

# SEALED "N" SAFE®

## CONTINUOUS INSULATION SYSTEM

## "THE PERFORMER"™

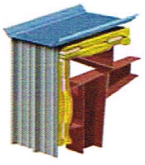
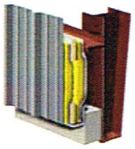
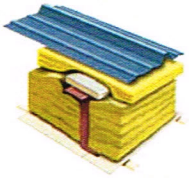
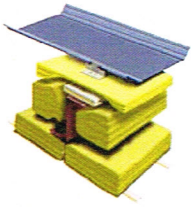
PATENTS PENDING

## Proven to Increase Insulation Performance by as much as Double or More!

An Energy Star friendly product

## One Product Covers both Roof Systems and your Walls too!

### SNS® Continuous Insulation Systems with U-Value Comparisons

| | | MBI Blanket Rated R-Value | Insulation Layer Thickness (inches) Upper (Outer Layer) | Cavity (Middle Layer) | Suspended (Inner Layer) | With the SNS® Thermal Block System U-Values by SNS* | With an R3 Thermal Block System *U-Values by ASHRAE | Without a Thermal Block System | Improved Performance using the SNS® Thermal Block System R3 | Without |
|---|---|---|---|---|---|---|---|---|---|---|
|  Double Layer Roof & Wall Insulation System (Patents Pending)  Double Layer Wall Insulation System (Patents Pending) | | R-20 | 3" & 3" | 0" | 0" | **0.076** | NA | 0.151 (calculated) | - | **199%** |
| | | R-23 | 3" & 4" | 0" | 0" | 0.075 ** | NA | 0.139 (calculated) | - | 185% |
| | | R-26 | 4" & 4" | 0" | 0" | **0.074** | NA | 0.129 (calculated) | - | **174%** |
|  Full Cavity Roof Insulation System with tabs below the Purlin (Patents Pending) | 8" Purlin | R-29 | 3" | 6" | 0" | **0.0480** | 0.074 | 0.110 (calculated) | **154%** | **229%** |
| | | R-32 | 4" | 6" | 0" | 0.0450 ** | 0.068 | 0.103 (calculated) | 151% | 228% |
| | 10" Purlin | R-35 | 3" | 8" | 0" | **0.0430** | 0.065 | 0.095 (calculated) | **151%** | **221%** |
| | | R-38 | 4" | 8" | 0" | 0.0400 ** | 0.060 | 0.088 (calculated) | 150% | 220% |
|  Suspended Full Cavity Roof Insulation System (Patents Pending) | 8" Purlin | R-39 | 3" | 6" | 3" | **0.0327** | NA | 0.086 (calculated) | - | **267%** |
| | | R-42 | 3" | 6" | 4" | **0.0296** | NA | 0.080 (calculated) | - | **275%** |
| | | R-45 | 3" | 6" | 5" | **0.0270** | NA | 0.074 (calculated) | - | **278%** |
| | | R-48 | 3" | 6" | 6" | **0.0248** | NA | 0.068 (calculated) | - | **278%** |
| | | R-54 | 3" | 6" | 8" | **0.0214** | NA | 0.056 (calculated) | - | **265%** |
| | 10" Purlin | R-45 | 3" | 8" | 3" | **0.0303** | NA | 0.074 (calculated) | - | **247%** |
| | | R-48 | 3" | 8" | 4" | **0.0276** | NA | 0.068 (calculated) | - | **250%** |
| | | R-52 | 3" | 8" | 5" | **0.0253** | NA | 0.060 (calculated) | - | **240%** |
| | | R-54 | 3" | 8" | 6" | **0.0234** | NA | 0.056 (calculated) | - | **242%** |
| | | R-60 | 3" | 8" | 8" | **0.0203** | NA | 0.046 (calculated) | - | **229%** |

** Latest U-Factors published by ASHRAE (01/12/10) or Tested U-Factors by SNS® or noted otherwise. ** Perceived Value ONLY. Not yet tested.*

## Sealed "N" Safe's® Recommendations

**R-20** **Wall or Roof Applications:** Simply replace your old 6" R-20 insulation blanket with two layers of 3" insulation blanket, add the SNS® Thermal Block "The Performer" and reduce the "U" Value to 0.076.

