



a **NUCOR** company

INNOVATIVE. ADAPTABLE. ENERGY EFFICIENT.

INSULATED METAL PANELS



INSULATED METAL PANELS



Leading the industry in technology, design flexibility, quality, and value, Nucor Building Systems is one of the largest and most experienced manufacturers of custom engineered steel building systems. In addition to offering a full line of custom products, our insulated panels rank as one of the most energy-efficient, well-made, cost-effective building solutions on the market today.

Innovative • Adaptable • Energy Efficient

Our insulated metal panels embody attractive styling and cutting edge energy efficiency. Designed with the latest scientific breakthroughs, our panels are lightweight, durable and still maintain their ease of installation and visual appeal. Now is the best time to build with NBS insulated metal panels because the benefits have never been greater.

Attractive & Lightweight

One of the most sophisticated building products on the market today, insulated panels offer a clean, consistent and high-quality appearance that immediately adds value to any building. Insulated panels enhance the visual appearance of your buildings, and their remarkable light weight reduces structural requirements and installation costs.

Sturdy & Durable

The panels incorporate a finished interior liner, factory applied air and vapor shield, and insulated foam core finished exterior weathering surface into a single cladding unit. The composite action resulting from a chemical bond between the injected-in-place foam core and steel skins creates a lightweight, rigid unit with exceptional spanning capacity.

Easy to Install & Affordable

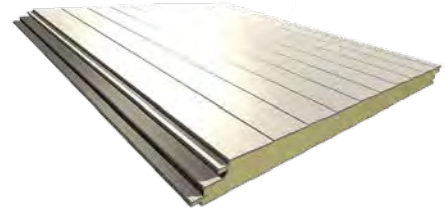
Lightweight and simplified fastening systems deliver quick installation and reduce labor costs. The panels themselves are very affordable, in part because of their lowered shipping costs attributed to their light weight. Panels can even be installed in adverse weather conditions.

Superior Thermal Performance

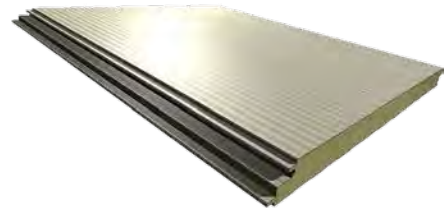
You get 100% reliable thermal performance and insulation continuity – no cavities, no gaps, no crushed insulation and no thermal bridges. No change of R-value occurs when purlin and girt center dimensions are varied. The insulated core is the most thermally effective insulant commonly available today. Insulation values can be easily increased by simply increasing the thickness of the panels.

Insulated Wall Panels

Double Mesa Profile (DM40)



Striated Profile (ST40)

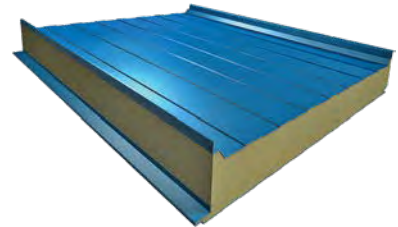


Heavy Embossed Profile (HE40)

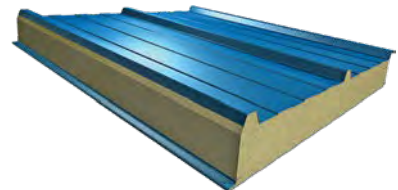


Insulated Roof Panels

Standing Seam Roof Profile (SR2)



High Rib Roof Profile (HR3)



INSULATED WALL PANELS

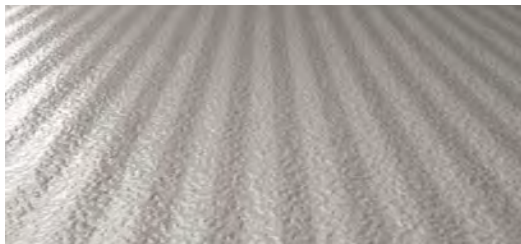
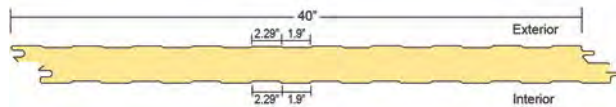


Each project follows a different set of parameters and as such, may require a different set of wall panels. We offer a selection of panels to accommodate the needs of any project. Each of our three wall panel profiles detailed below is ideally suited for commercial and industrial applications. The 40" wide panels install quickly and easily. Fasteners are concealed within the panel side joint, and the attractive profiles break up the flat expanse of metal on large projects such as manufacturing plants or warehouses. Trim for all three panel types is smooth as a standard.



