Tim Belcher - Richard Beldyk - Ronald Bennett - Amanda Bennett - Russell Benton - David Bergholz - Chris Biguenet
Christopher Bingham - Brian Birch - Austin Black - Eric Blanscett - Kimberly Blanton - Tom Boal - Andrew Bonde - Mel Booker - Jorge Borghes - Bruce Bortree - Lawrence Bower - Dylan Boyle - Pat
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Chris Curtis - Brad Curtis - Joseph Dachowicz - Jodi Datema - Jessica Davlin - Paul Day - Nan Dean - Paul Deffenbaugh - Gerardo DeLeon - Mark Detwiler - Patti DeWalt - Edward Di Cesare - Dylan
DiGregorio - Maria Dolz - Scott Douglas - Jon Downey - Bill Downs - Jeff Doyle - Chad Draxler - Michael Dubayeh - Andrea Duckworth - Robyn Edmonds - Craig Edwards - Greg Effland - Jason
Ehlers - JoAnn Elijah - Chad Elliott - Christopher Ellison - Justin Elper - Bob Elsassner - Tyler Embrey - Josh Fairchild - Chris Falin - James Fanning - Shawn Farneman - Bonnie Fater - Jeff Feaster - Will
Feland - Paula Fisetite - Bob Fisetite - Ken Fisher - Stacey Fisher - Cinthya Fonte - Terry Ford - Jim Foster - Shaunda Fowler - Ron Fox - Daniel Frans - Adam Franzluebbbers - Jason Freidenberger
Robert Fryar - Rick Fulton - Ben Furleigh - Pavan Gadicherla - Kelly Garbin - Darin Gardner - Jerry Gaston - Kenneth Gaul - John Gelms - Mike George - Mark Gies - Mike Glynn - Mark Goble - Andrew
Goldberg - Claudia Gomez - Michael Gong - Danny Gonzalez - Fernando Gonzalez - Scott Gosselin - Joel Grace - Dustin Graef - Theresa Grape - Matt Graupen - Terry Green - Don Green - Jason
Greenleaf - Wayne Gregory - Jim Grimm - Larry Gumpert - Ralph Gutierrez - Chuck Haba - Dustin Haddock - Rob Haddock - Tom Haic - Steve Haic - Rahim Hakimi - Donna Haney - Cory Hann
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Hudgins - Leila Hurd - Allen Hurtz - Scott Hutchings - Jesus Ibanez - Elyse Inglese - Doug Irbe - Barry Ivy - Ryan Jackson - Jay Jacoby - Andy Jaworski - Ryan Jenkins - Rohena Jhensen - Lucretia
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Brandon King - Todd Kister - Lorell Kline - Craig Klingler - Joshua Knadler - Fred Koetting - Steve Kosir - Myron Kottwitz - David Koubek - Edward Krusec - Christina Kuhl - Luke Ladd - Mike Ladd
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Richard McClure - Art McCullough - Darren McGonigle - PJ McHugh - Don McKinnis - Jacob McQuain - Keith Medick - Joey Meggs - Rachel Mercado - Cam Michael - Santiago Millan - Duane Miller
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Stephen J. Reiners - Kevin Reinheimer - Robert Reyes - Chris Richards - Charlene Riegger - Don Riley - Stan Rinkol - Hal Robbins - Richard Roberts - William Roberts - Brad Robeson - Cody Rodden
Michael Roeder - Bob Rollason - Frank Rosales - John Roscoe - Dave Rosenberg - Michael A. Rosenberry - Brandy Roton - John Runkle - Rodger A. Russ - Robert Sabol - Ed Sabre - Anthony Salvatore
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Shaw - Keith Shedd - Brian Shelton - Kendall Short - Bob Silktberg - Colton Simmons - Barry Sims - Scott Siverly - Brian Smallwood - Joan Smigel - Dave Smigel - Jason Smith - Mark Smith - Eric
Smith - Carlie Smith - Judson Smith - Mike Smith - Jeanie Smith - Curtis Smock - Bob Smola - Mike Snelling - Anthony Soares - Scott Spalding - Mark Specht - Donna Spicer - Jeff Spradley - Joe
Stager - Grant Stahl - John Stahl - John Stark - Richard G. Starks, Jr. - John Starr - Dirk Stauffer - Dan Steed - Carsten Steiner - Bob Stenzel - Joeline Stevens - Heather Stiles - Matt Stone - Craig
Storch - Amanda Storer - Roger Story - Tammy Strausbaugh - Jack Sturdivant - Christopher Stutsman - Steve Sukup - Erin Sullivan - Prabhayya Swamy - Dan Sweeney - Randy Tackett - Craig
Taliancich - Michael Teems - Ralph Tenuta - Stephanie Theis - Tula Thompson - Nick Thompson - Philip Thompson - Vinay Thottunkal - Robert Tiffin - Brad Tinney - Brant Tirello - David Tomchak
Scott Tomlin - Buzz Tompkins - Corey Tompkins - Ivan Traver - Rich Trice - Charlotte Tyner - Mark Ubl - Adam Ugliuzza - John Underwood - Smokey Underwood - Mark Van Dyken - Randy Varble
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Samantha Watson - Russell Watts - David Weatherford - Shane Weathers - Mark Weaver - Randy Webb - Teisen Webb - Jerod Webber - Mary Weber - Steve Weber - Ken Welch - Amanda Welch
Travis Wendt - Alexis West - Dena Whitaker - Chad Wieberg - Deb Wiese - Kasi Wilburn - Jason Williams - Rick Williamson - Jim Wilson - Todd Wilson - Daniel Wise - Jon Woehrer - Steve Wright
Tom Wrigley - Travis Yetter - Wes Young - Rene Zamarripa - Ming Zhu



