

THERMASHEATH®-SI

STRUCTURAL INSULATION FOR EXTERIOR WALLS

PRODUCT DESCRIPTION

Rmax Thermasheath®-SI is a composite product made up of an insulation and structural component that is designed to work seamlessly with non-structural Rmax Thermasheath®. The insulation component is an energy-efficient thermal insulation board composed of a closed-cell polyisocyanurate (polyiso) foam bonded to reflective, reinforced aluminum facers providing superior physical and thermal properties along with a durable radiant barrier surface. The structural component is a board made of fibered, specially treated plies that are pressure-laminated with a water-resistant adhesive.

COMPLIANCES

- ASTM C1289 Type I, Class 1 and 2
- International Residential Code (IRC)
- International Building Code (IBC), Type V Construction
- International Energy Conservation Code (IECC)
- ASHRAE 90.1
- DrJ TER 1207-01
- Structural
 - ASTM E72, ASTM E564, ASTM E2126 and SBCRI Single Element Lateral Load testing
- California Code of Regulations, Title 24 (BHFTI License T1523)
- Tested per NFPA 286 (ICC-ES AC12 Appendix B)
- Water Resistant Barrier (WRB) per ICC-ES AC71 (ASTM E331, AATCC Test Method 127)
- 1, 2, 3 or 4 hour Fire Rated Assemblies as shown in the UL Fire Resistance Directory.

NOTE: For details, requirements and/or limitations, refer to [Third-Party Evaluation Reports](#)

APPLICATIONS

Stud walls

THERMAL PROPERTIES / PRODUCT DATA

"R" means resistance to heat flow. The higher the R-value, the greater the insulating power.

NOMINAL FOAM THICKNESS	THERMAL ¹ R-VALUE	BUNDLE DATA ² (48" X 96")		TRUCKLOAD DATA (48" X 96")	
		Pieces	Sq. Ft.	Pieces	Sq. Ft.
Inches	^o F•sqft•hr/Btu				
0.5	3.2	80	2,560	1,920	61,440
0.75	5.0	52	1,664	1,248	39,936
1.0	6.0	42	1,344	1,008	32,256

¹Thermal values are for the polyiso foam portion only and are determined by using ASTM C518 test method at 75°F mean temperature on material conditioned according to PIMA Technical Bulletin No. 101.

²Thermasheath®-SI is shipped in bundles that are approximately 48" high and wrapped in plastic for easy handling.

TYPICAL PHYSICAL PROPERTIES

Physical properties shown are for the polyiso insulation layer only, are based on data obtained under controlled conditions, and are subject to normal manufacturing tolerances.

PROPERTY	TEST METHOD	RESULTS
Flame Spread, Polyiso Core ¹	ASTM E84	75 or Less
Smoke Developed, Polyiso Core ¹	ASTM E84	< 450
Air Permeance	ASTM E2178	< 0.02 L/(s•m ²)
Water Vapor Permeance	ASTM E96	< 0.1 perm
Reflectance	ASTM E408	0.98
Emittance		0.02
Installation Temperature		> -10°F
Service Temperatures		250°F max

¹Flame spread numbers are shown for comparison purposes only and are not intended to represent the performance of Thermasheath®-SI and related components under actual fire conditions.

APPLICATION / INSTALLATION

General – Thermasheath®-SI applied continuously or with Thermasheath® to the exterior face of wood studs, to cover all studs, sills, plates and header constructions, provides a layer of continuous insulation (ci) over details not normally covered by insulation products. The interior of the building shall be fully protected by an approved 15-minute thermal barrier, if required by code.

Structural – Thermasheath®-SI complies with the requirements for conventional wall bracing, transverse wind loading, and continuously sheathed braced walls, including seismic design and portal frames. It can be seamlessly integrated into applications requiring braced wall panels. Thermasheath®-SI eliminates the need for heavy OSB sheathing, let-in bracing and/or T-bracing.

