



# METAL BUILDINGS: A LIMITLESS FUTURE



**MBMA**  
METAL BUILDING MANUFACTURERS ASSOCIATION®  
Research | Leadership | Education

2018 Annual Report





# Contents

Chairman's Message.....	3
Management Perspective.....	7
Committee Accomplishments.....	11
Accreditation Committee.....	13
Communications Committee.....	15
Education Committee.....	17
Energy Committee.....	19
Fire & Insurance Committee.....	21
Safety Committee.....	23
Sustainability Committee.....	25
Technical Committee.....	27
MBMA Educational and Technical Resources.....	31
MBMA Member Manufacturing Facilities.....	35
MBMA Members.....	37
Invest in Metal Buildings.....	41



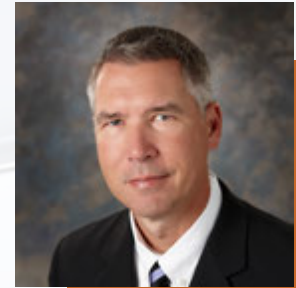
# Chairman's Message

## ABOUT MBMA

Founded in 1956, MBMA serves manufacturers and suppliers as it works to promote the metal building systems industry. For over 60 years its membership has supplied 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](http://MBMA.com), for anyone who works with or is interested in metal building systems. Resources include technical materials, research reports and design guides.



# LEADERS ARE THE CORNERSTONE OF MBMA'S SUCCESS



**Dave Koubek**  
MBMA Chairman

One thing I've learned by serving as Chairman of MBMA is that this is an association filled with energy. As you read through the committee reports on the pages ahead, you'll see a wealth of initiatives underway that reinforce the passion and purpose that the committee members bring to the table.

Be sure to notice, too, the running list of names that flow as a graphic throughout the pages of the committee reports. Those hundreds of names are the people who currently serve on MBMA committees. That is a lot of people. We could not begin to accomplish all that we do to enhance the prominence and perception of the metal building industry if they were not there pushing the envelope to improve systems and processes, fighting for code changes and blending ideas to make new ideas come to life.

For example, Robert Tiffin of Silvercote, LLC came up with the idea for a new Industry Advocate Program for MBMA's Associate members. He and the MBMA Associate Member Advisory Council have developed a points system to recognize Associate members' involvement in the association and the industry. It will be launched at the MBMA 2018 annual meeting.

Another committee member, Dean Jorgenson of Metal Building Software, Inc., also provided a valuable idea. As the recipient of MBMA's 2018 Innovation Project award, he will spearhead an effort to enhance education in the metal building construction arena, using existing resources from the Metal Building Institute and MBMA among others. Such knowledge sharing will elevate the industry and make us all stronger.

We're also excited to complete an industry survey that takes a wide and deep look at the decision-making process in the low-rise commercial construction industry and explores how those decisions impact market share for metal building systems. The board expects that the results of the survey will lead to future analysis and some long-term strategies to help more owners, developers and building decision makers choose metal building solutions.

2019 will be exciting!

---

*"As a business that works closely with farmers and agriculture, our sensitivity to being energy efficient, generating a low carbon footprint, minimization and reuse of recycled metals, and minimal job site waste are near and dear to our primary sense of responsibility."*

*-Travis Hasse, President  
Dancing Goat Distillery*

---





Dancing Goat Distillery • Cambridge, WI



# Management Perspective

## **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

### Account Executive

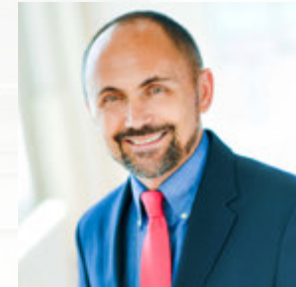
- Jennifer M. Oblock

### Engineering Administrative Assistant

- Constance R. Notter



# HOME RUN! MBMA SCORES AS INDUSTRY LEADER



**Tony Bouquot**  
MBMA General Manager

**E**very week I play soccer at an indoor facility in Cleveland. I've been playing with the same group of guys in that same building for 15 years; but it wasn't until a few months ago that I realized it's a metal building! I'm probably no different than the average person who does not know how ubiquitous metal buildings are and how we work, shop, play, study and worship in them. I'm excited to be part of such an important and vital industry and look forward to helping MBMA educate other "average people" about the advantages of metal buildings and to help MBMA members grow the market.

My first four months at MBMA have been a whirlwind of activities that have highlighted all of the great work the association does. In that time frame I:

- Attended the MBMA Technical Committee Meeting where I learned from professionals with over 200 years of combined industry experience.
- Visited a metal building plant and saw firsthand the team of experts required to design and produce a building.
- Met with the American Iron and Steel Institute, which gave me a greater appreciation of MBMA's role in the steel industry.

- Attended a member's presentation and tour as part of a collaboration with a university capstone class.
- Led the biennial MBMA Statistics Committee meeting.
- Represented MBMA at an IAS accreditation meeting.
- Participated in METALCON where MBMA exhibited and hosted a safety workshop.

I look forward to the opportunities before me to help MBMA continue the great work it's already performing and help the association reach its strategic goals.

This message would not be complete without a thank you to Dan Walker, PE. As I attempt to fill his shoes, I'm reminded of his legacy. My hope is to continue to be, like him, an enabler of change, a proponent for growth and a hands-on leader. Best wishes in your new career, Dan, and thank you for the impact you've left on the metal building systems industry.

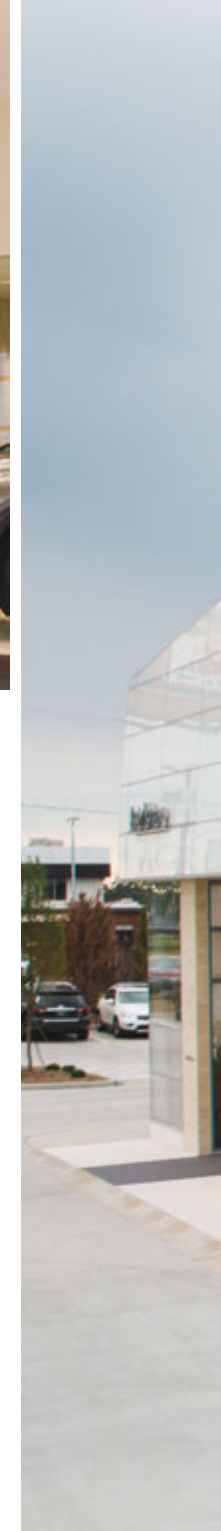


---

*"Metal buildings today are really energy efficient and this is one of the things that most people don't realize is that they have the ability to meet all the codes all over the country quickly and easily."*

*-Tula Thompson  
Bay Insulation*

---





Bradshaw Infiniti • Greenville, SC



# Committee Accomplishments

## **@LearnAboutMBMA**

*@LearnAboutMBMA recently recognized Allen Harrold of BlueScope Buildings and Alan Blair of @chiefbuildings for their years of service on MBMA's Technical Committee. See more about their work and recognition here: <http://ow.ly/qaDm30mtpaA> #BuildSteel #MetaBuildings*



## Together We Do More

### RESEARCH

- Metal Roof Hail Damage
- Seismic Behavior of Metal Buildings
- Bolted Endplate Connections
- Wind Loads on Metal Buildings
- Load Requirements for Wireless-Controlled Cranes
- Rod Brace-to-Web Connection Anchorage
- Frame Knee Panel Zone
- Optimized Cold-Formed Steel Design Using Direct Strength Method