Two-EE's Winery • Huntington, IN

Accreditation Committee

Accreditation Benefits Building Owners, Contractors & Developers

As the chairman of the MBMA Accreditation Committee, I serve as the accreditation Advocate for the industry and work with the International Accreditation Service (IAS) to achieve solutions that meet the needs of IAS, MBMA and the metal building systems industry as a whole. The 20 Accreditation Committee members ensure that the AC472 program is a highly impactful quality-assurance initiative that continues to set the pace for the industry. IAS's AC472 accreditation—which all MBMA Building Systems members must obtain—adds value for the end customer and differentiates the metal building systems industry from other forms of construction.

MBMA has collaborated with IAS, a subsidiary of the International Code Council (ICC), to develop the IAS Inspection Program for Manufacturers of Metal Building Systems. The program is based on the requirements of Chapter 17 of the International Building Code and provides code officials with a means to approve the inspection programs of manufacturers involved in the fabrication of metal building systems. It is a program that benefits building owners, contractors and developers.

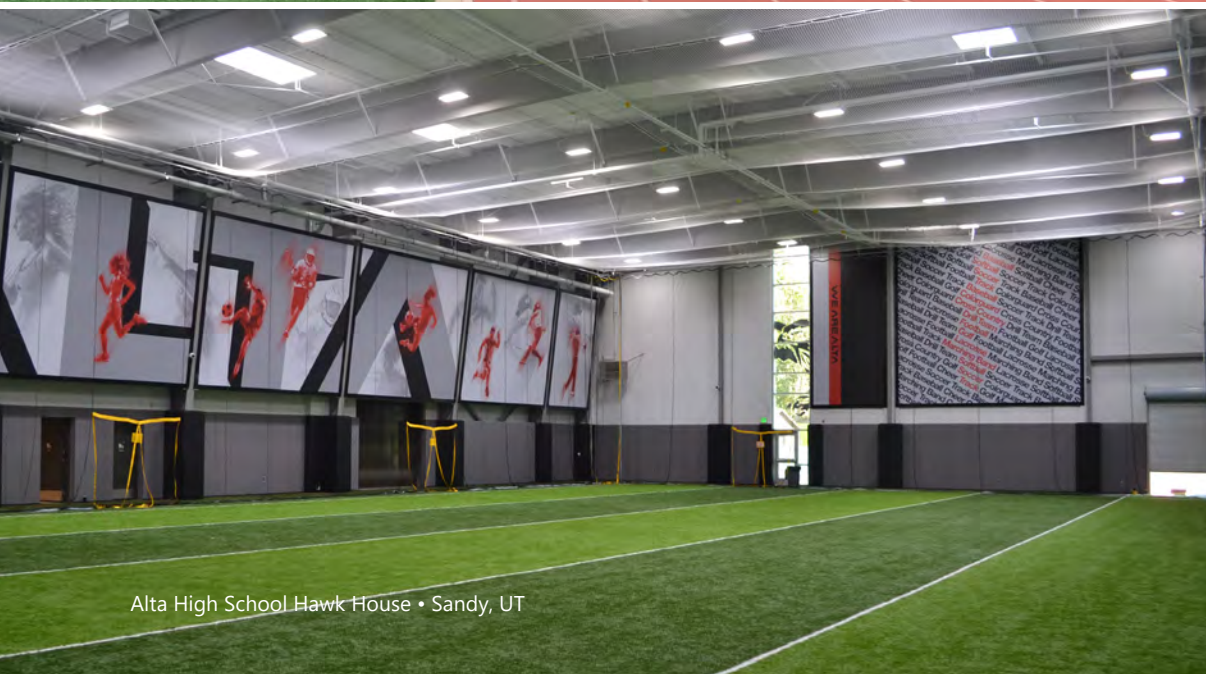
The COVID-19 pandemic has made it difficult this year, but the MBMA Accreditation Committee and IAS have made it a priority to work together in 2021 to strengthen the program. In 2020, we evaluated the current non-destructive testing (NDT) endorsement criteria and proposed a few necessary changes to ensure the program effectively meets its goal without undue burdens on MBMA and its members. To help determine NDT requirements of the applicable building code and to establish minimum practices

and procedures for maintaining AC472 accreditation, IAS and MBMA issued an article, "Non-destructive Testing—Building Code Requirements and IAS AC472 Accreditation," which appeared in the ICC Building Safety Journal. The article addressed several key issues impacting our procedures and certifications going forward.

It is an honor to represent MBMA as committee chair and I thank those who give their time and talents to ensure the success of our objectives for this committee.

Tanner Moy
Committee Chair





Alta High School Hawk House • Sandy, UT

Architect Committee

The Importance of Building Relationships to Influence Perceptions

The Architect Committee at MBMA was established in 2020 as the outcome of MBMA's 2019 Innovation Award program. The idea was met with overwhelming enthusiasm from the members, with large numbers of volunteers coming forth from both the Building Systems and the Associate member ranks. We can have an unbelievable impact on our future and expand opportunities through a symbiotic relationship with a greater number of professional architects. As our MBMA Chair, Steve Browning, said in a *Metal Construction News* article earlier this year, "One problem we continually face is that architects, as owner influencers, often don't think to recommend metal buildings to their clients for low-rise projects. Maybe they haven't been exposed to the many values of metal buildings in architecture courses; maybe their company has not tried using a metal building solution. Maybe they think code officials won't be as friendly toward metal building designs."