**R-42** **Roof Applications:** Using a 3" un-faced MBI Blanket over the top with the SNS® Thermal Block "The Performer". Placing a 6" un-faced blanket in the purlin cavity and using a 4" blanket with MBI facing with short tabs tucked up into the seam, reduce the "U" Value to 0.029.

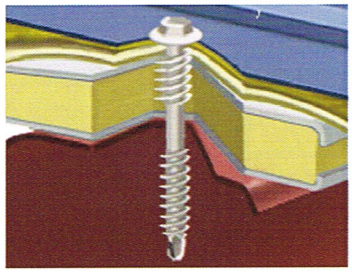
*In each case, saving the end-user thousands if not tens of thousands of dollars in energy and building costs. Any combination can greatly enhance insulation values by using the SNS® Continuous Insulation System.*

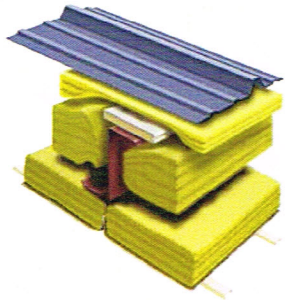
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PATENTS PENDING

# *Is the Insulation System in your Metal Building a Peak Performer? If you don't have the SNS® Continuous Insulation System, it is not. Install the SNS® System and improve performance by as much as DOUBLE!*

## Screwdown Roof & Wall System

Sealed "N" Safe introduces its Continuous Insulation System for Screw Down Metal Roof and Wall Panels completely isolate the outer shell from the inner frame of the metal building. Hence, increasing the energy performance by a much as DOUBLE. The concept of Thermal Blocks has been used for many years with Standing Seam type roof systems without adding design issues. However, when applying thermal blocks in a screw down roof system, there are significant design issues to consider. Structural integrity can be greatly compromised. Water tightness becomes more difficult to maintain. Simply installing a "Foam Block" between the roof sheet and the purlin will prove to be your worst nightmare! The new "Sealed "N" Safe® Continuous Insulation System* is the solution. It is now possible to install a Low Cost Screw Down Roof, include one of the highest performing insulation systems available, maintain the structural integrity of your project, and create a watertight seal under the gasket of the roof sheet fastener. Best of all, save you a ton of money each month in energy costs. Yes, the "Sealed N Safe" Continuous Insulation System does all that! Is that "GREEN" you say? You be the judge!





*Our patented thread-release screw creates the seal by compressing the roof sheet and the metal shell of the thermal block together with the 3 or 4 inches of insulation between them. This maintains adequate compression to seal the fastener gasket to the roof sheet without relying on the tension of the purlin.*

## Two Design Components make it work

**Part one: SNS® Thermal Block "The Performer"*** has an R6 minimum rating and is constructed of two galvanized metal plates with a specially designed isocyanurate foam injected between them. The SNS® Thermal Block "The Performer" is designed to resist normal vertical and horizontal loads applied in a typical metal building application. Complete test data is available on our website.

**Part two: Sealed "N" Safe® Fastener* Our specially engineered fastener has been specifically designed for the use with the Sealed "N" Safe® Continuous Insulation System*** Use of this **fastener is mandatory** as it is key to the performance of the System. This fastener is designed with two different thread types at two different locations of the screw shank. When driving the screw through the roof sheet and thermal block, and as the screw makes contact with the purlin, there are no threads at the upper location of the roof sheet and thermal block. This prevents "reaming" of the roof sheet and the thermal block around the screw shank while drilling through the purlin. Once the screw has drilled through the purlin and proceeds downward, the lower threads engage the purlin, while the upper threads engage the roof sheet and then the top plate of the thermal block. The roof sheet clears the top of the threads, the fastener continues to run in and the top metal plate of the thermal block clears the threads, compressing the two together, forming a water tight seal of the fastener gasket. This also prevents "Reaming" of roof sheet and top plate of the thermal block to maintain a tight seal. By this time, the lower threads will have fully engaged the roof purlin, ran in tight, and compressed the complete system to the purlin. This design is not dependent on the tension of the fastener to the purlin to develop the required 50 lbs. of pressure to create and maintain a water tight seal under the fastener gasket. Compressing the roof sheet and the thermal block top plate together makes the seal. Sealed "N" Safe® Fasteners* are supplied as part of the system. **No other fastener is to be used to fasten the roof sheet to the purlin with the Sealed "N" Safe® Continuous Insulation System*.** The "Sealed N Safe"® Fastener* can be supplied in your standard colors. Simply give us a color chip and we will do the rest.

