



# STYROFOAM SIS™ Brand

STRUCTURAL INSULATED SHEATHING

## STRUCTURED FOR STRENGTH

*Strengthen your bottom line by increasing efficiency in every home you build: efficiency of design, efficiency of effort and perhaps most important, efficient use of energy required for heating and cooling. All without adding a single step to the construction process.*



# STYROFOAM SIS™ Brand

STRUCTURAL INSULATED SHEATHING

**Innovative STYROFOAM SIS™ Brand Structural Insulated Sheathing combines four benefits in one product:**



- ▶ Structural lateral bracing and transverse wind load resistance
- ▶ Significant insulation performance
- ▶ Water-resistive barrier
- ▶ Air barrier

**Build Strong Structures** Four-in-one STYROFOAM SIS™ Brand Structural Insulated Sheathing is code-compliant for use as braced wall panels attached next to other rigid insulated sheathing or as continuous structural insulated sheathing over the entire wall line. It has the dimensional stability and racking strength to meet or exceed tough building codes.

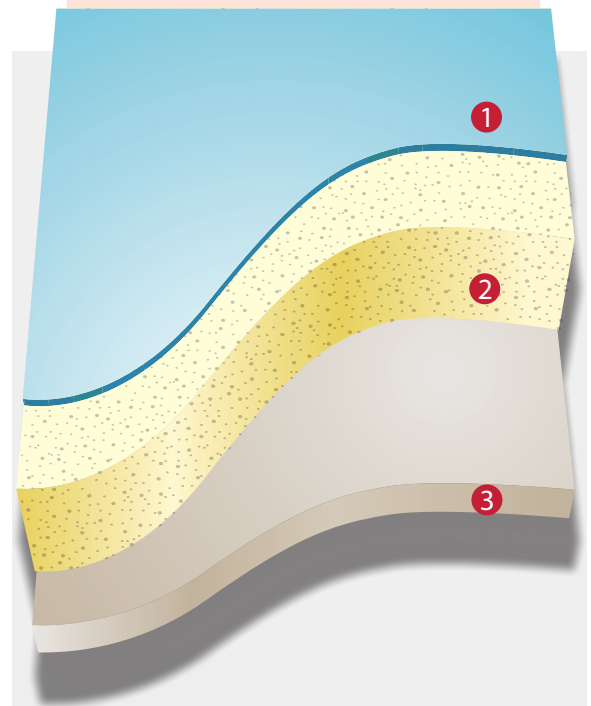
**Build a Strong Environment** STYROFOAM SIS™ Brand Structural Insulated Sheathing is made from up to 80% post-consumer recycled content. The industry's first structural insulated sheathing to achieve significant R-values (R-3.0 at 0.5"; R-5.5 at 1"), SIS meets the definition of continuous insulation as defined by IECC. SIS walls are high on performance by meeting high standards for energy efficiency and reduced energy consumption.

**Build a Strong Reputation** Get the edge in your market by using American-made STYROFOAM SIS™ to build homes that help your customers save energy dollars every year.

**Build a Strong Bottom Line** Using SIS is a great way to save time and money by allowing the builder to use one product to achieve many functions: strong structure, insulation, WRB and air barrier. STYROFOAM SIS™ eliminates the need for wood structural panels and housewrap, metal T-bracing or wood let-in bracing, reducing time, labor and material costs. The lightweight panels are easy to work with and are just one third the weight of OSB.

**STYROFOAM SIS™ Brand Structural Insulated Sheathing consists of three layers:**

- 1 A blue, non-reflective, resilient exterior surface provides water resistance, high durability and excellent curb appeal
- 2 Close-cell, moisture-resistant rigid polyisocyanurate foam core for excellent compressive strength, long-term, stable R-value and continuous air barrier
- 3 Thin high-pressure laminated structural member



Scan for STYROFOAM SIS product spec sheets and installation instructions.

# INSTALLATION



## INSTALLING PANELS

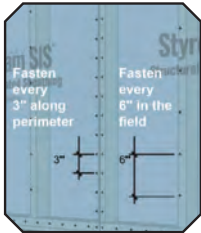
- ▶ Install panels so that the foam faces the exterior of house.
- ▶ For structural use, all edges must be fastened and backed by minimum 2" (nominal) framing.
- ▶ For non-structural uses, edges don't need to be backed.



## INSTALLING PANELS (intermittent)

When used in combination with nonstructural foam sheathing:

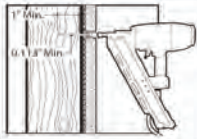
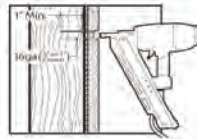
- ▶ Use STYROFOAM SIS™ Sheathing in areas where bracing is required.
- ▶ Supplement remaining wall with regular foam sheathing, such as ISO RED ci Polyiso Foam Sheathing.