### LEADERSHIP

- AC472 accreditation review
- MBMA *Fire Resistance Design Guide* update
- Completion of comprehensive COMcheck examples

### EDUCATION

- Published free MBMA *Energy Code Compliance: A Guide for Metal Building Systems Contractors*
- Five new design seminar presentations were recorded and made available to metal building engineers including: "Metal Building Observations – Believe it or Not," "Temporary Bracing for Metal Buildings," "AISC 341-16 Seismic Design Topics – Roof Truss Diaphragm and Multitiered Bracing," "Increase the Design Palette of Steels for Metal Buildings," and "BRBF with Metal Building Systems"
- AIA online courses for architects were added including "Specifying a Metal Building System" and "Life Cost Assessment/Sustainability of Metal Buildings"
- Released "AC472 Why Accreditation Matters" video

## Outreach



**1,543**  
followers

**111,784**  
impressions



**307**  
subscribers

**11,109**  
views



**992**  
followers

**242,596**  
impressions

Traditional  
Media

**130**  
placements





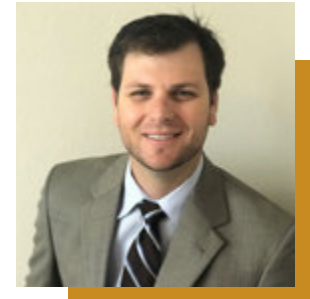
# Accreditation Committee

## @LearnAboutMBMA

*#MBCEA and @IntlAccredSvc have teamed up for the AC478 Accreditation program for #metalbuilding erectors. #Builders and GCs can learn more about the program and one company's story here: <http://ow.ly/rs0X30iFKTy> #contractors @IW\_IMPACT*



# ACCREDITATION IS A CORNERSTONE OF MBMA MEMBERSHIP



**Tanner Moy**  
Committee Chair

MBMA THANKS 500+ COMMITTEE VOLUNTEERS: Jeff Adams - Jerrod Adams - Jeremy Albert - David Alexander - Jeff Alexander - Miguel Alvarez - Jon Amann - Ron Ambrosius - Arne Anderson Michael Anderson - Morrie Anderson - Curtis Archibald - Jennifer Archibald - Ed Armer - Leann Arnold - Roland Augspurger - Cynthia Ayotte - Michael Bailey - Dale Baker - Robert Baker - John Balazs - Craig Banning - Mike Barnes - Scott Barrett - Patrick Barrick - Robin Bartlett - Chris Barton - Aaron Batchellor - Bill Beals - Duane Becker - Spencer Becker - Steve Becker - Jim Beckham Kyle Beebe - Amanda Bennett - Ronald Bennett - Russell Benton - David Bergholz - Guy Bettencourt - Chris Biquenet - Christopher Bingham - Brian Birch - Sharon Bird - Austin Black - Alan Blair

**A**t MBMA, we don't just talk about quality and strict adherence to building codes. We prove it through independent accreditation using the rigorous AC472 program. How serious is MBMA about building safe, high-quality buildings? We make AC472 accreditation a requirement of membership!

Administered through the International Accreditation Service (IAS), the AC472 program requires regular inspections of metal building manufacturing facilities. The program requires that accredited firms:

- Establish quality assurance standards
- Evaluate metal building system vendors, in terms of both their capabilities and products
- Initiate processes and procedures to proactively assess quality and eliminate errors
- Undergo biannual audits of their quality assurance procedures and product quality standards
- Increase quality awareness among employees

IAS AC472 accreditation is particularly important because it allows a building official to easily confirm the manufacturer follows the requirements in Chapter 17 of the International Building Code®.

MBMA's Accreditation Committee works closely with IAS to monitor and assess the program and its value. AC472 benefits building owners, contractors and developers and lends a high level of credibility to all accredited building system manufacturers.

For the 2018 revision cycle, committee members reviewed all proposed changes to AC472, then worked with IAS to clarify and finalize those revisions. Further, MBMA and IAS made plans to work together in 2019 to strengthen the program by providing improved direction to the independent auditors who perform the in-plant inspections.

MBMA's commitment to quality does not end at our members' factory doors. We continue to work closely with the Metal Building Contractors & Erectors Association (MBCEA) to support the expanding adoption of AC478: IAS Accreditation Criteria for Inspection Practices for Metal Building Assemblers. MBMA is proud to assist MBCEA in communicating the value of contractor accreditation.

In closing, I want to say that I am honored to represent MBMA as the new committee chair and look forward to working with you all. I would be remiss if I didn't acknowledge the years of service from former committee Chair, Chuck Haslebacher. Chuck chaired the Accreditation Committee for many years, including the important transition between the AISC Certification Program and the IAS Accreditation Program. Thank you, Chuck, for your years of service and your dedication to continuously improving the metal building industry.



# Communications Committee

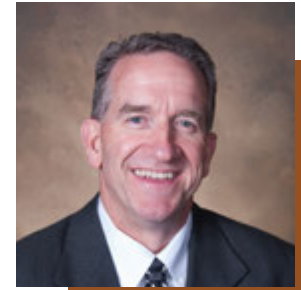
## **@LearnAboutMBMA**

*Get more great information about #metalbuilding #construction by following the @LearnAboutMBMA LinkedIn page. Weekly updates provide association and industry news in detail - check it out here: <http://ow.ly/9Rnz30JcSB>*





# BEHIND THE SCENES TO BRING ABOUT ASSOCIATION SUCCESSSES



**Craig Edwards**  
Committee Chair

Eric Blanscett - Mel Booker - Jorge Borghes - Bruce Bortree - Lawrence Bower - Pat Bradshaw - Don Bratcher - Wes Brooker - David Brown - Leland Brown - Steve Browning - Christopher Bufkin - Steve Burley - Steve Butler - Steve Campbell - Todd Carlson - Jeff Carmean - Robert Carnick - Andrew Carpenter - Jerry Carr - Gil Casey - Brady Childress - Jeremy Childs - Dana Christensen - Leslie Clark - Delmar J. Clark, Jr. - Ken Clauson - Kyle Cobbley - Todd Coburn - Bill Coleman - Don Conrad - Arnold Corbin - Shawn Cornett - Roger Cox - Bill Cralley - Ryan Crist Gary Cummings - Brad Curtis - Chris Curtis - Jodi Datema - Simon De Brito - Nan Dean - Paul Deffenbaugh - Scott DeHaan - Gerardo DeLeon - Dan Denton - Mark Detwiler - Edward Di Cesare

**M**BMA's Communications Committee is a team of 39 professionals who work behind the scenes to communicate the association's successes and achievements. MBMA provides research, leadership and education that increase the prominence and use of metal building systems as a premier solution for performance, aesthetics and sustainability in non-residential building construction. We, the Communications Committee, provide the voice behind that mission, sharing the valuable contributions of the other MBMA committees and those of special task force teams. Here are some examples of how we do that.

## Research to Maximize Our Message

A small team of MBMA members are involved in a very big job—to oversee a survey that will gather information about how commercial building projects are being procured by design professionals, builders, specifiers and developers. The data will show why these decision makers are choosing what they are choosing, and will give us insight into their perceptions of the advantages and disadvantages of selecting a metal building solution.

Once this information is procured, the communications committee will dive in and use that data to create programs, products and messages to influence opinions—and ultimately, building decisions.

## Short Videos Tell Big Stories

Every MBMA committee shown in this annual report needs video support to tell its message, whether related to safety, the environment, codes and standards, education or labor. This past year our committee oversaw the development of several new videos, ranging in content from recreation and fitness facilities to technical topics to interviews with industry leaders. Of the 25 videos produced in the last few years, our six-minute video showing how metal buildings are made remains our most watched segment, boasting almost 18,000 views. See it yourself at [www.youtube.com/MBMamedia](http://www.youtube.com/MBMamedia).