**SNS® Thermal Block "The Performer"*** can be added to a single or double layer blankets over the outside or full cavity fill to create a Continuous Insulation System. The new Double Layer Insulation System for both roof and wall application is designed to reduce or eliminate the oil-can effect that happens with a 6" insulation blanket under the roof or wall sheeting. Double Layer Insulation System can achieve up to R-26, and double thermal performance by as much a double. When using a full cavity type system, include our Insulation Support Rail which is fastened to the bottom of the purlin using #12 Flat Head SD Screw. It is a very attractive means of not only supporting the added insulation but also supporting the bottom flange of the purlin. It does not induce the tension conditions that are inherent when using banding or strapping to support the insulation. Our insulation support rails are produced in 10'-3" and 12'-3" lengths.

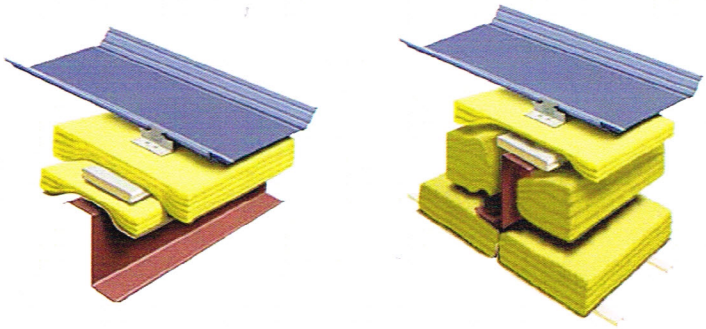
**The building designer** must take one consideration into account. By placing a 1" thermal block over the top of the purlins creates a negative effect, like a Standing Seam Roof does. It is necessary to change the design criteria and add bracing to stabilize the roof system. We overcome that by adding the SNS® Purlin Strut on a Screw-down Roof System. **The values of Rτ for Purlin Rotation design needs to be 0.92 for gravity and 0.7 for uplift,** and must include use of the SNS® Purlin Strut. The SNS® Purlin Strut system, allows the insulation to fully expand and reach its full "R" & "U" Values. This is a high performing insulation system with the lowest building cost method available. See our "U" Values comparison chart for details on improved performance compared to conventional methods. Invest in a peak performer and Get It All. Install a SNS® Continuous Insulation System in all your upcoming projects.

*The contents of this document are not intended to be complete, are only designed as initial marketing information to prospective purchasers, and are limited in their entirety by the Sealed "N" Safe® limited warranty. You must properly design and install the Thermal Block System® in order for it to accomplish its intended use.*

* "Sealed N Safe"® Thermal Block System (Patent Pending)
* "Sealed N Safe"® Fastener (Patent Pending)

SEALED "N" SAFE®
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# SNS® Continuous Insulation System for Standing Seam Roofs



*The SNS® Thermal Block "The Performer" comes in six-foot lengths. Each SSR Panel Clip is placed on top of the SNS® Thermal Block "The Performer" and will be fastened through the block and attached to the purlin flange for a tight connection. They are designed to resist normal vertical and horizontal loads applied in a typical metal building application.*

## Standing Seam Roof System

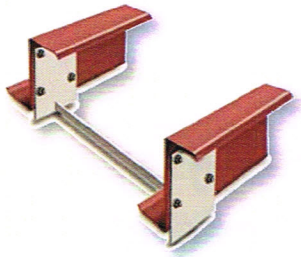
Sealed "N" Safe® Systems is pleased to introduce "The Next Generation in Energy Efficiencies". Our new Sealed "N" Safe® Continuous Insulation System covers the complete envelope of a metal building. It works with all Roof and Wall Panels,including Architectural Systems, Standing Seam Roof System, the Screw-down Roof System and the Screw-down Wall System.
We at Sealed "N" Safe® Systems have invested heavily upon independent testing agencies to verify the actual performance and the stability of our systems. After more than 3 years of research and development, we have made every effort to determine the true effects, both positive and negative results of our systems. We have conducted test according to all AISI and ASTM Standards that apply. For testing information, visit us on the web at http//sealednsafe.com/technical-data/

