



a **NUCOR** company

# R-BOOST™

The Solution for Compliance with  
Today's Stringent Energy Codes





# Raise the Roof and Boost the Performance with R-Boost™ — Nucor's Elevated Insulation System

As localities across the United States continue to adopt newer and more stringent energy codes, we know requirements to provide higher R-values and lower U-factors will be a key component to your building needs and give you a cost-effective competitive edge.

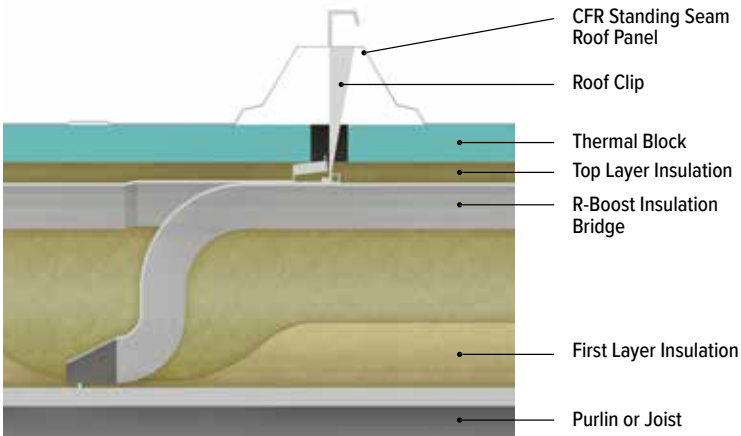
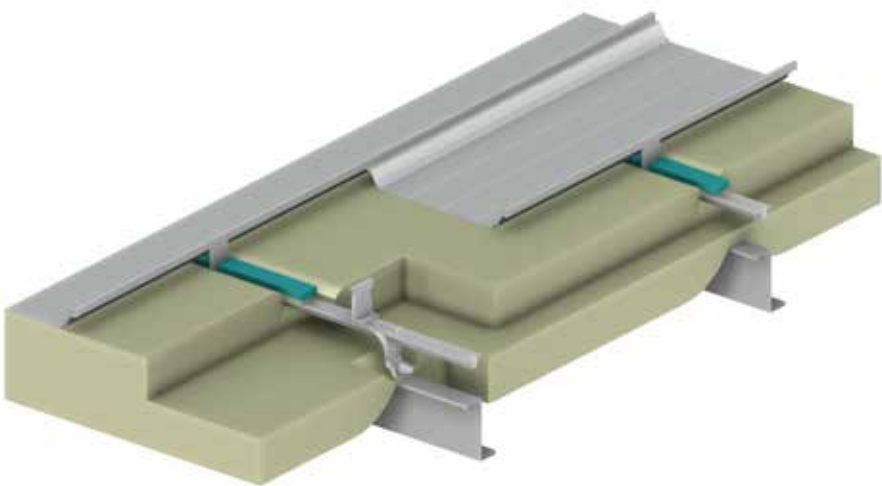


# R-BOOST™

Nucor Building Systems understands the challenge of controlling project costs while meeting today’s rapidly changing energy code requirements. Our R-Boost Elevated Insulation System is an economical solution that achieves the increased levels of thermal performance the latest codes demand. This unique patent-pending design features an insulation bridge between an initial and secondary layer of blanket insulation, doubling the insulation capacity and meeting energy codes throughout North America.

### Boost the Efficiency

R-Boost can realize U-factors as low as 0.026, which meets the requirements of IECC 2018 (Climate Zones 1-8) and ASHRAE 90.1-2016 (Climate Zones 1-8) for the United States. These levels of thermal performance are ideal for utilizing tradeoffs.



R-Boost Roof Assembly



R-Boost™ Performance*		Highest Climate Zones Covered	
Assembly	U-factor	IECC 2012/2015/2018	ASHRAE 90.1-2013/2016
Installed Over Purlin			
R19 + R19	0.033	5	5
R19 + R25	0.031	6	6
R19 + R30	0.029	8	7
R19 + R38	0.028	8	7
R25 + R38	0.026	8	8
Installed Over Joist			
R19 + R19	0.033	5	5
R19 + R25	0.032	5	5
R19 + R30	0.029	8	7
R19 + R38	0.028	8	7
R25 + R38	0.026	8	8

\*Assembly U-factor performance based on imperial units (Btu/h·ft²·F).