## Social Media: Messages That Matter

Social media is a weekly responsibility of the communications committee—successfully pushing out information on important updates such as conferences,

new materials, recent research and changes in codes. Our social media campaign has been the primary impetus behind the download of nearly 300 copies of MBMA's free e-book, *Energy Code Compliance: A Guide for Metal Building Contractors*.

These examples are but a few of the many activities our communications team completes in order to help MBMA bring knowledge and education to a wide and diverse audience.



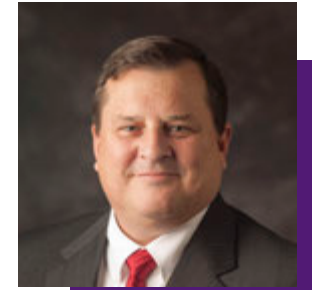
# Education Committee

## **@LearnAboutMBMA**

*#Capstone courses at #colleges & #universities across the country are in mid-term as students prepare for final projects and presentations. @LearnAboutMBMA is proud to support these educational opportunities. #architecture #engineering*



# MBMA EDUCATIONAL PROGRAMS EXPAND



**Jerry Hatch, PE**  
Committee Chair

Dylan DiGregorio - Scott Douglas - Jon Downey - Jeff Doyle - Dain R. Drake - Mike Du Bois - George Dunning - David E. Durham - David Dzina - Craig Edwards - Greg Effland - Jason Ehlers - JoAnn Elijah - Chad Elliott - Bob Elsasser - Marisa Engelhardt - Josh Fairchild - Chris Falin - Shawn Farneman - Bonnie Fater - Jeff Feaster - Will Feland - Bob Fiset - Ken Fisher - Stacey Fisher - Jerry Floyd - Terry Ford - Jim Foster - Shaunda Fowler - Ron Fox - Dan Frans - Jason Freidenberger - Robert Fryar - Ben Furleigh - Dennis Gach - Jayme Gamble - Dan Gao - Kelly Garbin - Darin Gardner - Jerry Gaston - Kenneth Gaul - John Gelms - Mike George - Gayle Gerber - Linda Gilliam - Mike Glynn - Mark Goble - Mark Golladay - Claudia Gomez

**T**he MBMA Education Committee oversees one of the core functions of the association: teaching current and future engineers, architects and other design professionals about the use and benefits of metal building systems. Our efforts remain directed at:

1. Expanding the engineering student capstone course collaborations and architectural student curriculum opportunities to additional universities
2. Changing perceptions by providing webinars and seminars for design professionals
3. Creating and making available continuing education courses for engineers and architects

## Capstone Course

MBMA's Dr. Lee Shoemaker, PE has been reaching out to universities across the country. Several professors attended the Faculty Capstone Course meeting in August 2018. All expressed interest in the program and we are making the appropriate connections for the collaborations.

- Dr. Mahdy A. Hamada — University of Western Ontario
- Dr. Michael C. Pollino — Case Western Reserve University

- Dr. Greg Snyder — University of North Carolina Charlotte
- Dr. Jacqueline Jenkins — Cleveland State University
- Dr. Amit Kanvande — University of California, Davis
- Dr. George Hunt — University of Nebraska

## AIA Online Courses

MBMA continues to add online courses aimed at architects who need continuing education credits. The following have been generated this year:

1. "Specifying a Metal Building System"
2. "Life Cost Assessment/Sustainability of Metal Buildings" (in progress)

Note that surveys completed by architects who take the online courses also provide direct leads for interest in future Lunch & Learn presentations on metal building topics of interest.

## YouTube Videos

Twelve educational videos and a dozen webinars are now available at [www.youtube.com/MBMAmedia](http://www.youtube.com/MBMAmedia). Members frequently use these resources in their own educational and communication programs.

## MBMA Design Seminar – Recorded Presentations

Design seminar presentations were recorded and made available to metal building engineers. These help to educate and inform engineers who do not attend the MBMA Technical Committee meetings.

1. Metal Building Observations – Believe it or Not — Dr. James Fisher
2. Temporary Bracing for Metal Buildings — John Rolfes
3. AISC 341-16 Seismic Design Topics — Roof Truss Diaphragm and Multitiered Bracing — John Rolfes
4. Increase the Design Palette of Steels for Metal Buildings — Phillip Thompson
5. BRBF with Metal Building Systems — Brandt Saxey

Moving forward in 2019, the MBMA Education Committee will continue efforts in all of these areas. We will create two more CEU courses, expand the capstone program to more universities and continue to create and distribute educational content via YouTube and other social media platforms.



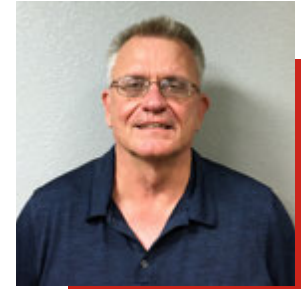
# Energy Committee

## @LearnAboutMBMA

*MBMA has a host of educational resources available, including the newly updated Energy Design Guide for Metal Building Systems. See what's available here: <http://ow.ly/Ot7c30iPOyw> #architects #sustainability #metalbuilding*



# ENHANCING ENERGY CODES & EDUCATING MEMBERS, BUILDERS, ARCHITECTS & SPECIFIERS



**Rick Haws, PE**  
Committee Chair

Michael Gong - Fernando Gonzalez - Scott Gosselin - Joel Grace - Dustin Graef - Tom Granitz - Theresa Grape - Don Green - Terry Green - Wayne Gregory - Bill Grigson - Jim Grimm - Larry Gumpert - Ralph Gutierrez - Chuck Haba - Dustin Haddock - Rob Haddock - Steve Haic - Tom Haic - Rahim Hakimi - Cory Hann - Todd Harbour - Steve Harper - Kim Harrell - Rodney Harris - Allen Harrold - William Hart - Paul Hartgrove - Paula Harvey - Chuck Haslebacher - Jerry Hatch - Dan Hatcher - Katie Hatcher - Eric Haugen - Rick Haws - Cindy Hayden - Brad Heffelmire - Mike Heidary - Steve Heil - Mark Hendrixson - Mark Henry - Trey Herren - Mike Herrin - Ben Hicks - John Hinshaw - Donna Hise - Bob Hodges - Frank Hogan - Ron Holder - Nik Holley - Rodney Holmes

**T**he mission of the Energy Committee is to promote the use of metal building systems in the non-residential construction industry by encouraging fair and equitable treatment of metal building systems by energy code officials, standards organizations, testing and rating groups, and other governmental and non-governmental groups.

## 2018 Achievements

The MBMA Energy Committee continued to monitor and participate in the energy codes and standards process. This year, code proposals were addressed to update the 2015 IECC to the 2018 version. In addition, the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) published an addendum to the 2016 edition of ASHRAE Standard 90.1.

Our committee published *Energy Code Compliance: A Guide for Metal Building Systems*. The guide is a resource available on the MBMA website as a free download. Written in layman's terms, it contains pertinent information on how to design, construct and maintain metal buildings to be energy efficient.

MBMA completed comprehensive COMcheck examples that illustrate how to comply using the nationally recognized energy compliance software and presented them in a YouTube video. This video, along with four other videos, comprise the "Energy Code Compliance for Metal Building Systems" webinar series. The webinar series can be found on the MBMA YouTube channel.