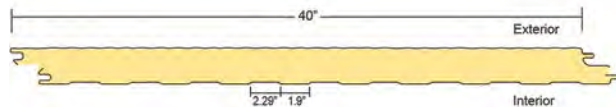
Double Mesa Profile (DM40)

Exterior Texture: Light Embossed • Interior Texture: Light Embossed



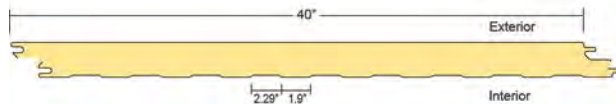
Striated Profile (ST40)

Exterior Texture: Light Embossed • Interior Texture: Light Embossed



Heavy Embossed Profile (HE40)

Exterior Texture: Heavy Embossed • Interior Texture: Light Embossed



Features & Benefits

- The double tongue & groove is self-aligning and weathertight. This allows for sealant application at either the interior or exterior side of the panel joinery, depending on the direction of the vapor drive.
- Hidden/concealed fasteners give the panel a clean and aesthetically appealing appearance.
- Removable film prevents damage to the exterior of the panel during shipping and installation.
- Panels arrive on-site in one piece, requiring a simple one-step installation, reducing construction time and costs.
- Standard exterior and interior steel surface is 26 gauge, with 24ga and 22ga optional for some profiles.
- Panels are available in 2", 2.5", 3", and 4" thickness, 5" & 6" are available as special order. Lengths can range from 8'-0" to 50'-0", depending on solar loading.

Wall Systems Specifications

| Double Mesa, Striated & Heavy Embossed Profiles | | | | |
|---|--|--------|--------|--------|
| Thickness | 2" | 2.5" | 3" | 4" |
| R-Values* | R16 | R20 | R24 | R32 |
| U-Factors | U0.063 | U0.049 | U0.041 | U0.031 |
| Width | 40" | | | |
| Length | 8'0" minimum to 50'0" maximum, depending on solar loading | | | |
| Coatings | Exterior: PVDF Interior: Imperial White (polyester) | | | |
| Interior Texture | Light Embossed | | | |
| Insulation | CFC-free foamed-in-place Polyisocyanurate foam @ 2.2 to 2.5 pcf density | | | |
| Metal Facings | Exterior: 26 ga galvanized steel 24 & 22 ga are optional for some profiles Interior: 26 ga galvanized steel 24 & 22 ga are optional for some profiles | | | |
| Joint Configuration | Off-set tongue & groove with concealed fastener | | | |

**R-values are derived from thermal testing per ASTM C518 @ 40°F mean and ASTM C1363 @ 35°F mean. For project specific values, please contact your sales representative.*

Structural Load Table

Allowable load for all wall panels (PSF) is based on L/180 deflection

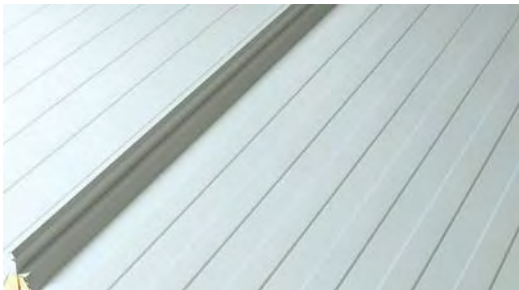
| Thickness | Weight | Simple Span | | | | | | | | Two or More Spans | | | | | | | |
|-----------|--------|-------------|-----|----|----|----|-----|-----|-----|-------------------|-----|-----|----|----|-----|-----|-----|
| | | 5' | 6' | 7' | 8' | 9' | 10' | 11' | 12' | 5' | 6' | 7' | 8' | 9' | 10' | 11' | 12' |
| 2" | 2.22 | 65 | 49 | 38 | 30 | 24 | 19 | 15 | 13 | 70 | 55 | 44 | 36 | 30 | 25 | 21 | 18 |
| 2.5" | 2.34 | 85 | 65 | 51 | 41 | 33 | 27 | 22 | 18 | 90 | 72 | 58 | 48 | 40 | 34 | 29 | 24 |
| 3" | 2.41 | 106 | 82 | 65 | 53 | 43 | 35 | 29 | 25 | 111 | 89 | 72 | 60 | 51 | 43 | 37 | 32 |
| 4" | 2.62 | 147 | 116 | 94 | 77 | 64 | 53 | 45 | 38 | 153 | 123 | 101 | 85 | 72 | 62 | 54 | 47 |

Notes: Spans shown are based on a transverse load testing of panels per ASTM E-72. Thermal effect due to temperature differentials have not been considered. Loads shown do not include a check of the attachment to the supports. Attachment requirements will vary based on the project wind load requirements. Loads shown are based on panels with 26 gauge interior and exterior facings.