## SNS® Thermal Block "The Performer" and SSR Panel Clips

SNS® Thermal Block "The Performer" has a R6 minimum rating and is constructed of two galvanized metal plates with a specially designed isocyanurate foam injected between them. Each SNS® Thermal Block "The Performer" comes in six-foot lengths, with two flat head screw to hold the thermal block in place. The SSR Panel Clip is placed on top of the SNS® Thermal Block "The Performer" and will be fastened through the block and attached to the purlin flange for a tight connection. Only use clips that are 1/4" taller than the profile of the panel. The SNS® Thermal Block "The Performer" is designed to resist normal vertical and horizontal loads applied in a typical metal building application.

## Application SNS® Thermal Block "The Performer"

SNS® Thermal Block "The Performer" isolate the outer shell from the inner frames of a metal building, which creates a Continuous Insulation System for the complete building envelope. A Single or Double Layer Insulation Systems can be used for both roof and wall application. For an insulation system that requires an R-19 in the roof, we recommend using a double layer system, it reduce or eliminate the oil-can affect that happens with a 6" insulation blanket and eliminate possible leaks in the roof. By using the double layers system, you increase the thermal performance of your building by as much as two times. Double Layer Insulation System can achieve up to R-26 in both roof and walls (review the U-value comparison chart). When using a full cavity type system, you can include our Insulation Support Rail which is fastened to the bottom of the purlin using #12 Flat Head SD Screw. It is a very attractive means of not only supporting the added insulation but also supporting the bottom flange of the purlin. It does not induce the tension conditions that are inherent when using banding or strapping to support the insulation. Our insulation support rails are produced in 10'-3" and 12'-3" lengths.



*The SNS® Purlin Strut System is designed to resist Purlin Rotation. (Illustration of the Fix Purlin Strut System, Patent Pending)*

## Building Designers

The building designer must take one consideration into account. By placing a 1" thermal block over the top of the purlins creates a negative effect, like a Standing Seam Roof does. It is necessary to change the design criteria and add bracing to stabilize the roof system. We overcome that by adding the SNS® Purlin Strut on a Standing Seam Roof. **The values of Rτ for Purlin Rotation design needs to be 0.80 for gravity and 0.75 for uplift, according to the BRS SSMR System** (other systems may vary). The SNS® Purlin Strut System greatly reduces costs not only for the building manufacturer but also for the erector in the field. For the Building Manufacturer, one strut can replace as many as 10 angle or rod cross braces. Costs in the field are reduced as much as 95% with the reduction in labor and equipment time. The SNS® Purlin Strut, unlike conventional cross bridging between purlins, does not interfere with or restrict the insulation in the purlin cavity and allows the insulation to fully expand and reach its full "R" & "U" Values. This is a high performing insulation system with the lowest building cost method available. See our "U" Values comparison chart for details on improved performance compared to conventional methods. Invest in a peak performer and install a SNS® Continuous Insulation System in all your upcoming projects.

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PATENTS PENDING

***The Sealed "N" Safe® Continuous Insulation System with "The Performer" will save you thousands if not tens of thousands of dollars in energy and building costs. We have the numbers to prove it! It can even pay for your building during its lifetime in energy savings.***

## Why the SEALED "N" SAFE System?

- To our knowledge, SNS® Thermal Block "The Performer" is the only thermal block that meets the AISI S100 2007 Sec D6.1.1 specifications
- Sealed "N" Safe® exceeds the International Energy Conservation Code (see table (502.2(1))

### Achieve worth while energy conservation

- SNS® Thermal Block "The Performer" is proven to **increase insulation performance as much as 2 times**
- Investing in SNS® Continuous Insulation System has a quick return on your investment. We estimate the **return on your investment to be 12-18 months, depending upon your climate zone**
- There are few investments that have this good of a return on your money
- You've heard the old adage "Insulation doesn't cost, it pays!" The same is true for SNS® Continuous Insulation System