With the North American Insulation Manufacturers Association (NAIMA), MBMA published a brochure filled with multi-colored, three-dimensional graphics that summarize a comprehensive test project to determine the acoustical performance of the now common, highly insulated metal building wall and roof assemblies. This information is important for designers who wish to use metal buildings for schools, churches and offices to meet the LEED v4 and other high-performance specifications. The 19 assemblies consist of four roof assemblies and 15 wall assemblies for acoustical testing, some of which are fire-resistance rated.

The development of the acoustical data completes the design trifecta by allowing MBMA to promote fire, energy and acoustical data that is highly sought out by designers, and will allow metal buildings to remain competitive with other building types.

## 2019 Goals

We will continue to keep a strong presence in the IECC and ASHRAE 90.1 code bodies, and work with our industry partners. Our research projects include a hygrothermal analysis to develop best practices to prevent condensation in buildings that are more heavily insulated and where air leakage has been reduced. Another major project for the committee is documenting the air leakage performance of existing metal buildings that have been constructed using the 2012 and later energy codes. It will be important that we are able to document the air leakage performance of our buildings to the code organizations in the coming years.



# Fire & Insurance Committee

## @LearnAboutMBMA

*MBMA's Fire Resistance Design Guide for Metal Building Systems offers valuable information on how to effectively meet fire resistance requirements for a metal building, and is available here: <http://ow.ly/q8ne30kpkRV>*



# PROVIDING RESOURCES FOR SAFE, CODE COMPLIANT & INSURABLE METAL BUILDINGS



**Andy Jaworski, PE**  
Committee Chair

Karl D. Houser - Paul Howell - Mike Howser - Jim Hruba - Rich Huber - Anne Hunsicker - Allen Hurtz - Scott Hutchings - Jesus Ibanez - Elyse Inglese - Andy Jaworski - Ryan Jenkins - Rohena Jhensen Beau Johnson - Dave Johnson - Dennis Johnson - Kevin Johnson - Lucretia Johnson - Tori Johnson - Jane Johnston - Jason Johnston - Brad Jones - Brian Jones - Cathy Jones - Christopher Jones - Dean T. Jorgenson - Craig Joss - Barry Judd - Dennis Kaczmarek - Otto Kasten - Troy Kaylor - Lisa Keegan - Bart Kelley - Tim Kelley - Neil Kerr - Dan Kile - Ray Kimble - Brandon King - Jeff King - Brad Kirkland - Craig Klingler - Joshua Knadler - Brian Knapp - Mike Kochheiser - Fred Koetting - Jeff Koos - Steve Kosir - Myron Kottwitz - David Koubek - Edward Krusec - Leon Kuehn

**T**he mission of the Fire and Insurance Committee is to promote the use of metal building systems in the non-residential construction industry, encouraging fair and equitable treatment of metal building systems by maintaining a leadership role as a fire rating authority, a fire code compliance authority, and an insurance authority.

## 2018 Achievements

We updated the MBMA *Fire Resistance Design Guide for Metal Building Systems*. Highlights include:

- Reference to the 2018 International Building Code (IBC)
- Added new fire-rated assemblies
- Introduced requirements for foam plastic insulation
- Created a new section pertaining to photovoltaic systems

At the ICC Committee Action Hearing, MBMA staff successfully opposed changes to IBC Section 707.9, which affects the head-of-wall detail. Proposed changes would have led to new specified duration and mandatory testing procedures, resulting in more expensive construction without improving safety.

We performed testing and analysis of hail damage on metal roof panels and are developing a definition of functional damage. We are coordinating our efforts with the Insurance Institute for Business & Home Safety (IBHS).

We expanded fire protection options for metal building frames by developing a tool to easily determine the W/D parameter, which is necessary to select an appropriate fire protection system as well as to determine typical values for metal building systems.

We provided technical assistance to MBMA members and other decision makers regarding metal building fire protection and building insurance. Approximately 30 percent of the hundreds of technical inquiries received by the MBMA office involve fire protection issues.

## 2019 Goals

Maintain and update existing MBMA fire-rated assemblies, working to incorporate additional roof insulation systems, such as filled cavity and liner systems through engineering studies, testing and collaboration with MBMA's industry partners.

Continue working to change testing standards to recognize non-combustible roofs and to add testing exemptions in the UL Standards and the IBC through the UL Non-Combustible Roof Group.

Update the MBMA Insurance Bulletins to address changes in the building codes and standard industry practices.

Work with the Communication Committee to educate the design and construction industry on the updated MBMA *Fire Resistance Design Guide for Metal Building Systems* and the updated Insurance Bulletins.



# Safety Committee

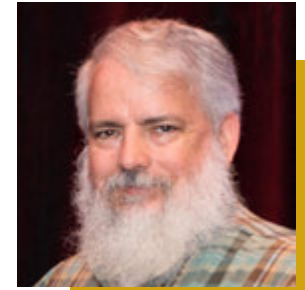
## **@LearnAboutMBMA**

*MBMA recognizes members that demonstrate exceptional #safety performance in the #metalbuilding systems industry. At its Spring Meeting, MBMA presented safety awards to the facilities of 7 Building Systems members and to 3 Associate members. More here: <http://ow.ly/9Uom30keVPD>*





# A SAFE WORKPLACE HELPS CREATE A HEALTHY BOTTOM LINE



**David Weatherford**  
Committee Chair

Luke Ladd - Tim Lane - Jim Lang - Todd Langelaan - Joe Lanning - Ed Lash - John Lawrence - John Paul Lawrence - Andy Lee - Carl Lewis - Richard Ley - Bill Li - Ping Liang - Joe Lieber - Rae Limerick - Steve Linch - Keith Lindemulder - Russ Livermore - Tim Logue - Jaime Lopez - Pam Lowry - Luke Lucyk - E. B. Ludwig, III - Robert Lytle - Steve Mabee - Doug Maclam - Bryon Magill - Kent Makishi - Kim Manson - Igor Marinovic - Jim Marks - Vern Marshall - Marty Martin - Scott Martin - Woody Martin - Eric Masterson - Jim Mathis - David Mazak - Zack McCain - Richard McClure - Art McCullough - Curt McCullough - Darren McGonigle - Don McKinnis - Candy McNamee - Joey Meggs - Rachel Mercado - Cam Michael - Santiago Millan - Duane Miller - Eric Miller - Ron Miller - Charles Mills - Nathan Mimms

**S**afety is a very important aspect of each of our MBMA member companies. Indeed, it could be argued that it is the most important aspect. A safe working environment translates into fewer lost work days, less exposure to OSHA audits, reduced insurance premiums and improved morale and productivity. For these reasons, we strongly encourage all member companies to have representation on the Safety Committee.

The MBMA Safety Committee makes the metal building industry a leader in safe workplace practices by conducting an annual safety workshop, safety webinars and a safety awards program.

## Annual Safety Workshop

MBMA's annual members-only, face-to-face safety workshops allow members to share safety practices that have worked in our plants as well as those that have not worked. Each attendee is involved in the free exchange of ideas. Guest speakers inspire all present to encourage their team members to be safe at work and at home.

This year's workshop was held in conjunction with METALCON for the first time, where MBMA sponsored two safety presentations on the trade show floor that were open to all METALCON attendees. Workshops on fall protection and the use of cell phones in the workplace conveyed important messages about safety to a broad audience of contractors, erectors and manufacturers.

## Safety Webinars

Another important tool for the Safety Committee is safety webinars. Produced several times a year, webinars can be viewed in each member's workplace and shared with their entire production team. Members are encouraged to have further discussions following the presentation about what they can apply in their specific workplace.