INSULATED ROOF PANELS

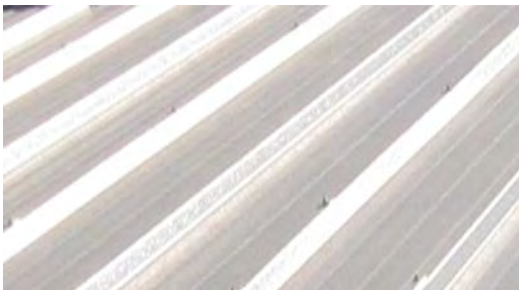
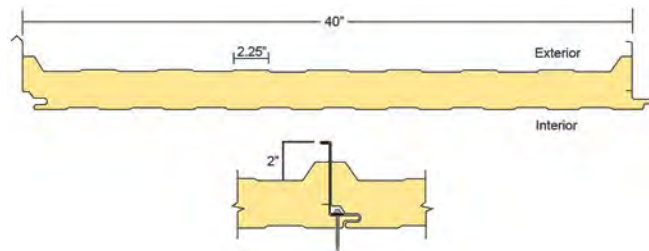


Nucor's SR2 brings the look of a traditional standing seam roof with all the benefits of an insulated metal panel. Field seamed with a hidden fastener, the SR2 offers maximum protection against the elements. Our HR3 is the economical solution to field assembled metal roofing and installs quickly by through fastening at the standing ribs into supporting structural members.



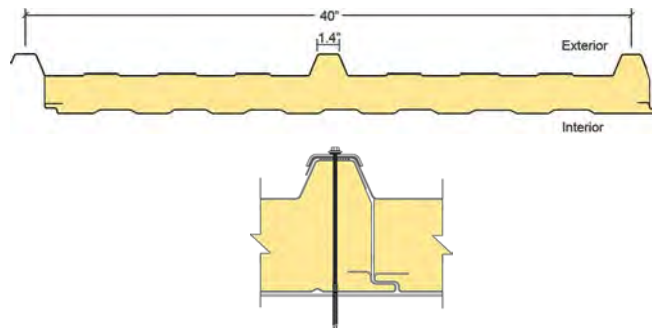
Standing Seam (SR2)

Exterior Texture: Smooth • Interior Finish: Light Embossed



High Rib (HR3)

Exterior Texture: Smooth • Interior Finish: Light Embossed



Features & Benefits

- Panels arrive on-site in one piece, requiring a simple one-step installation, reducing construction time and costs.
- The HR3 panels have an overlapping joint that is self-aligning, which allows for easy sealant application at the panel joinery.
- SR2 panels arrive with factory applied sealant on the topside rib of all panels as a standard. Some restrictions will apply.
- High level of thermal R-Value leads to energy cost savings for your facility.
- Standard metal surface is 26 gauge G-90 galvanized steel, with a PVDF coating providing fade-resistant, energy efficient exterior.
- HR3 Roof Panels are available in 2.5", 4", 5", and 6" thickness and install quickly and easily by through fastening at the standing ribs into supporting structural members.
- The SR2 trapezoidal rib design provides added strength against potential foot traffic damage compared to other standing seam products.