### Code Compliance - AISI & ASTM Standards *(structural integrity of the building)*

- SNS® Thermal Block "The Performer" meet AISI requirements for use of "Stand-Off Screws"
- SNS® Thermal Block "The Performer" resist shear loads imposed in Metal Building Roof and Wall Planes.
- SNS® Thermal Block "The Performer" is designed to prevent fastener rotation side to side as the building moves, thus eliminating fastener fatigue and breaking at the top surface of the purlin.
- SNS® Thermal Block "The Performer" will not deform with Building Movements.
- SNS® Thermal Block "The Performer" is designed to resist crushing from gravity loads to roof surface.
- SNS® Continuous Insulation System meets ASTM wind uplift requirements
- The SNS® Continuous Insulation System is tested to identify the correct values to comply with AISI Purlin Rollover requirements.
- The SNS® Purlin Strut System does not interfere with insulation within the purlin cavity thus allowing complete unrestricted cavity fill and full expansion of insulation blankets. (The secret to maximize insulation performance).

### Other Considerations

- Made in the USA
- Greatly reduces greenhouse gases
- Greatly reduces or eliminates condensation and thermal transfer through the purlin
- Extends the life of the roof panel due to the Condensation Barrier
- Tax incentive for meeting Energy Star requirements- $1.80 / square foot http://www.energystar.gov

### Installation

- SNS® Thermal Block "The Performer" come in 6-foot lengths for easy handling and installation
- Can be installed on the go as insulation and roof sheets are installed; or it can be installed all at once with a man basket from below
- No bulky extra facings to handle
- When using our insulation rail, it does not create any additional horizontal forces at the bottom of the purlin. It simply supports and maintains proper purlin spacing
- Enables you to us the same insulation provider you are currently using
- Keeps equipment and labor costs to a minimum

### Code Compliance – ICC Standards

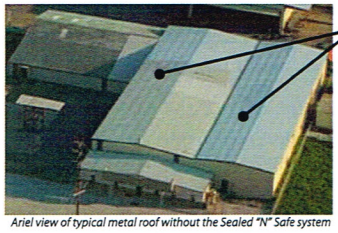
- SNS® Thermal Block "The Performer" carries a Class A Fire Rating and Flame Spread of 25
- SNS® Thermal Block "The Performer" has a Smoke Index of less than 150
- SNS® Thermal Block "The Performer" is 95% encased in 24 ga. Metal Cladding reducing flame exposure in case of fire. ICC does not allow exposed plastics and foams such as Styrofoam in ceiling locations ( See ICC Chapter 26)

### Weather and water tightness

- The SNS Continuous Insulation System is proven to be water tight per ASTM and ICC requirements
- SNS® Panel fasteners do not compress the foam core to achieve tightness

### Life expectancy

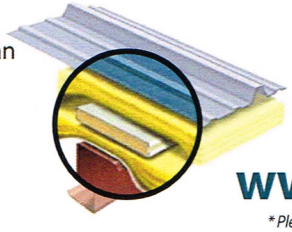
- SNS® Thermal Block "The Performer" is made using the same materials used in Metal Buildings for extended product life



Ariel view of typical metal roof without the Sealed "N" Safe system

**PROBLEM:**
***Notice the energy loss as the heat transfers through the purlins on a cool spring morning.***

**SOLUTION:**
***The SEALED "N" SAFE® Contiuous Insulation System is designed for the complete envelope of the building.***



**call today:**
**888-340-4767**
**www.sealednsafe.com**

** Pleas note: Roof Design is the responsibility of Builing Design Engineer.*

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### Conclusion

- The SNS® Continuous Insulation System is designed, tested, and proven to meet all the requirements for its use
- The SNS® Thermal Block "The Performer" comes with a 3 year Written Warranty
- At Sealed "N" Safe®, we've done all the testing for **your peace of mind**. After more than 3 years of research and development, you can rest assured that the Sealed "N" Safe® Continuous Insulation System will deliver as promised