## Safety Awards

MBMA presents annual safety awards that recognize member plants with zero recordable injuries or with incident rates significantly below the industry average. In 2018, 45 manufacturing facilities submitted data for the safety award program. I'm pleased to report that

four MBMA member plants received a Superior Safety Award, and three plants were recognized with a Safety Performance Award. Additionally, 20 Associate member plants were recognized for having achieved a zero-incident rate.

As I stated during the MBMA spring meeting: as the committee Chairman, my goal for the MBMA Safety Committee is that every team member of every location of every member company goes home safe to his or her family every day.



# Sustainability Committee

## **@LearnAboutMBMA**

*Looking for #LEED credits for your next #metalbuilding?  
@LearnAboutMBMA has 3 environmental product declarations that  
can help you earn LEED Certification: <http://ow.ly/VO1a30iPOtY>  
#Greenbuilding #EPD #environment #sustainability*



# PROVIDING THE DESIGN COMMUNITY WITH INDUSTRY-WIDE SUSTAINABILITY RESOURCES



**John Underwood**  
Committee Chair

James Mize - Scott Moffatt - Rob Montoya - Michael Moore - Elvia Mora - Zachary Morris - Tanner Moy - Tom Mukavetz - Charles Mullaley - Mike Mulligan - Shashank Mundrathi - Kevin Murphy - Mike Murphy - Robert Mushinski - Jessica Navascues - Karen Nebe - Dale Nelson - Andy Newell - Mike Newton - Leo Neyer - Brian Ng - Ken Nichols - Matthew T. Nichols - Alfred Nkunga - Rodney Noblett - Corey Norris - Rocky Norton - Patricio Nungaray - Jonathan O'Leary - John O'Sullivan - Matt Oakes - Craig Oberg - Kristin Olson-Mesick - Chris Orr - Jeff Orris - Jose Ortega - Joe Otten - Stephen Owen - Mike Pack - Peter Papas - Jennifer Parks - Chris Parmele - Kyle Parrish - Marty Parsons - Greg Pasley - Cooper Patrick - Robert Patterson - Ryan Peck - Kenny Perez - Steve Perritt - Ronnie Peters

**T**he mission of the Sustainability Committee is to provide leadership, research and education that increases the prominence and usage of metal building systems as the premier solution for performance, aesthetics and sustainability in building construction.

## 2018 Achievements

In 2018, the Sustainability Committee worked alongside the Education Committee to create MBMA's latest continuing education course. Entitled "Life Cost Assessment/Sustainability of Metal Buildings," the course teaches architects and other design professionals about the many sustainable benefits of metal building systems and how metal building systems can meet energy-saving requirements of owners at an affordable cost.

Additionally, the committee monitored all energy and sustainability-related codes, standards and rating systems on behalf of all MBMA members. It also worked to ensure that all of MBMA's sustainability resources remain current.

## Resources

MBMA provides numerous resources to assist the design community with sustainability. They include:

- Life Cycle Inventory (LCI) data for use in Life Cycle Assessment (LCA) software
- Environmental Product Declarations (EPDs)
- Athena Impact Estimator software data for metal building systems
- STC and OITC acoustical test data for metal building systems
- Educational videos and webinars on the MBMA YouTube channel

These resources and more are available on the MBMA website at [MBMA.com](http://MBMA.com) and our YouTube channel at [YouTube.com/MBMAmedia](https://www.youtube.com/MBMAmedia).

## 2019 Goals

In 2019, the Sustainability Committee will complete a major update on the metal building systems LCI data in the National Renewable Energy Laboratory

(NREL) database. This investment reflects a significant commitment by MBMA and its members in the future of sustainable design for metal building systems.



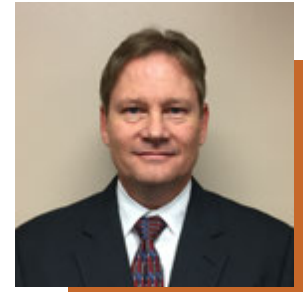
# Technical Committee

## @LearnAboutMBMA

To advance #metalbuildings as a top-choice solution for low-rise construction projects, @LearnAboutMBMA is teaming up with @IntlCodeCouncil to co-brand several new manuals and technical guides. Read on: <http://ow.ly/TKdS30kIdvB>  
#buildingsafety #buildingcodes



# DRIVING TECHNOLOGY TO MAKE METAL BUILDING SYSTEMS THE FIRST CHOICE IN LOW-RISE CONSTRUCTION



Mark Detwiler, PE  
Committee Chair

Carl Petrat - Laura Phelan - David Phelps - Damaris Pierrott - Steven Pipes - Greg Pirtle - Coy Poret - Mike Pugach - James Punzel - Tim Puylear - Irving Pylate - Bob Quint - Phil Raimondo - Randy Ramskugler - Rocky Rau - Ronald Reed - Herb Reffert - Stanley Reid - Tom Reilly - Stephen J. Reiners - Kevin Reinheimer - Mike Repp - Robert Reyes - Brian Ribic - Chris Richards - Jonathan Rider - Charlene Riegger - Don Riley - Chuck Rimsky - Tim Ritchie - Hal Robbins - Richard Roberts - Brad Robeson - Michael Roeder - Bob Rollason - Frank Rosales - John Roscoe - Dave Rosenberg - Michael A. Rosenberry - Brandy Roton - Roy F. Rudolph - Rodger A. Russ - David Rutherford - Ed Sabre - John Samaro - Max Sargent - Anne Savage - Gabe Savely - Amy Schmidt - Tim Schrock - Tim Schwartz

**M**BMA's Technical Committee continues to drive research initiatives in the quest to propel metal building systems design into the next generation. The following highlights some of our efforts undertaken in 2018.

## Seismic Behavior of Metal Buildings

This year, we have made substantial progress in developing more appropriate seismic design parameters for metal building frames. The goal throughout this multi-year effort, which is being conducted by NBM Technologies and led by Dr. Ben Schafer, has been to describe the level of additional resistance provided by tapered-web frames after an initial limit state is reached. The capacity to support additional loads beyond the initial strength limit provides a measure of the overstrength and ductility of the frames. To withstand maximum-considered earthquake ground motions, structural systems must be capable of supporting loads beyond the initial limit state without collapse. An incredible level of effort by researchers and MBMA's Technical Committee members has led to successfully justifying current seismic design

practices using very conservative definitions of collapse. The analytical work has greatly refined our understanding of the level of ultimate strength these frame systems can achieve. The framing schemes successfully validated to date are shown below:

1. Moderate Clear-Span Frame of Moderate Height Supporting a Heavy Wall
2. Moderate Clear-Span Frame of Taller Height Supporting a Heavy Wall
3. Moderate Clear-Span Frame of Moderate Height Supporting a Light Wall
4. Wider Clear-Span Frame of Moderate Height Supporting a Light Wall

Refinements in process and understanding have developed at a rapid pace during the year with Dr. Schafer and his team distributing the results throughout the seismic research community to spread the word about successes to date. Several noted independent seismic experts have reviewed the work and are in agreement with the conclusions drawn. A publication to disseminate the results of this work is proceeding through the development of a procedure to be accepted into

codes and standards for designing metal building frames in high-seismic areas. Further work is planned to refine conservatism in the work to date and to incorporate a greater variety of common metal building frame systems. The Technical Committee is eager to continue building on these successes!