Roof Systems Specifications

SR2 Standing Seam and HR3 High Rib

| | | | | | |
|---------------------|---|---------------------|------|------|------|
| Thickness | 2.5" (HR3 only) | 3.25" (SR2 only) | 4" | 5" | 6" |
| R-Value* | R21 | R26 | R33 | R42 | R50 |
| U-Factors | .050 | .038 | .031 | .024 | .020 |
| Width | 40" | | | | |
| Length | 8'0" minimum to 50'0" maximum depending on solar loading | | | | |
| Coatings | Exterior: PVDF Interior: Imperial White (polyester) | | | | |
| Interior Texture | Light Embossed | | | | |
| Insulation | CFC-free foamed-in-place Polyisocyanurate foam @ 2.2 to 2.5 pcf density | | | | |
| Metal Facings | Exterior: 26 ga galvanized steel (24 & 22 optional) Interior: 26 ga galvanized steel | | | | |
| Joint Configuration | SR2: Off-set tongue & groove with concealed fastener. 90° field seamed HR3: Overlapping with through fastening at standing rib | | | | |
| Min. Roof Pitch | SR2: 1/2 : 12 HR3: 1:12 | | | | |

**R-values are derived from thermal testing per ASTM C518 @ 40°F mean and ASTM C1363 @ 35°F mean. For project specific values, please contact your sales representative.*

Structural Load Table

Allowable load for SR2 standing seam and HR3 High Rib roof panels (PSF) is based on L/240 deflection

| Thickness | Weight | SR2 Panel Spans | | | | | | HR3 Panel Spans | | | | | |
|-----------|--------|-----------------|------|-----|------|-----|-----|-----------------|------|-----|------|-----|-----|
| Inches | PSF | 4' | 4.5' | 5' | 5.5' | 6' | 7' | 4' | 4.5' | 5' | 5.5' | 6' | 7' |
| 2.5" | 2.33 | n/a | n/a | n/a | n/a | n/a | n/a | 83 | 73 | 65 | 59 | 54 | 45 |
| 3.25" | 2.48 | 90 | 79 | 70 | 62 | 56 | 46 | n/a | n/a | n/a | n/a | n/a | n/a |
| 4" | 2.65 | 112 | 98 | 87 | 78 | 71 | 59 | 116 | 102 | 90 | 81 | 73 | 61 |
| 5" | 2.86 | 142 | 125 | 111 | 100 | 90 | 75 | 146 | 128 | 114 | 102 | 93 | 77 |
| 6" | 3.12 | 172 | 151 | 135 | 121 | 110 | 92 | 175 | 155 | 138 | 124 | 112 | 94 |

Notes: Spans shown are based on a transverse load testing of panels per ASTM E-72. Thermal effect due to temperature differentials have not been considered. Loads shown do not include a check of the attachment to the supports. Attachment requirements will vary based on the project wind load requirements. Loads shown are based on panels with 26 gauge interior and exterior facings.

ADVANTAGES



Safer & More Cost-Effective Than Tilt-Wall

Insulated metal panels offer a much safer and cost effective solution to tilt wall construction. Not to mention, IMPs are recyclable. Both costly and time consuming, tilt wall construction also requires the use of heavy equipment. Insulated Metal Panels offer sustainable construction, with far less construction time and higher insulation values.

- Insulation R-values are higher with insulated metal panels than tilt wall construction
- Installation of insulated metal panels is faster, easier and safer for crews, as the panels are much lighter and easier to handle
- Fewer trades are required for the installation of insulated metal panels, which means less heavy equipment and fewer crews
- Insulated metal panels can be installed in virtually any weather condition, as opposed to tilt wall which leaves you at the mercy of unpredictable climatic conditions which can make construction schedules difficult to meet
- Concrete walls may require an interior liner, where insulated metal panels include a finished interior
- Insulated panels support LEED® and green building design



Insulated Metal Panels Are Green

Designed to offer superior thermal capabilities, our insulated metal panels minimize the use of the energy necessary to heat and cool your building. By using recyclable materials to manufacture these panels, they become 100% recyclable products, with finishes that are engineered for a reduced carbon footprint, maximum solar reflectance, and thermal emissivity.

NBS Insulated Panels can also contribute significantly towards LEED® certification of your building. The blowing agents used in our panels meet or exceed the regulatory standards which contributes to the reduction of global warming potential (GWP). Our panels have no ozone depleting potential, nor do they produce volatile organic compounds.

- Insulated metal panels contain a minimum of 30% recycled steel content
- 100% recyclable and reusable at the end of its service life
- Contribute to LEED® credits and net-zero energy targets

AdobeTexture™ Finish Option

AdobeTexture™ factory finish coated wall panels offer a multi-textured profile with a matte finish that simulates a troweled stucco appearance. This unique patented process eliminates the need for additional or factory applied stucco coatings.