## FASTENING

- ▶ Fasten SIS using approved nails or staples every 3" around the perimeter of the board.
- ▶ Nail or staple every 6" in the fields of the board.
- ▶ A 3-3 pattern may also be used for staples, resulting in lower bracing percentage requirements

NOTE: STYROFOAM SIS™ Panels used in non-structural areas may be installed using fasteners spaced 6" at the perimeter of the board and 12" in the field of the board.

Product	Recommended Nail Type	Recommended Staple Type
0.5-inch STYROFOAM SIS™	Shank Diameter: 0.113 min. Stud Penetration: 1-inch min.	Gauge: 16 Crown: 0.5-inch or 1-inch Stud Penetration: 1-inch min.
1-inch STYROFOAM SIS™	Shank Diameter: 0.113 min. Stud Penetration: 1-inch min.	Gauge: 16 Crown: 0.5-inch or 1-inch Stud Penetration: 1-inch min.
		

## TAPING

For water resistive and/or air barrier installations, tape all seams with minimum 2 1/2" wide construction tape by 3M (8087), Venture (1585-P2) or equivalent. 4" wide self-adhered flashing tape meeting AAMA 711 (FortiFlash Butyl or equivalent) with release liner may be required for effectively taping of inside and outside corners.

- ▶ Center the tape over the joint to cover fasteners.
- ▶ When taping joints, use shingle fashion technique.
- ▶ Install tape as per manufacturer's instructions on clean/dry surface
- ▶ Housewrap is not required to meet WRB requirements if all joints are taped.

Flash all openings and penetrations with self-adhered flashing tape meeting AAMA 711 (FortiFlash Butyl or equal).

## STORAGE

If stored exposed to elements, cover with waterproof tarpaulin. Do not store directly on the ground unprotected. Product bundles are shipped from the factory in weather-tight packaging. Normal care should be taken to avoid excessive moisture exposure (soaking) to unpackaged product. Maintain packaging protection until installation. Once removed from the protective bundle covering and installed on the wall frame, it can remain uncovered for up to 90 days of UV exposure.

## PRODUCT NAME

STYROFOAM SIS™ Brand  
Structural Insulated Sheathing

## PRODUCT DESCRIPTION

STYROFOAM SIS Brand Structural Insulated Sheathing combines structural lateral bracing and transverse wind load resistance, insulation, water-resistive barrier and air barrier properties in one solution. This sheathing can be used as braced wall panels integrated with other rigid insulated sheathing. It can also serve as continuous structural insulated sheathing over the entire wall line. STYROFOAM SIS Brand Structural Insulated Sheathing provides high R-value\* (R-3 at 0.5"; R-5.5 at 1") and eliminates the need for wood structural panels (e.g., OSB) and housewrap, wood let-in bracing or metal T-bracing. In addition, STYROFOAM SIS Brand Structural Insulated Sheathing helps lower the installed cost because it allows the builder to install structural support, insulation and a water-resistive barrier and air barrier with one product and one less trip around the house. STYROFOAM SIS Brand Structural Insulated Sheathing is the first structural insulated sheathing to achieve significant R-values, while meeting IRC and IBC wall bracing criteria. SIS also meets the definition of continuous insulation as defined by IECC.

## PROPERTIES

The core of STYROFOAM SIS Brand Structural Insulated Sheathing consists of a closed-cell, moisture-resistant rigid polyisocyanurate foam with excellent compressive strength and long-term, stable R-value. A blue, non-reflective, resilient exterior surface provides water resistance, high durability and excellent curb appeal. And a structural member provides additional structural properties.

Easy and quick to install, STYROFOAM SIS Brand Structural Insulated Sheathing weighs less than 16 lbs per 4' x 8' (0.5" thick) board, compared to approximately 45 lbs for OSB.

For features and benefits of STYROFOAM SIS Brand Structural Insulated Sheathing, refer to Table 1. STYROFOAM SIS Brand Structural Insulated Sheathing exhibits the properties indicated in Table 2 when tested as represented.

STYROFOAM SIS Brand Structural Insulated Sheathing meets ASTM C1289-07 Standard Specification for Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

## SIZES

Width and length: 4' x 8', 4' x 9', 4' x 10'  
Product thicknesses and R-values are shown in Table 3.