## Bolted Endplate Connections Research

Work continued this year toward developing a high-capacity, stiffened bolted endplate connection using four rows of bolts in a 2-4-4-2 pattern from top to bottom. The intended goal with this connection has been not only to justify its use under live- and wind-loading conditions, but also to prove its capabilities in the AISC cyclic inelastic deformation test protocol for use in moderate and highly ductile framing schemes with large seismic demands. The initial configuration failed to achieve the desired inelastic rotation so potential improvements were analyzed under the direction of Dr. Matt Eatherton at Virginia Tech. Lawrence Bower of NCI was also involved in helping to develop a weld technique to address the transition between the stiffener and flange that was viewed as the best way to improve performance. The new technique



Tommy Scruggs - Keith Self - Nick Sharp - Dave Shaw - Keith Shedd - Brian Shelton - Ralph Sherrin - Bill Shipe - Kendell Short - Bob Siktberg - Colton Simmons - Barry Sims - Scott Siverly  
Brian Smallwood - Dave Smigel - Joan Smigel - Carlie Smith - Eric Smith - Jason Smith - Jeanie Smith - Jennifer Smith - Judson Smith - Mark Smith - Mike Smith - Bob Smola - Mike Snelling  
Mark Specht - Jeff Spradley - Nancy Springer - Joe Stager - Grant Stahl - John Stahl - Richard G. Starks, Jr. - Dirk Stauffer - Carsten Steiner - Bob Stenzel - Joeline Stevens - Matt Stone  
Roger Story - Jack Sturdivant - Christopher Stutsman - Tammie Stutts - Steve Sukup - Erin Sullivan - Prabhayya Swamy - Dan Sweeney - Craig Taliacich - Kathleen Tell - Larry Tennant  
Ralph Tenuta - Stephanie Theis - Tula Thompson - Vinay Thottunkal - Robert Tiffin - Jim Tils - Brad Tinney - Donald D. Tobler - David Tomchak - Buzz Tompkins - Corey Tompkins - Ivan Traver

was tested in the cyclic inelastic test protocol and did provide additional inelastic deformation. However, the gains were not enough to qualify for use in intermediate and special moment frame applications as hoped. The plan moving forward is to work toward providing the higher-capacity connection in an unstiffened scheme with a modified bolt arrangement. This connection would give the industry a sound structural solution for the larger knee areas and moments likely to be encountered in metal buildings in high-seismic situations.

Because of the work performed by MBMA, re-investigation of other previously accepted stiffened moment endplate connections used by the entire steel construction industry is being undertaken by AISC. The weld procedure developed by MBMA is being tested as a way to improve the performance of the current connection scheme.

### Wind Loads on Metal Building Systems

The Technical Committee was deeply saddened by the loss of Gill Harris on June 1, 2018. Gill was an amazingly energetic leader in developing better ways to design buildings for wind loading. MBMA had the privilege to collaborate with Gill this year in developing a method to reduce wind pressures on continuous purlins by increasing effective wind area. Gill's work was presented by Dr. Lee Shoemaker to the ASCE 7 Wind Load Subcommittee to very favorable reviews and generated much interest from individuals outside the metal building community who also utilize similar continuous members. Guidance for determining the effective wind area for continuous purlins is being balloted for acceptance into

the next version of the ASCE 7 specification. MBMA and the Technical Committee are greatly indebted to Gill for his ingenuity and the energy, effort and knowledge he brought to bear in the advancement of metal building systems.

In addition to Gill Harris' work, MBMA has co-funded research by Dr. Peter Vickery to develop a refinement of the Directionality Factor. This coefficient is used in computing wind pressure and accounts for the less-than-100-percent probability of the maximum velocity of storm winds when occurring in the precise direction relative to a building layout to induce the highest peak pressures in components and cladding and main wind force-resisting systems. The report has been issued by Dr. Vickery and shows an available reduction in wind pressures of about 15 percent for components and cladding and about 5 percent for main wind force-resisting systems.

Another effort the Technical Committee has been involved in is supporting a follow-up project to the IBHS-funded research conducted by Dr. Greg Kopp at Western University in London, Ontario, Canada, for the behavior of standing-seam roof systems under wind load. Dr. Kopp's work builds upon the recent IBHS wind tunnel work for a full-scale building with a standing-seam roof system and he has been able to extend that work through instrumentation to gain a clearer understanding of how these roof systems respond under wind loading. One of the interesting findings in the preliminary report is that perhaps as much as 40 percent of the wind load does not get transferred out through panel bending into the roof clips, which are the weakest links in the load path.

Instead, the wind load works down to the ends of the roof panel through tension and then transfers out in a manner similar to a membrane roof. There is great potential to take advantage of this finding with a significant increase in apparent capacity of metal roof systems. The Technical Committee will be working with Dr. Kopp to develop these results into code-recognized mechanisms to utilize this additional strength. Stay tuned for more developments in this area.

### Load Requirements for Wireless-Controlled Cranes

MBMA and representatives from an MBMA Associate member, Konecranes, have teamed up to review vertical impact load requirements for cranes. The crane industry has embraced wireless technology for crane controls and is utilizing its advantages for additional safety. Through the use of a wireless controller, the crane operator can be moved into a safe position outside the arc of a swinging load. However, there is some question as to whether a wireless-controlled crane should be treated as a Pendant-Operated Bridge Crane (with runways and a bridge designed for a 10 percent vertical impact factor on wheel loads) or lumped in with Cab-Operated or Remotely Operated Bridge Cranes (which require a 25 percent vertical impact factor). Discussions with crane experts and members of the AIST Technical Report 13 Committee have noted that cranes with similar hoist and travel speeds would be expected to handle similar impact loads since their motions and accelerations generate the impact forces. A change in method of crane control transmission would not be expected to change impact factors on a given crane system. The group is working to



Rich Trice - Charlotte Tyner - Mark Ubl - Adam Ugliuzza - John Underwood - Smokey Underwood - Pramod Vadrevu - Randy Varble - Joey Viselli - Cheryl Wade - Craig Wagner - Carl Walker Zachary I. Walker - Fred Walnut - Jeff Walsh - John Waskow - Christian Watkins - Dennis Watson - Samantha Watson - David Weatherford - Shane Weathers - Mark Weaver - Randy Webb Teisen Webb - Jerod Webber - Mary Weber - Steve Weber - Amanda Welch - Ken Welch - Travis Wendt - Jon Wensman - Alexis West - Dena Whitaker - Chad Wieberg - Deb Wiese - Kasi Wilburn Phillip Wilkerson - Jason Williams - Rick Williamson - Jim Wilson - Jon Woehrer - Steve Wright - Tom Wrigley - Travis Yetter - Wes Young - Bob Zabcik - Erin Zaske - Ming Zhu - Dave Zusinas

update vertical impact factor guidance to be based not on the gross crane-type groupings currently used, but on the crane systems' hoist and travel speeds. The goal with this effort is to reduce the over-conservatism in design for these crane systems and the buildings that support them and provide a safer solution for crane operations.

### **Rod Brace-to-Web Connection Anchorage**

This project involved testing of rod brace connections that penetrate the webs and anchor through flanged hillside washers on the back side of web plates. The project is complete and the report has been issued and uploaded to the MBMA online library. A request was made and accepted by the principal researcher, Dr. Cris Moen with Johns Hopkins University, to draft an article for a technical publication that describes the research, testing and results. The goal of the article is to educate consulting structural engineers and explain some of the nuances in the interpretation of the study's results. In addition, the Technical Committee is working with Dr. Moen to produce an internal design guidance publication so that MBMA member companies' engineers know how to apply the provisions resulting from this work.