As architects embark on a design, and are looking for help, we need to be their advocates and guides; but to do so we need to learn and appreciate how architects think. With that in mind, we've identified several dozen architects with whom we can expand and leverage our existing relationships. We also intend to help architects understand the immense creative potential inherent in today's metal building systems—not to mention cost and energy savings with a potential dramatic increase in speed of delivery over other forms of building design and construction.

In 2020, the focus has been grassroots in identifying and building our architect database. In 2021 we will reach out to these and additional networked architects through participation in local, state and national American Institute of Architects (AIA) venues, as we have big plans for the days ahead.

With a multifaceted approach, and by working collaboratively with all of the other MBMA committees, we will build relationships, speak at conferences, host workshops and teach continuing education credit courses to help influence perceptions of metal building systems throughout the greater architectural community.

Robert Tiffin
Committee Chair





Farm Wisconsin Discovery Center • Manitowoc, WI



Education Committee

Educating Engineering Students & Practicing Architects Is Front & Center

Education has been a foundational component of MBMA's mission since the association was founded in 1956. The Education Committee is proud to keep that heritage vibrant.

One of our highest achievements in 2020 has been the preliminary development of a design competition for architecture students and their faculty representatives. We developed award submission materials and background research for the students, then packaged these resources within an attractive and interesting website. The award program rollout will happen in fall 2021, due to the challenges of working in student teams due to COVID-19; but that bump in the road is actually giving us more time to fully build out the educational materials in order to help the students succeed. We will announce inaugural winners in early 2022.

In addition to the competition, we completed our third year of partnering with college professors and engineering school deans to develop capstone classes to help students understand the nuances and opportunities that metal buildings bring to the low-rise building market. This year, we paired eight universities with specific metal building manufacturers that are providing mentoring, education and assistance to students in capstone courses. We are also partnering with the University of Wisconsin on a virtual reality (VR) project that will allow students and others to view metal building construction through a VR headset. Each year, this college outreach program grows in quality and it's become very well-respected by engineering schools; so, we feel it's been a very successful program that will continue to influence engineering education for many years to come.

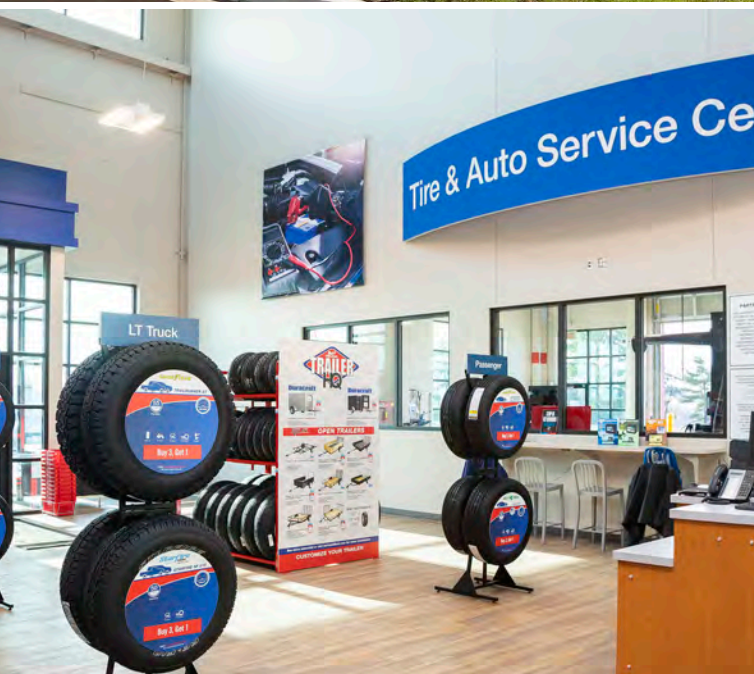
We are also pleased to announce that MBMA's sixth CEU/LU course for architects was published late this year. Produced in partnership with the American Institute of Architects (AIA) and *Architectural Record* magazine, "Creative Building Solutions with Pre-painted Metal Panels" is now available through *Architectural Record's* Continuing Education Center website and also via a mobile device app. The course provides one Learning Unit credit for AIA members. MBMA's courses have been very effective in educating practicing architects, as evidenced in 2018 when the course we produced that year, "Sustainable Metal Buildings," was recognized by *Architectural Record* for being the fastest-moving CEU course of 2018.

John Underwood
Committee Chair





Blain's Farm & Fleet • Holland, MI



Energy Research Shapes Best Practices

The MBMA Energy Committee members are hard at work to create two important studies that will lead to best practices documents that can be used throughout the industry to improve the energy performance of metal buildings. The first is a guide to minimize the potential for condensation issues. To create the groundwork, we retained Morrison Hershfield to perform a three-dimensional hygrothermal analysis to measure heat flow and moisture throughout the building envelope and identify areas where condensation may occur. The study has been conducted over a one-year period at four locations across America that represent varied climate zones.