## INSTALLATION

STYROFOAM SIS Brand Structural Insulated Sheathing is easy to handle, cut and install. SIS is easily attached to framing with recommended fasteners. (See installation guide for more information- [www.oxstyrafoamsis.com](http://www.oxstyrafoamsis.com)) To qualify as a water-resistive barrier, tape all joints with approved 2 1/2" Construction Tape.





# STYROFOAM SIS™ Brand

## TECHNICAL SPECIFICATIONS

**TABLE 1: Features and Benefits of STYROFOAM SIS™ Brand Structural Insulated Sheathing**

Feature	Benefit
Four-in-one construction (structural strength, insulation, water-resistive barrier and air barrier properties)	<ul style="list-style-type: none"> <li>Eliminates need for wood structural panels and housewrap, metal T-bracing or wood let-in bracing</li> <li>In many cases, costs less than wood structural panels/housewrap combination</li> <li>Reduces installation time with one less trip around the house</li> <li>Reduces condensation in wall cavity</li> </ul>
Structural bracing	<ul style="list-style-type: none"> <li>Flexibility to use as intermittent or continuous structural sheathing</li> </ul>
High R-value* (R-5.5 at 1" , R-3.0 at 1/2")	<ul style="list-style-type: none"> <li>Helps meet high energy-efficiency standards</li> <li>Helps reduce energy consumption, helping reduce heating/cooling costs and greenhouse gas emissions</li> </ul>
Continuous wall insulation	<ul style="list-style-type: none"> <li>Covers wall studs and cavity, enhancing thermal efficiency and moisture management</li> <li>Increases R-value of walls</li> </ul>
Water-resistive barrier	<ul style="list-style-type: none"> <li>Resists moisture intrusion and air infiltration</li> </ul>
Lightweight (< 16 lbs per 4' x 8' board; 0.5" thick)	<ul style="list-style-type: none"> <li>Easier, faster installation</li> </ul>
Sound-barrier capability	<ul style="list-style-type: none"> <li>Performance similar to other structural sheathing products in wall assemblies</li> </ul>
Up to 80% post-consumer recycled content	<ul style="list-style-type: none"> <li>Helps meet sustainability objectives</li> <li>Helps homes qualify for Leadership in Energy and Environmental Design (LEED)** credits</li> </ul>

**Warning:** Styrofoam SIS insulation does not constitute a working walkable surface or qualify as a fall protection product.

**CAUTION:** This product is combustible and shall only be used as specified by the local building code with respect to flame spread classification and to the use of a suitable thermal barrier. For more information, call OX Engineered Products, LLC at 800-345-8881.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplier including OX Engineered Products, LLC can give assurance that mold will not develop in any specific system.

STYROFOAM SIS™ trademark license owned by OX Engineered Products, LLC and all other trademarks, registered trademarks, copyrights and logos are the property of their respective owners. \*R means resistance to heat flow. The higher the R-value, the greater the insulating power.

Warranty information available upon request or at [www.oxstyrofoamsis.com](http://www.oxstyrofoamsis.com)

\*\*LEED is a registered trademark of the U.S. Green Building Council.

All disputes for any product or service provided by OX should be determined under the applicable laws of the Commonwealth of Pennsylvania and have the proper and exclusive venue in the York County Court of Common Pleas, York, PA; or the Federal Circuit Court for the Middle District of Pennsylvania.



**Department of Energy High Performance House, Woodbridge, VA**

**TABLE 2: Physical Properties of STYROFOAM SIS™ Brand Structural Insulated Sheathing Insulating Member**

Property and Test Method	Value
Compressive Strength <sup>(1)</sup> , ASTM D1621, psi, min.	25
Water Absorption, ASTM D1037, Method B, % by weight	< 9
Water Vapor Permeance, ASTM E96, perms	< 0.3

<sup>(1)</sup> Vertical compressive strength is measured at 10 percent deformation or yield, whichever occurs first.

**TABLE 3: STYROFOAM SIS™ Brand Structural Insulated Sheathing R-Values**

Nominal Foam Thickness, in.	R-Value <sup>(2)</sup>
0.50	3.0
1.0	5.5

<sup>(2)</sup> Stabilized R-values of core foam @ 75°F mean temperature determined in accordance with ASTM C518. R-values expressed in ft<sup>2</sup>·h·°F/Btu.



**THERMAL IMAGE OF A TYPICAL HOME BUILT WITHOUT INSULATED SHEATHING**

Insulated wall cavities are leaking some heat and wall framing is leaking a LOT of heat.



**THERMAL IMAGE OF THE SAME HOME BUILT WITH JUST 1/2" OF CLOSED CELL INSULATED SHEATHING**

Just 1/2" of continuous rigid insulation greatly reduces heat lost through wall framing and improves on cavity performance.