### **Frame Knee Panel Zone Research**

MBMA has been working with Dr. Matt Eatherton at Virginia Tech to better understand how web shear is transferred in the knee area of primary frames from rafter to column. In particular, this project has sought to establish the shear strength in the knee area for positive bending, where the top flange is in compression. This project is complete and a report has been issued. It notes that the area has the typical web yielding and web

buckling strengths as expected; but under conditions where the rafter top flange and column outside flange are somewhat thicker and wider, extra shear strength is available through the development of tensile field action in the web. This result is expected to be of aid particularly for highly loaded frames with tight haunch clearance requirements.

### **New Edition of the Metal Building Systems Manual**

The Technical Committee has been diligently working to update the *Metal Building Systems Manual* to address changes contained in the 2016 ASCE 7 loading standard and the 2018 International Building Code. The project is on schedule to publish around the end of this year. A special thanks is due to Alan Blair of Chief Buildings who has been the driving force for keeping this manual in top form for several editions. The Technical Committee extends its sincere gratitude to Alan for his years of service.

### **Optimizing Cold-Formed Steel Design Using the Direct Strength Method**

The Technical Committee is working with Dr. Michael Seek at Old Dominion University to develop a method to better utilize the strength of the computation-intensive Direct Strength Method for designing metal building purlin and girt assemblies. Dr. Seek is developing a method to employ the results of the finite strip analysis-based Direct Strength Method in the design optimization programs used for metal building systems design without the time penalties from iterative finite-strip analyses at many locations for each load combination. This project should

ultimately provide a better way to calculate strength that seamlessly integrates with our current design procedures and software.

Finally, the Technical Committee extends its sincere thanks to longtime member Al Harrold of BlueScope Buildings for his many years of selfless service. Al's depth of experience and his willingness to carry the heaviest load in many committee activities has proven a shining example for all Technical Committee members. As Al glides gracefully into a well-earned retirement, the Technical Committee will miss his steady, patient hand at the wheel of many key initiatives. MBMA's Technical Committee recently honored Al as the second recipient of the Norm Rimmer Award that recognizes those who exemplify the culture of sharing knowledge and improving the industry.

The Technical Committee also acknowledges the debt owed to each committee member for freely giving time and effort to push the industry to greater heights. It is an honor to work with such selfless people who can compete in the marketplace and still work together for the good of the industry.

# MBMA TECHNICAL & EDUCATIONAL RESOURCES

**M**BMA continues to lead the metal building systems industry and fulfill its mission by providing educational, research and technical resources. These include an increasing number of design guides and manuals that are invaluable for anyone who works with metal buildings anywhere in the world. MBMA publications are sold as print-on-demand or downloadable PDF files at [techstreet.com/MBMA](http://techstreet.com/MBMA). Users who purchase manuals this way are automatically notified of updates and errata.

MBMA offers free on-demand informational and educational videos, webinars, case studies, articles, fact sheets, e-books, reports and an array of free resources that can be found at [MBMA.com](http://MBMA.com). Take time to learn why MBMA can be your go-to source for knowledge, research, education and growth.





## Metal Building Design & Construction

### Technical Manuals & Guidebooks

- *2012 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*
- *Concrete Masonry Walls for Metal Building Systems*
- *Guide for Inspecting Metal Building Systems*
- *Energy Code Compliance: A Guide for Metal Building Contractors*

### Videos

- *How It's Made: Metal Building Innovations are Revolutionizing the Low-Rise Commercial Construction*
- *Why Choose Metal Building Systems*
- *Metal Building Systems Speed of Construction*
- *Why Metal Building Systems with Dr. Lee Shoemaker*
- *AC472 Why Accreditation Matters*
- *What Do You Know about Metal Building Systems*
- *MBMA Interview with Professor Marci S. Uihlein, PE*
- *Get More with Metal: Recreation & Fitness Buildings*
- *Voices of the Industry: How Metal Buildings Compete in Today's Market - Parts 1-3*

### Reports, Articles & Brochures

- *Acoustical Performance of Insulated Metal Building Roof and Wall Assemblies*
- *MBMA Annual Reports*
- *Chairman's Column*
- *Vehicle Sales & Service Case Studies*
- *Recreation & Fitness Case Studies*
- *When Metal Meets the Zoning Board*
- *The AC472 Accreditation Program*

## Energy & Sustainability

### Technical Manuals & Guidebooks

- *Energy Design Guide for Metal Building Systems - Second Edition*
- *Energy Code Compliance: A Guide for Metal Building Contractors*

### Videos

- *Energy Code Compliance for Metal Building Systems Webinar: 5 Part Series*
- *Sustainability for Metal Building Systems Webinar*
- *Using EPDs to Drive Value with Metal Building Systems Webinar*
- *Metal Building Systems and Life Cycle Assessment Webinar*
- *Sustainable Benefits of Metal Building Systems*

### Reports, Articles & Brochures

- *Athena Impact Estimator Case Studies*
- *Environmental Product Declaration: Primary Structural Steel Frame Components*
- *Environmental Product Declaration: Secondary Structural Steel Frame Components*
- *Environmental Product Declaration: Roll-Formed Metal Wall and Roof Panels*
- *Roofing & Solar Case Studies*
- *MBMA has Resources to Quantify Sustainability of Metal Building Systems*
- *Building Green: A Way of Life*
- *Cool Metal Roofs Are Energy-Efficient and Cost-Effective*
- *The Benefits of Steel-vs-Wood for Low-Rise Building Construction*
- *Which Is the More Sustainable Building Material - Wood or Steel?*

## Fire Protection & Insurance

### Technical Manuals & Guidebooks

- *Fire Resistance Design Guide for Metal Building Systems*

### Videos

- *Fire Resistance Design for Metal Building Systems Webinar: 5-Part Series*

### Reports, Articles & Brochures

- *Material Capabilities: 5 Things to Know About Metal Buildings & Fire Ratings*
- *Insurance Facts*
- *Insurance Bulletins*

## Stay Connected



[Tinyurl.com/FollowMBMA](https://www.linkedin.com/company/mbma)



[@LearnAboutMBMA](https://twitter.com/LearnAboutMBMA)



[youtube.com/MBMAmedia](https://www.youtube.com/MBMAmedia)



[MBMA.com](https://www.mbma.com)



Erie Brewing Company • Erie, PA



Town of Harrisburg Fire Station No. 3 • Harrisburg, NC





Madison Warehouse • Phoenix, AZ

---

*"The value of metal construction comes from the speed of construction, versatility, finishes and the sustainable factor of what steel structures offer the end user. Manufacturers and vendors all come together and raise the bar of the industry as a whole with great product and service offerings."*