## Boost the Flexibility

R-Boost is designed to work with Nucor CFR™, a standing seam roof system well-known for its performance, strength, and weathertightness. While engineered for functionality and the ability to withstand the most extreme weather conditions, CFR panels are also aesthetically pleasing, providing a clean, attractive look for nearly any application.

When used in combination with R-Boost, this system provides you with the highest potential for total building system cost savings.

## Boost the Value

When compared to competing systems, insulated metal panels and liner systems, R-Boost is the highest performing and most economical choice on the market today. The bridge component is specially designed with ease of installation and safety in mind, and works with industry-standard blanket insulation.

On average, R-Boost installation costs are considerably lower than that of competing systems—realizing up to a 30% cost savings!

## Boost the Sustainability

With innovative products like R-Boost, Nucor Building Systems can help your building project qualify for LEED points in a number of ways:

- Our buildings are fabricated using Nucor Steel which is made from reclaimed materials. This means the recycled content is 70% or more.
- Our buildings are 100% recyclable.
- We offer two standard cool coating options that exceed the LEED Solar Reflectance Index (SRI) requirement of 78.
- Depending upon your jobsite location, your building could qualify for use of regional materials and additional LEED Points.

## Boost the Safety

Nucor Building Systems is dedicated to safety, which is why R-Boost was designed to offer unmatched ease of installation. The system's unique bridge component works hand in hand with Nucor CFR roof panel clips and blanket insulation, and is installed above purlins and joists from the top down. This means fewer hands on deck, and no work to be done from below.

## Boost Your Compliance

COMcheck™ is an incredibly useful tool to help you become energy compliant. Just type in your building information and COMcheck™ will determine whether or not you are compliant with your specific energy code, and help you decide what needs to be changed in order to become compliant. COMcheck™ evaluates your building using assemblies of different performances, giving you the ability to select the most cost-effective options, and determine tradeoffs.

## Boost Your Knowledge

With so many codes and regulations on the state and local level that overlap and change on a regular basis, it's almost impossible to keep up and comprehend them all.

That's where we come in. We are your Energy Code Decoders and we're here to help. Our experienced and knowledgeable team knows energy compliance inside and out. From state codes to regional climate requirements and everything in between, we've got you covered. Our team can even help provide COMcheck™ files for you.



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## R-Value vs. U-Factor

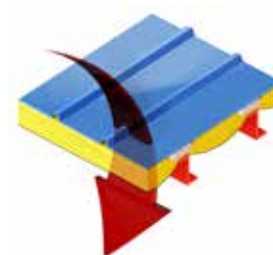
Knowing what R-value and U-factor mean is key to decoding energy issues and to selecting products that best suit the climate zone you are building in. R-value is essentially a product's resistance to heat flow, which means that the higher the product's R-value, the better it is at insulating a building and improving energy efficiency. Conversely, U-factor measures the rate of heat transfer. This means that products with a lower U-factor will be more energy efficient.