Securement – Refer to DrJ TER 1207-01 for required bracing lengths and other details to meet the structural requirements of applicable code. Thermasheath®-SI panels shall be installed vertically with the length dimension parallel to the framing behind. All perimeter edges must be backed and fastened to a framing member. Fasten boards using approved fasteners every 3" along the perimeter and every 6" in the fields of the boards. Fasteners must be placed not less than 3/8" (9.5 mm) from sheathing edges and may be countersunk beneath the surface of the foam. Staples shall be a minimum 16 gauge, 1/2" or "crown, at least 1 1/4" leg and penetrate a minimum of 1" into the stud. Nails shall be minimum 0.113" x 2 3/8" and penetrate a minimum of 1 1/4" into the stud. Boards shall be tightly butted at framing members, and a single row of fasteners must be applied to each panel edge into the stud behind. Do not tack sheathing products to framing, but fasten each panel completely once fastening begins. For more details, refer to Thermasheath®-SI Installation Instructions.

Water-Resistive Barrier – When Thermasheath®-SI is installed over wood studs with the joints sealed, it serves as a Water-Resistive Barrier. Thermasheath®-SI has been tested per the guidelines set forth in the ICC-ES Acceptance Criteria for Foam Plastic Sheathing Panels Used as Water-Resistive Barriers (AC71). For use as a WRB, Thermasheath®-SI shall be installed with board joints placed directly over wood framing spaced a maximum of 24" o.c. All insulation board joints shall be covered by R-SEAL 3000 or R-SEAL Construction Tape. All transitions and throughwall penetrations must be flashed to comply with applicable code.

Multiple Layers – Where desired, install Thermasheath® panels directly over Thermasheath®-SI to achieve increased R-values. Joints should be offset between the insulation layers.

Radiant Barrier – The reflective side of Thermasheath®-SI acts as a radiant barrier adding to the energy efficiency of the assembly. To achieve radiant barrier properties, there must be an air space against the reflective surface. The ASHRAE Handbook of Fundamentals, assigns values to air-tight spaces under varying conditions. For example, ASHRAE assigns a 2.77 R-value to a 3/4" air-tight space against a reflective foil in a typical wall assembly. **NOTE:** The air space is not required for the insulation to perform as listed in both the thermal and physical properties of this document.

LIMITATIONS

Thermasheath®-SI is not recommended, nor warranted, for use as a commercial roof insulation. Consult Rmax Sales for suitable commercial roof insulation products.

WARNING

Polyiso is an organic material which will burn when exposed to an ignition source of sufficient heat and intensity and may contribute to flames spreading.

Installations utilizing Thermasheath®-SI must be fully protected on the inhabited side of the building by a thermal barrier such as a minimum of 1/2" gypsum wallboard. Consult local building codes and insurance authorities regarding special applications or details required when using Thermasheath®-SI as an exposed product in uninhabited spaces.

Per the IBC, a WRB is required behind the exterior wall veneer. The code also has provisions regarding vapor retarders, type and location, based on the assembly, climate zone and the amount of continuous insulation. It is up to the design professional to specify an assembly that will perform adequately and meet these requirements.

WARRANTY

See Rmax "Sales Policy" for terms and conditions. Rmax does not assume any responsibility or liability for the performance of any products other than those manufactured by Rmax. **NOTE: Factory packaging should not be relied upon as protection at job sites or other outdoor storage locations. When short-term outdoor storage is necessary, take the following precautions: Store flat above ground on raised pallets, place bundles on finished surfaces, cover with a breathable tarpaulin and secure cover to prevent wind displacement.**

RMAX SALES OFFICES / PLANT

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13524 Welch Road Dallas, TX 75244 (P) 972-387-4500 (F) 972-387-4673	1649 South Batesville Road Greer, SC 29650 (P) 864-297-1382 (F) 864-234-7548	210 Lyon Drive Fernley, NV 89408 (P) 775-575-4849 (F) 775-575-5035

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PRODUCT DATA SHEET
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BUILDING TRUST