*-Jonathan Rider  
D.I. Roof Seamers*

---



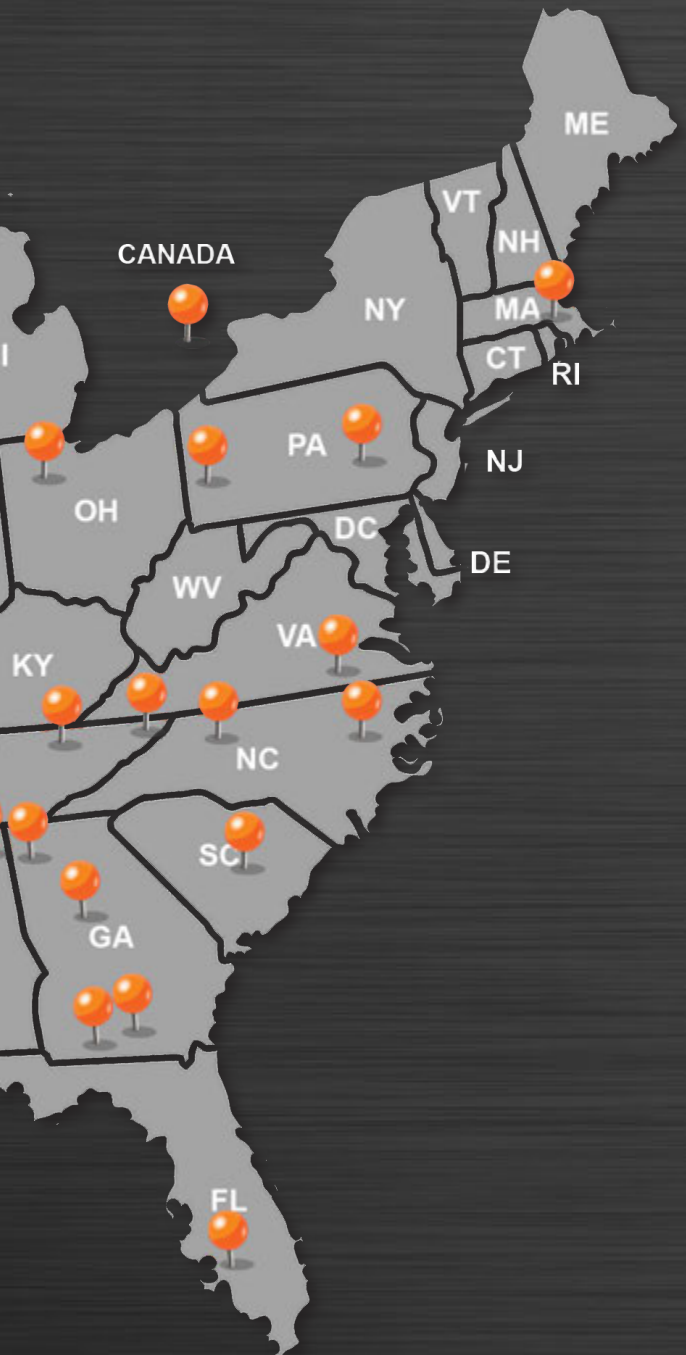
Übergrippen Indoor Climbing Crag • Denver, CO



OBE Research & Development • Ogden, UT



# MBMA MEMBER METAL BUILDING MANUFACTURING FACILITIES



**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
- Columbus
- Starkville

**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
- Anville

**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.  
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  
NCI Building Systems, Inc.  
Nucor Building Systems  
Oakland Metal Buildings, Inc.  
Package Steel Systems  
Pinnacle Structures, Inc.  
Red Dot Buildings  
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, LP

United Structures of America, Inc.  
Varco Pruden Buildings  
Vulcan Steel Structures, Inc.  
Whirlwind Steel Buildings, Inc.

## ASSOCIATE MEMBERS

ABIS, Inc.  
Agilex Business Solutions, LLC  
Akzo Nobel Coatings, Inc.  
All Weather Insulated Panels  
Applied Testing & Geosciences, LLC  
Arcelor Mittal USA  
Arcelor Mittal Dofasco, Inc.  
Atlas Bolt & Screw Company  
Bay Insulation Company  
Beacon Business Solutions  
Benchmark Consulting & Inspection, LLC  
Birmingham Fastener, Inc.  
Birmingham Rail & Locomotive  
Building Products Development



Building Research Systems, Inc.  
 CADeploy, Inc.  
 CertainTeed Corporation  
 Commercial Metals Company  
 Crane Composites, Inc.  
 Diamond Door Products, Ltd.  
 D.I. Roof Seamers  
 Distribution International  
 Dow Chemical  
 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  
 Mid-State Bolt & Nut Company, Inc.  
 Modern Trade Communications, Inc.  
 New Millennium Building Systems, LLC  
 Nucor  
 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  
 Redd Team by Hydro

Roof Hugger, Inc.  
 S-5! Attachment Solutions  
 Sealed "N" Safe  
 SFS intec, Inc.  
 Sika Corporation  
 Silvercote, LLC  
 Specialty Plus, LLC  
 Steel and Pipe Supply  
 Steel Dynamics, Inc.  
 Tell Manufacturing  
 Telling Industries  
 The Sherwin-Williams Company  
 Therm-All, Inc.  
 TopHat Framing System, LLC  
 Triangle Fastener Corporation  
 United States Steel Corporation  
 VELUX Design and Development Company  
 USA, Inc.  
 Wurth House of Threads

---

*"We find that metal buildings are more efficient to construct than conventional structures because all of the wall panels, the roofing system, all the trims come along with the structural system. It's a kit. It's all designed to go together and it's very efficient to build."*

*-Art Hance  
Hance Construction*

---







Lux Air Jet Centers • Goodyear, AZ



FedEx Freight • Lexington, NC

# Invest in Metal Buildings

## @LearnAboutMBMA

*In the market for a new auto dealership? #Metalbuildings are the standard when it comes to showrooms and repair facilities. Big or small, a new metal building is a great investment. See some stunning examples here: <http://ow.ly/XjoQ30lf2Ww> #BuildSteel #dealerships #autoindustry*



Fernie Ford • Fernie, British Columbia, Canada

# COMPANIES NATIONWIDE USE METAL BUILDINGS

Here is a sample list of companies that use metal building systems for their facility needs.

Aaron's  
Ace Hardware Distribution Center and Warehouse  
Ace Hardware Regional Support Center  
ACME Tools  
Acura  
American Legion  
Amtrak Maintenance Facility  
Ashley Furniture Store  
Audi  
Avis  
BMW  
Bobcat  
Boys & Girls Clubs  
Budweiser  
Cadillac  
Carquest Auto Parts  
Chevrolet  
Chicken Express  
Chrysler  
Citizens Bank  
Coca-Cola Distribution  
Costco  
Dodge  
Dollar General  
Family Dollar  
Fast Track Car Wash

FedEx  
FedEx Ground Distribution Center  
Firehouse Subs  
First Financial Bank  
Five Guys  
Ford  
Gold's Gym  
Goodwill  
Goodyear Tire Store  
Green Line Equipment  
Harley-Davidson  
Honda  
Hyundai  
Jaguar  
Jeep  
Jewish Community Center  
Kia  
Land Rover  
La-Z-Boy  
Lexus  
Mazda  
Mercedes-Benz  
MINI  
Mitsubishi  
Napa Auto Parts  
Nissan

O'Reilly Automotive  
Pennzoil  
Penske  
Petco  
Porsche  
Qdoba  
Roto-Rooter  
Schlumberger  
Sherwin Williams  
Stanley Steemer  
Subaru  
Suzuki  
Top Golf  
Toyota  
Tractor Supply Company  
True Value Hardware  
United Rentals  
Volkswagen  
Volvo  
Walgreens Distribution Center  
Walmart Distribution Center  
Whole Foods  
World Gym  
YMCA



[Tinyurl.com/FollowMBMA](https://www.tinyurl.com/FollowMBMA)



[@LearnAboutMBMA](https://twitter.com/LearnAboutMBMA)



[youtube.com/MBMAmedia](https://www.youtube.com/MBMAmedia)



[MBMA.com](https://www.MBMA.com)

Metal Building Manufacturers Association  
1300 Sumner Avenue  
Cleveland, OH 44115-2851  
(216) 241-7333  
[MBMA@MBMA.com](mailto:MBMA@MBMA.com)  
[www.MBMA.com](https://www.MBMA.com)

