*October 2024*

# State and Local Energy Code Compliance
## A Crucial Consideration

Multiple states have recently or will soon adopt a newer energy code with more stringent efficiency requirements. In these cases, this will require contractors to research updates in the states they are doing business. It's important to note that each state sets its own schedule for adoption and for most, implementation dates are not consistent. Builders will potentially be affected by more stringent codes adopted at the county or municipal level as well, and occasionally, with specific projects, architects or building owners may specify their own standards. Kirby Building Systems, along with the Metal Building Manufacturers Association (MBMA) have been developing tools to help.

According to the MBMA, metal building systems account for about one-fourth of all low-rise construction in the United States annually. Metal building systems are fully capable of meeting and exceeding energy codes in all U.S. and Canadian climate zones.

The latest national model energy codes from the International Energy Conservation Code (IECC) and American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) provide the minimum requirements for energy-efficient design of most sites and buildings. These standards now require that the building energy compliance be documented and submitted with the construction documents. Many locations allow the use of COMcheck™ software to assist with this process.

### COMcheck

COMcheck is a software product group designed to easily help contractors, as well as architects and designers, demonstrate energy code compliance with the IECC and ASHRAE 90.1. It also covers certain state-specific codes.

From IECC and ASHRAE 90.1, to local and state codes, the utilization of COMcheck is often helpful to not only determine if you are compliant, it can also help you decide what needs to be changed in order to become compliant and give you the ability to select the most cost-effective options to become compliant.

## Energy Hotline

Nucor Buildings Group has a dedicated Energy Hotline available for you to obtain guidance with your projects. Connect with one of our professionals who has worked with and is familiar with energy codes and insulation solutions across North America. We can help you with getting your project going in the right direction, from figuring out what options you have to meet a required U-factor to providing documentation on proprietary solutions.

ENERGY HOTLINE

844.682.6724

nbg.energy@nucor.com

Calls to the Energy Hotline have included queries on meeting a certain U-factor, especially by contractors doing work in different states, climate zones or energy code jurisdictions than they are acquainted with. Nucor's coast-to-coast visibility and database of energy solutions can help traverse the unfamiliar territory and provide options that allow contractors to capitalize on the strengths and efficiencies of their supply and labor markets to meet pertinent code requirements.

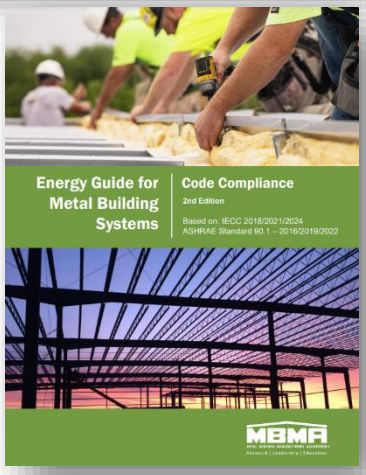
A common theme is the assumption, or specification from an architect, that all buildings must have continuous insulation installed. This is not true in most situations and alternative methods to comply are typically more cost effective. Continuous insulation, defined by ASHRAE as "insulation that is uncompressed and continuous across all structural members without thermal bridges other than fasteners and service openings," can be problematic to detail and install. The design of the purlins or girts becomes more complex as the panel can no longer directly brace the member. Typically, this scenario necessitates additional discreet bracing as well as heavier secondary members. It should be noted that insulated metal panels, or IMPs, are not considered continuous insulation due to the metal joinery at each sidelap. However, IMP manufacturers publish thermal values for their products that can be input into COMcheck to show compliance.

Roof solar reflectance and thermal emittance requirements can be another code-navigation challenge. Both IECC and ASHRAE 90.1 apply specific requirements to roofs located directly above cooled spaces in Climate Zones 0 through 3. These standards limit three-year-aged solar reflectance to a minimum of 0.55 and three-year-aged thermal emittance to a minimum of 0.75, or the Solar Reflectance Index (SRI) to a minimum of 64. This means that unless your building is exempt, the roof panel color options are limited to a color meeting those criteria. There are exceptions in both standards that exclude many buildings from these requirements, and we can help work through how those may apply to your project.

## Resources

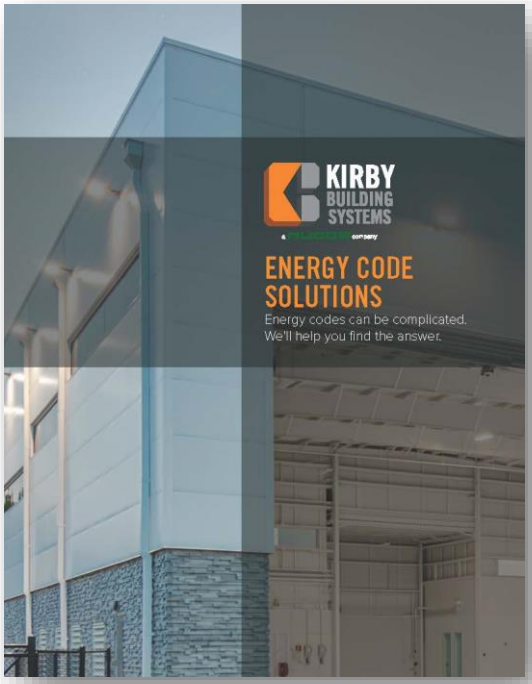

- The MBMA has published an FAQ document for metal builders using COMcheck.

- The MBMA has published an Energy Guide for Metal Building Systems: Code Compliance, 2nd Edition.




- Additionally, the MBMA has released a continuing education unit (CEU) course for architects and metal builders titled *"Evaluating Metal Building Systems using COMcheck."* It was produced in partnership with the American Institute of Architects (AIA) and *Architectural Record* magazine and it's available through *Architectural Record*'s Continuing Education Center website and via a mobile device app. The course is designed for building and construction professionals and looks specifically at the benefits of using COMcheck for metal building system designs. It addresses some of the most common questions and uncertainties that architects may have related to metal buildings and energy performance. Check Out the Course

- KBS has published an updated **Energy Guide brochure** with graphics and charts to help you understand the different building code versions, climate zones and associated U-factors, along with what insulation solutions are applicable to each.




## Questions?

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