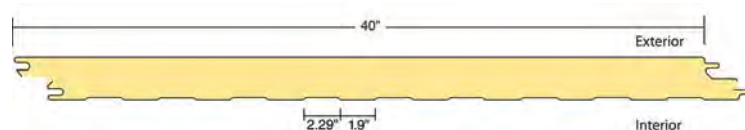
The panel's exterior stucco-like surface is a hard aggregated fiber-reinforced polymer finish. This factory-rolled texture combines an attractive appearance with durability, resisting the effects of impact, abrasion and weather. The light embossed interior panel face can act as a finished interior wall. The AdobeTexture™ insulated wall panels deliver excellent energy efficiency.

- Eliminates need for field coatings
- Breakthrough technology brings stucco look and texture to insulated wall panels
- Same easy installation as standard insulated wall panels
- Eliminates multi-step field assembly currently needed for stud and stucco systems
- Self-aligning double tongue and groove with concealed fastener joints



AdobeTexture™ Wall Panels

Exterior Texture: AdobeTexture • Interior Texture: Light Embossed



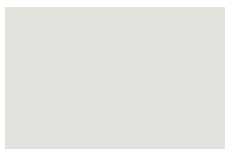
COLOR SELECTION



Our insulated panels feature vivid, fade-resistant color, incredible durability and environmentally friendly cool technology originally developed for stealth aircrafts in the U.S. military. This is by far the best paint system available on the market for commercial buildings.

To be considered cool, products must have a solar reflectance of at least 25%. Solar reflectance is the measure of a panel's ability to not absorb certain wavelengths of the sun. Another important factor is thermal emittance, the measure of a panel's ability to release heat that it has absorbed. Put these two factors together and you get the solar reflectance index, the measure of a panel's ability to reflect solar heat. Using insulated wall and roof panels as part of your whole cool-coated metal system can reduce energy consumption by more than 40% (as reported by the Oak Ridge National Laboratory).

PVDF Cool Exterior Coatings



Regal White
IR .72 SRI 88



Warm White
IR .63 SRI 76



Surrey Beige
IR .50 SRI 56



Pearl Gray
IR .47 SRI 54

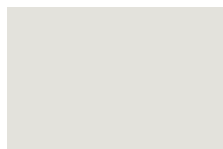


Royal Blue
IR .30 SRI 30



Cypress Green
IR .31 SRI 31

AdobeTexture™ Wall Panels



Regal White Adobe



Sandstone Adobe

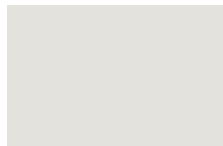


Surrey Beige Adobe



Pearl Gray Adobe

Interior Color - Polyester



Imperial White

NOTE: When using field-applied coatings, always order Imperial White Polyester for the exterior coating.



TESTING & APPROVALS

Our insulated wall and roof panels have been extensively tested under a variety of North American Standards to ensure compliance with various building codes and industry standards.

Insulated Wall Panels

- ASTM C518: Thermal Transmission
- ASTM D1929: Ignition Properties
- ASTM E72: Structural Strength
- ASTM E84: Flame Spread
- ASTM E283: Air Infiltration
- ASTM E119: Fire Endurance (1hr test with fire panel)
- ASTM E331: Water Infiltration
- ASTM E711: Heat of Combustion
- Miami-Dade Approved

CAN/ULC Testing

- S101 Fire Endurance (1hr test with fire panel)
- S138 Fire Endurance
- S102, S126 Flame Spread
- S127 Flammability
- S134 Fire Test of Exterior

Insulated Roof Panels

- ASTM C518: Thermal Transmission
- ASTM D1929: Ignition Properties
- ASTM E72: Structural Strength
- ASTM E84: Flame Spread/Smoke Index
- ASTM E108: Fire Testing
- ASTM E1646: Water Infiltration
- ASTM E1680: Air infiltration
- Florida (FL) Approved
- CAN/ULC Testing
 - S138 Fire Endurance
 - S102, S126 Flame Spread
 - S127 Flammability
 - S134 Fire Test of Exterior



a **NUCOR**[®] company

Nucor Building Systems has been a leader in the design and manufacture of custom-engineered metal building systems for over three decades. With four locations and a network of over 1,200 Authorized Builders serving all of North America, our focus is on customer service, price, and quality. We are also dedicated to providing sophisticated building solutions for our customers that are energy efficient and environmentally friendly.

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