We are also performing important air leakage testing. The IECC and ASHRAE building codes will require air leakage testing in the next edition, so our efforts are very timely. We were fortunate to retain Bob Zabcik of Z-tech Consulting, LLC as our energy consultant. Bob has many years of metal building design and energy analysis expertise.

Thus far, we have identified overhead doors as an area that needs to be considered early in the project and that it is advantageous to select a door that is rated thermally and for air leakage. We've also learned that attention to the installation of fenestration and breaks in the building envelope are extremely important and that a little extra attention during installation can save a lot of time and improve building performance. In 2021, we will consolidate all of our findings and provide them through MBMA's website for the benefit of the entire industry. I want to give a big thanks to the Metal Building Contractors & Erectors Association, which is partnering with us on this endeavor. This collaboration underscores what great things we can accomplish by working together.

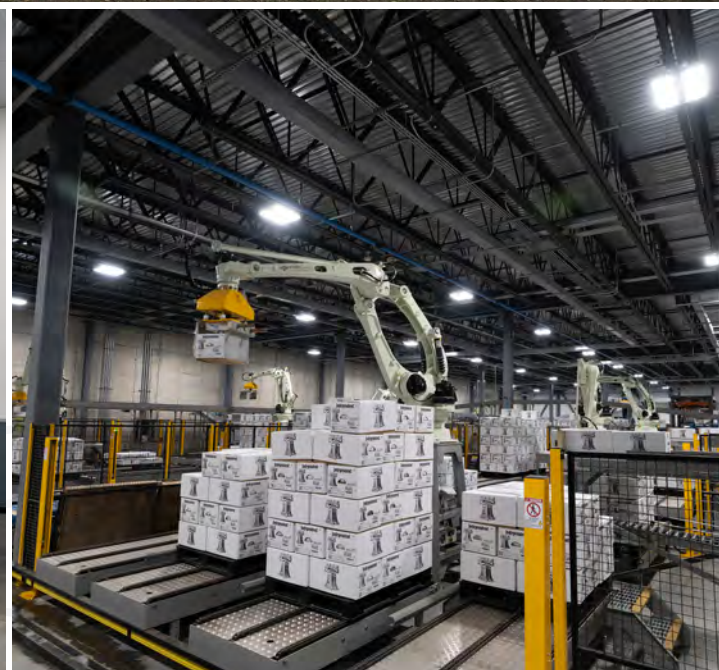
Finally, I want to introduce to you Greg Effland, PE, who will take over as chair of the Energy Committee in 2021. Greg is a very talented professional and I'm confident he will bring new ideas and "energy" to the committee.

Rick Haws, PE
Committee Chair





Mount Adams Fruit • Bingen, WA



Fire & Insurance Committee

Hail & Head-of-Wall Research Points to Potential Savings

In 2020, the MBMA Fire & Insurance Committee continued important research regarding hail and its impact on structural metal roofing. Before 2011, many insurers considered losses from wind and hail a cost of doing business. Since these losses have increased substantially, MBMA's insurance counsel, Rose Grant, AIA, CPCU, provided us with background on how those losses now play a major role in the price of insurance coverage. We completed a drying rate study of simulated hail impacts to determine if divots in a metal panel, caused by hail, stay wet longer than the rest of the panel, thus affecting the service life. The research concluded that the service life of Galvalume standing seam panels is not affected by hail-impact divots up to 0.160-inch depth, which would be expected with 1 3/4-inch-diameter hail. In addition, a study is underway to define functional damage of Galvalume coating on structural metal roofing by examining the condition of the coating on roof panels that are over 40 years old. MBMA also provided the Insurance Institute for Business & Home Safety (IBHS) with structural metal roof specimens for its study on the effects of hail on roofing. The specimens were impacted with simulated hail in 2019 and placed outdoors. As the impacted roof panel samples age, we will gain insights into how they perform over time and what long-term effects hail imposes on structural metal roofing.

We're also working on a new head-of-wall assembly. Current assemblies cannot ensure that insulation and vapor barriers remain in place throughout construction or renovation. We are developing an assembly that stops at the bottom of the purlin and doesn't enter the purlin cavity. It will not disturb the insulation or affect the building envelope and will simplify the construction process. We have been working with Intertek to complete fire and air leakage testing on this assembly and will present a report by year-end 2020.

The committee also updated several existing fire-resistance-rated assemblies, specifically the head-of-wall details and the roof-ceiling assembly, to reflect additional insulation required to meet updated energy codes. These demonstrate to design professionals and code officials that metal buildings can be both energy-efficient and fire-safe.

Andy Jaworski, PE
Committee Chair





Cherry Hill Dental • Columbia, MO

Marketing Committee

How Shall We Tell the Metal Building Story?

MBMA's Marketing Committee has a big job—but our committee members understand that marketing the accomplishments of an association takes teamwork. In fact, it's the good work of the other MBMA committees that allows those of us on the Marketing Committee to do our jobs. When the Education Committee builds relationships with college professors, for example, it's our job to give them print and video tools to influence and educate both teachers and students. When the Technical Committee releases a new study, it's our job to share that information through print media exposure and social media channels.

This year, I'm particularly proud of two of our ongoing projects. One is our development of industry case studies. So far, we've created beautiful booklets that showcase metal buildings in specific industries: Commercial Communities; Warehouses & Storage; Retail & Wholesale; Distilleries & Breweries; Roofing & Solar; Vehicle Sales & Service; and Recreation & Fitness. We continue to update existing documents and create new ones to highlight beautiful and functional metal buildings.