$$R=1/U \text{ \& } U=1/R$$



### What is R-value?

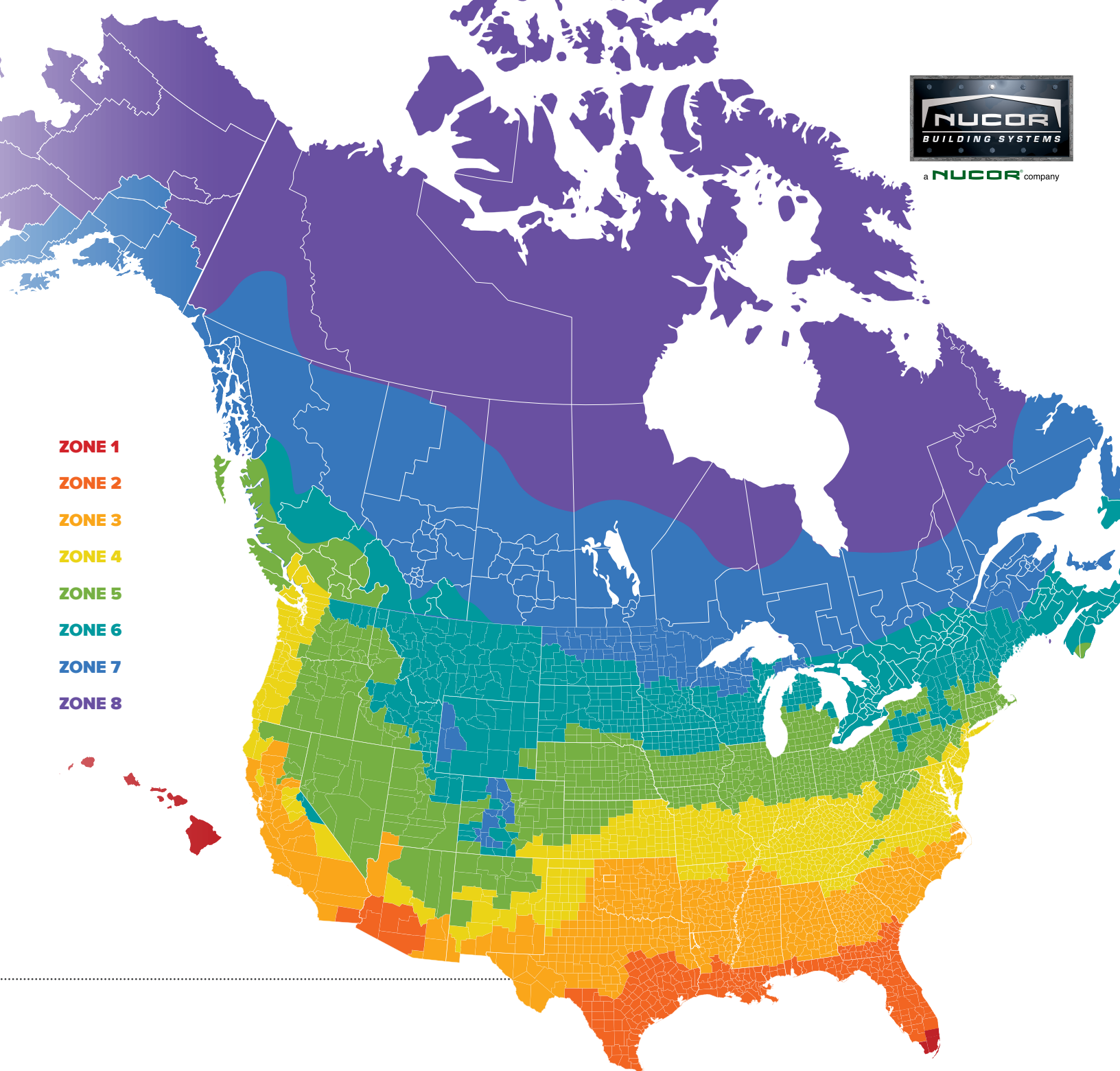
R-value tells us how well a particular construction material insulates. The higher the R-value, the better the insulation and the more energy you will save. An R-value only applies to specific materials, not to systems.



### What is U-factor?

U-factor is generally used to rate systems like an insulated wall or roof panel. The lower the U-factor, the more energy efficient the system in question will be. A U-factor is typically a low number because it is a rating of how much heat energy is lost or gained.





**ZONE 1**

**ZONE 2**

**ZONE 3**

**ZONE 4**

**ZONE 5**

**ZONE 6**

**ZONE 7**

**ZONE 8**

## Climate Zones

The state and local codes include energy requirements for whatever climate zone they are in. There are 8 different climate zones in total, each with its own energy requirements. Since many states have multiple climate zones within their borders, it is crucial that you know the climate zone requirements for each part of the state.

### Climate Zones (Metal Building Roof U-Factor Requirements)

Energy Code	1	2	3	4	5	6	7	8
IECC 2012/2015/2018	0.044	0.035	0.035	0.035	0.035	0.031	0.029	0.029
ASHRAE 90.1-2013/2016	0.041	0.041	0.041	0.037	0.037	0.031	0.029	0.026



**COMcheck™**

*From IECC and ASHRAE to local and state codes, always be sure to double-check with COMcheck™.*



a **NUCOR**<sup>®</sup> company

## Start Saving With R-Boost Today

To place an order or to get further information about the R-Boost system, please call our energy team at:



**1.844.682.6724**



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