I'm also excited about "How It's Built," a new video production in progress. When we created MBMA's "How It's Made" video we had no idea how popular it would become. To date, it's been viewed on YouTube over 100,000 times since we introduced it in 2017. That video takes you right into a manufacturing plant where you watch people create the elements of a metal building. This new video takes you onto a construction site where you can watch erectors put a building completely together. I hope you'll find it intriguing.

I want to also thank the Marketing Committee members for their commitment and help. They are very engaged. They understand our role as the mouthpiece for MBMA—and really for the metal building industry. The team gives great feedback and truly looks beyond what we've done in the past to explore new ways to keep MBMA at the forefront of the metal building conversation.

Brian Shelton
Committee Chair





Great Park Ice & FivePoint Arena • Irvine, CA



Safety Committee

Stay Safe, Be Smart, Plan Ahead

For those of us who are safety professionals, this past year has taught us to tread water in a shifting current. You do the best you can—and hope it's enough.

The MBMA Safety Committee is composed of the very committed safety professionals who work within the metal building industry. We have historically teamed to anticipate workplace hazards and issues and to proactively prepare for them; but not one of us came into 2020 with experience in navigating through a pandemic.

To support our companies' safety goals and to help all MBMA members in the process, we held an online meeting to document our pandemic preparedness strategies and to learn from one another.

Each person told us how they were determining the best cleaning solutions and protocols. One member explained that his firm's maintenance staff had created a disinfecting fogger that they could use throughout the day to keep high-traffic areas reasonably free from risk of infection. We also discussed the importance of remaining flexible, particularly to accommodate the needs of employees who might be at high risk or have family circumstances where they must prioritize the welfare of their children and parents. As a result, many member firms began a three-pronged approach to personnel safety, which involved being more flexible with voluntary time off, accommodating work-at-home alternatives, and amending sick-leave policies to encourage the reporting of illness.

These examples are but a few of the many safety issues that were shared and discussed throughout our brainstorming session.

Once the pandemic is behind us, the Safety Committee members will again come together to document all best practices and recommend guidelines and strategies that can be shared with all MBMA members. As we proactively help people be prepared, we will hopefully help them mobilize quickly, should another pandemic arise.

Safety has never been more important and we will continue to explore ideas and alternatives to keep employees and families out of harm's way.

David Weatherford
Committee Chair





Statistics Committee

Where Would We Be Without Numbers?

Metal building manufacturing firms that are members of MBMA have a unique industry advantage. Namely, they are privy to composite industry operating statistics concerning things such as manufacturing productivity, sales, backlog and safety. This statistical data is only available through MBMA and it allows manufacturing member companies to benchmark their operations anonymously against those of similar businesses. There are no other statistical sources that can provide such industry-specific information.

MBMA's Statistics Department compiles confidential data gathered from manufacturing firm members. Then, the Statistics Committee is responsible for reviewing the resulting reports generated from that data and making recommendations for clarity and improvement. As data geeks, the committee members are enthusiastic about making sure the information is accurate and consistent across all member companies so that we can have complete confidence in the validity of our reports. It's our job to give MBMA manufacturing member firms a way to judge their performance against the market. When they share their proprietary information with MBMA staff, it is then combined with other reporting companies' data to provide a big-picture understanding of the metal building marketplace. It's the only way metal building companies can obtain true metal building statistics.

The Statistics Committee is composed of both MBMA manufacturing firm members and Associate members (i.e., suppliers to the industry). This diversity of backgrounds allows for robust discussion and the introduction of new ideas. One task we're completing this year is adding Federal Information Processing Standard (FIPS) codes to county data for

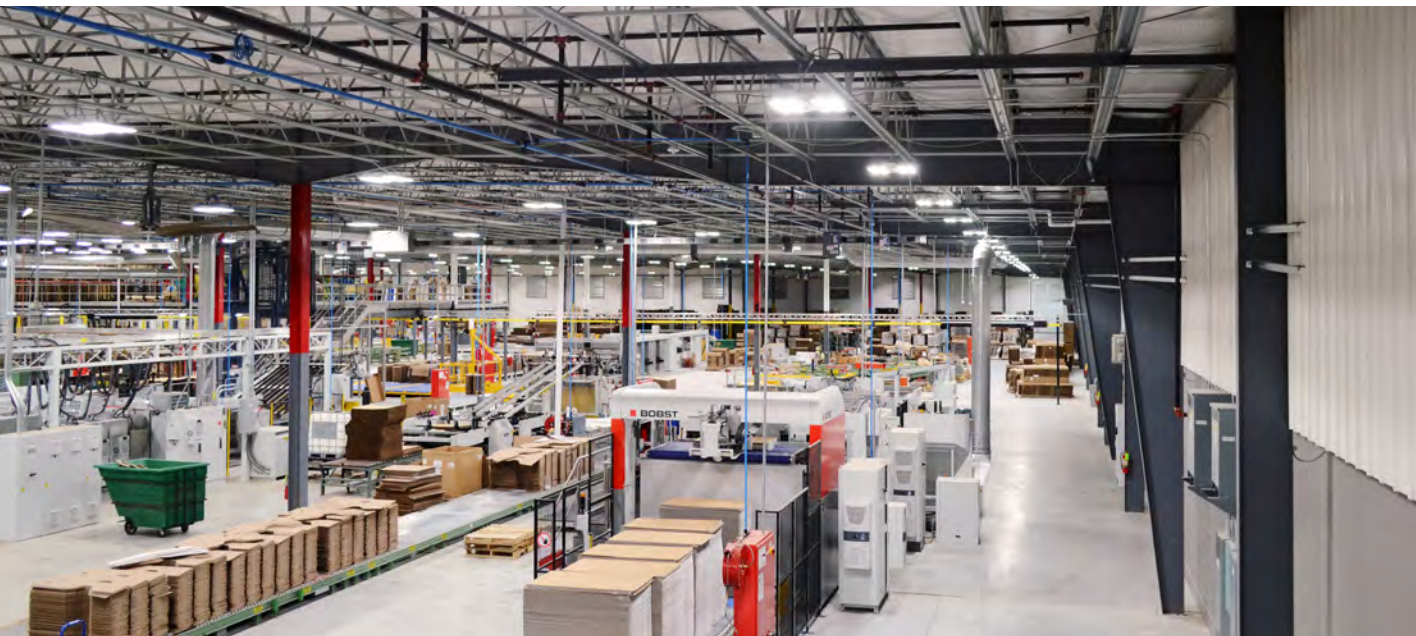
all manufacturing member sales data. FIPS is a universal code that uniquely identifies geographic areas. FIPS codes are incorporated into all commercial mapping software; so, providing sales FIPS to MBMA members allows them to map exactly how much metal building sales activity is occurring, and in which sectors of the U.S. The codes make mapping a lot easier for everyone in our industry. Special thanks to Ljerka Islic Marini in MBMA's Statistics Department for managing the laborious data entry to match FIPS codes with the sales locations of MBMA manufacturing member products.



Donna Hise
Committee Chair



Buckeye Corrugated, Inc. • Cedar Falls, IA



Sustainability Committee

Life Cycle Implications of Metal Building Systems

In 2017, MBMA's Sustainability Committee spearheaded the creation of an industrywide life cycle inventory (LCI) report, as well as data for practitioners to use in their Life Cycle Assessment (LCA) software programs. That work further led to the development of three Environmental Product Declarations (EPDs) for primary framing, secondary framing and wall and roof panels. Those EPDs are posted on UL Environment's website and on MBMA's website for use by the entire metal building systems industry.

To maintain UL approval, EPDs must be regularly updated; so, this year we completed the "Life Cycle Assessment of MBMA Primary and Secondary Structural Steel and Wall and Roof Panel Products" report. The independent research was completed by Jamie Meil and Dr. Lindita Bushi of the Athena Sustainable Materials Institute.

As before, the data, compiled from MBMA's manufacturing member firms, ranked very favorably compared with other forms of construction. The resultant information provides three value-added opportunities by: 1) allowing us to promote and track the continuous improvement of the environmental performance of metal building component products as technology advances over time; 2) permitting member companies to benchmark a plant-specific product footprint against a valid industry average; and 3) supporting the development of derivative works, such as industry-average carbon footprint reporting and/or sector-level EPDs.

Our findings will be available to the public in 2021 and lead us to update the three current Environmental Product Declarations.

John Underwood
Committee Chair





Technical Committee

Technical Doesn't Mean Dull

The MBMA Technical Committee is extremely active: reviewing draft publications, influencing code development, managing research, creating manuals and so much more. This year has had its challenges due to the pandemic. Our research is generally tied to universities, so with professors and grad students away from campus, there were a few kinks in our schedules. Still, all our academic teams have come through and we are on target to meet our research goals.

One significant accomplishment is our work on the AISC Design Guide 25: "Frame Design Using Web-Tapered Members." Working with Dr. Donald White at Georgia Tech, we have carefully nurtured this updated publication that serves as a foundational guide for steel design used in our entire industry.

Another important initiative involves our impact on the next edition of the ASCE 7 standard. While the new standard will not take effect until 2022, we have to be forward-thinking so we can respond to potential changes that could be either helpful or detrimental to our industry. The standard is critical, as it establishes minimum design loads for buildings and other structures and determines snow, wind, earthquake and crane loading. It is crucial that we be involved in ASCE 7 development so that we will have a voice in determining what goes into the new standards and be proactive in fighting for, or against, changes. ASCE has committees to address each chapter of the standard, with MBMA staff and Technical Committee members actively participating in many of them. I am proud to say we have been very successful as our input is valued and seen as bringing solutions to the table that benefit the construction market and metal building industry.

We continue to work diligently on seismic and wind research, building code updates, structural member capacity and much more in order to enhance the industry's body of knowledge and push the envelope to make the best use of our research capacities.



Dustin Cole, PE, SE
Committee Chair

Benefits of Metal Building Systems

A metal building system is a custom-engineered steel solution that optimizes and integrates steel framing, roofing and walls. Each building constructs quickly, saves energy, is long-lasting and is environmentally friendly, with virtually no waste in the manufacturing process and very little waste on the job site.

Some typical benefits include the following:

- Building production and construction can be completed in weeks—typically far faster than other building alternatives.
- Metal buildings are environmentally friendly. The circularity of metal allows for over half of the steel in a metal building to come from recycled products and a substantial amount of steel can be recycled at the end of a building's life.
- Large, column-free spaces provide immense flexibility in interior configurations.
- Wall cladding options are abundant and may include metal panels, brick, concrete, masonry, glass, tilt-up concrete and specialized architectural finishes.
- The optimized design makes a metal building a very economical choice.

The photo shown to the right depicts some of the attributes of one typical metal building.

When your business grows, your building can too! By simply removing one wall and adding additional metal panels, expansion is built into the design.



Since structural steel frames bear the building load, there are many exterior wall options including architectural or industrial metal walls, brick, glass, wood, masonry, EIFS, concrete, insulated steel wall panels and more.

The surface of a metal roof is resilient and resists dirt and biological buildup, which keeps it cool longer than other roof types where soil and algae can form.

Optimized steel frames, constructed of recycled steel, create column-free open spaces.



Educational & Technical Resources

Video Productions

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

Top Pick

How It's Made: Metal Building Innovations Are Revolutionizing Low Rise Commercial Construction
116,813 views to date

New in 2020

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

Popular Video Resources

- *AC472 Why Accreditation Matters*
- *An Introduction to Metal Building Systems*
- *Award Winning Metal Buildings*
- *Come Build Your Future* (plus 13 career option videos)
- *Energy Code Compliance for Metal Building Systems* (Parts 1-4b)
- *Fire Resistance Design for Metal Building Systems* (Parts 1-5)
- *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*
- *Life Cycle Assessment: Athena Presentation*
- *UL Webinar: Environmental Product Declarations*

- *Metal Building Systems 101*
- *Metal Building Systems Speed of Construction*
- *Sustainability for Metal Building Systems*
- *Sustainable Benefits of 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*

Technical Manuals & Guidebooks for Purchase

Download previews and full documents or order print versions at https://www.techstreet.com/products?publisher_id=288274

- *2018 Metal Building Systems Manual* (from \$289)
- *Metal Roofing Systems Design Manual - Second Edition* (from \$95)
- *Fire Resistance Design Guide for Metal Building Systems* (from \$96)
- *Energy Design Guide for Metal Building Systems - Second Edition* (from \$99)
- *Seismic Design Guide for Metal Building Systems* (from \$99)
- *Guide for Inspecting Metal Building Systems, Second Printing* (from \$60)
- *MBMA Bundle - Metal Building Systems Manual, Energy Design Guide for Metal Building Systems, and Fire Resistance Design Guide for Metal Building Systems* (from \$333)





Technical & Educational Resources for No-Fee Download

Download 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 for No-Fee Download

Download documents at www.mbma.com/blog

- *Breweries & Distilleries*
- *Commercial Communities*
- *Recreation & Fitness*
- *Retail & Wholesale*
- *Roofing & Solar*
- *Vehicle Sales & Service*
- *Warehouses & Storage*

Continuing Education for AIA Credits

Produced in partnership with the American Institute of Architects 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: <https://www.architecturalrecord.com/topics/2141-architect-continuing-education>.

New

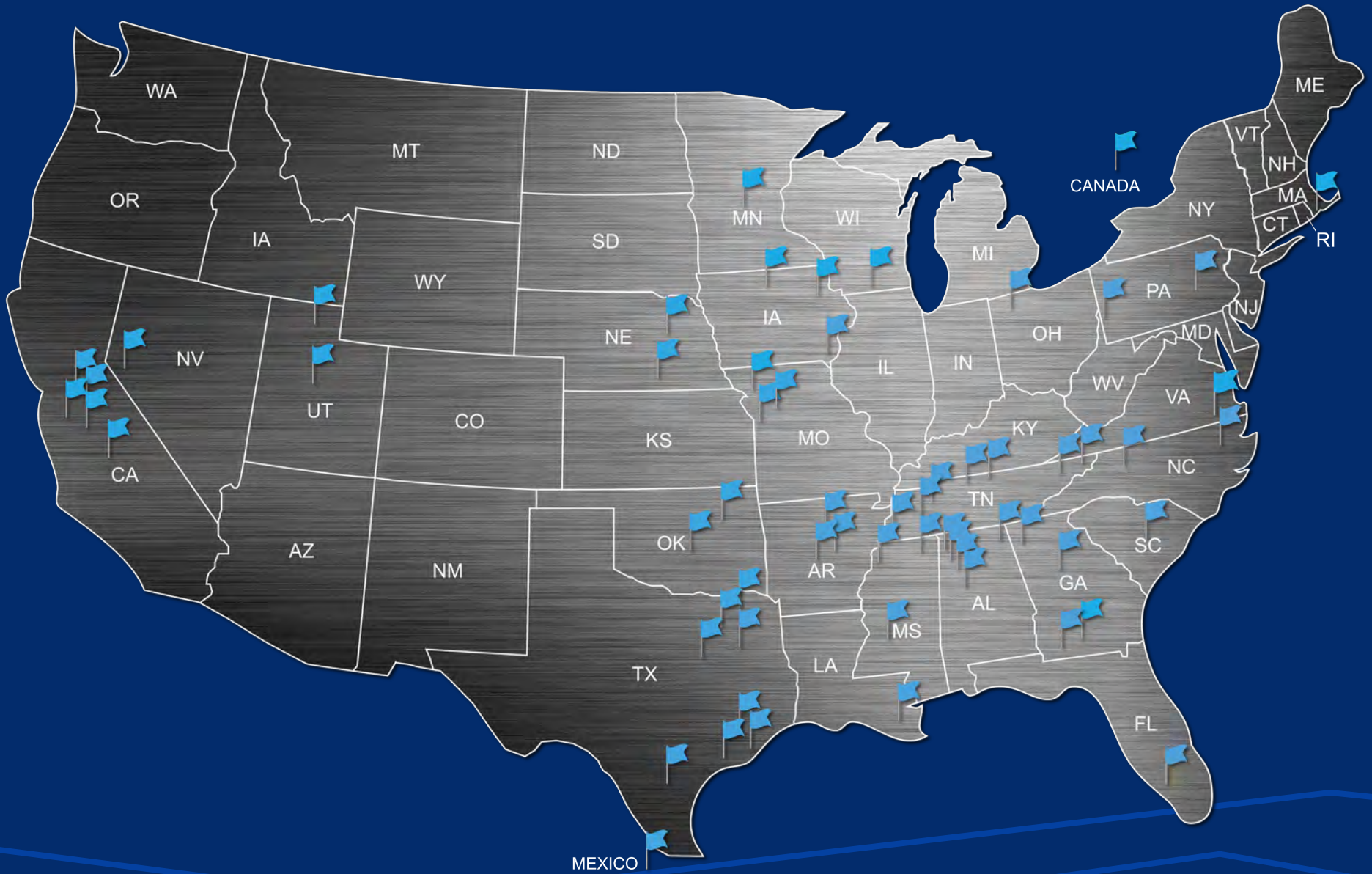
- *Creative Building Solutions with Pre-painted Metal Panels*
- *Specifying a Metal Building System*
- *Life Cost Assessment/Sustainability of Metal Buildings*
- *Creative Metal Building Design Alternatives*

Webinars

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

- *Energy Code Compliance for Metal Building Systems: 5-Part Series*
- *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*

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

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

MISSOURI

Cameron
Kansas City
St. Joseph

NEBRASKA

Columbus
Grand Island

NEVADA

Carson City

NORTH CAROLINA

Greensboro
Rocky Mount

OHIO

Kenton

OKLAHOMA

Claremore
Oklahoma City

PENNSYLVANIA

Ambridge
Annville

SOUTH CAROLINA

Swansea

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

A&S Building Systems
ACI Building Systems, LLC
All American Systems
Alliance Steel, Inc.
American Buildings Company
Associated Steel Group, LLC
BC Steel Buildings, Inc.
Behlen Building Systems
Bigbee Steel Buildings, Inc.
BlueScope Buildings North America, Inc.
Butler Manufacturing
CBC Steel Buildings
Ceco Building Systems
Chief Buildings
CO Building Systems, Inc.
Cornerstone Building Brands
Dean Steel Buildings, Inc.
Garco Building Systems, Inc.
Golden Giant, Inc.
Heritage Building Systems
Inland Buildings
Kirby Building Systems, Inc.
Ludwig Buildings Enterprises, LLC
Mesco Building Solutions
Metallic Building Company
Mid-West Steel Buildings
Northern Building Systems, Inc.
Nucor Building Systems
Package Steel Systems
Pinnacle Structures, Inc.
Red Dot Buildings
Reed's Metals
Reed's Metals of Alabama
Robertson Building Systems
Schulte Building Systems, Inc.
Spirco Manufacturing
Star Building Systems

Sukup Manufacturing Company
Sukup Steel Structures, Inc.
Trident Building Systems, Inc.
Tyler Building Systems, L.P.
Union Corrugating Company
Varco Pruden Buildings
Vulcan Steel Structures, Inc.
Whirlwind Steel Buildings, Inc.

ASSOCIATE MEMBERS

ABIS, Inc.
Akzo Nobel Coatings, Inc.
All Weather Insulated Panels
Applied Testing & Geosciences, LLC
Atlas Bolt & Screw Company
Bay Insulation Company
Benchmark Consulting & Inspection
Birmingham Fastener, Inc.
Birmingham Rail & Locomotive
Building Products Development
Building Research Systems, Inc.
CADeploy, Inc.
CertainTeed Corporation
CIDAN Machinery
Commercial Metals Company
Covertech Flexible Packaging
Crane Composites, Inc.
Diamond Door Products, Ltd.
D.I. Roof Seamers
DuPont
Dynamic Fastener Service
Expi-Door Systems, Inc.
Glasteel/Stabilit America, Inc.
Global Building Products
Hunter Panels
Intertek
ITW CCNA
ITW Polymers Sealants North America

Kingspan Insulated Panels
Konecranes
Lamtec Corporation
Lincoln Electric Company
Metal Building Software, Inc.
Metallic Products Corporation
Metl-Span
Modern Trade Communications, Inc.
New Millennium Building Systems, LLC
Owens Corning
Palram Americas, Inc.
Panasonic Corporation of North America
PDL Building Products
PowerLift Hydraulic Doors
PPG Industries, Inc.
Precoat Metals
Preferred Solutions, Inc.
Preformed Line Products
Premier Steel Doors and Frames, Inc.
Quality Roof Seamers
Roof Hugger, Inc.
S-5! Attachment Solutions
Sealed "N" Safe
Service Partners
SFS intec, Inc.
Sika Corporation
Silvercote, LLC
Steel Dynamics, Inc.
Tell Manufacturing
Telling Industries
The Sherwin-Williams Company
Therm-All, Inc.
TopHat Framing Systems, LLC
Triangle Fastener Corporation
United States Steel Corporation
Wurth House of Threads



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