



# TSX-8500

ROOF  
WALL

Continuous Insulation for Exterior Walls and Exposed Use **SPECIALTY**

## PRODUCT DESCRIPTION

Rmax TSX-8500 is an energy-efficient thermal insulation board composed of a closed-cell polyisocyanurate (polyiso) foam core bonded to embossed, glass fiber reinforced aluminum foil facers on both sides. The exposed side of the board has a heavy embossed 12mil facer with an aluminum reflective surface and clear coating for limited protection against oxidation. The other side is marked in production to ensure proper installation.

## COMPLIANCES

- ASTM C1289 Type I, Class 1 and 2
- ASHRAE 90.1
- International Energy Conservation Code (IECC)
- International Building Code (IBC) Section 2603, *Foam Plastic*
- DrJ TER 1309-03
- ESR-1864, ICC Evaluation Service
- Miami-Dade County Product Control Approved
- RR 25322, City of Los Angeles Research Report
- CA Insulation Directory
- Class A Flame Spread and Smoke Developed Indices per IBC Chapter 8, *Interior Finishes*
- Tested per UL1715/NFPA 286 to comply with IBC Section 2603, *Special Approval* paragraph
  - Up to 4.5" without a thermal barrier on walls only
  - Up to 12" without a thermal or ignition barrier on ceilings only
  - Up to 4.5" without an ignition barrier on walls and ceilings
- Tested per NFPA 285 to comply with IBC Section 2603.5.5
- Water-Resistive 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

## APPLICATIONS

Masonry walls; exterior walls (Type I-IV); farm or storage buildings; pre-engineered metal buildings; parking structures; laminate panels and other similar applications.

## THERMAL PROPERTIES / PRODUCT DATA

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

Nominal Thickness	Thermal R-Value <sup>1</sup>
Inches	°F·ft <sup>2</sup> ·hr/Btu
0.50	3.2
0.75	5.0
1.00	6.0
1.10	6.7
1.25	7.8
1.50	9.6
1.55	10.0
1.75	11.4
2.00	13.1
2.10	13.9
2.30	15.3
2.50	16.7
2.90	19.6
3.00	20.3
3.50	23.9
3.70	25.3
4.00	27.4
4.50	31.0

<sup>1</sup>Thermal values are determined by using ASTM C518 test method at 75°F mean temperature on material conditioned according to PIMA Technical Bulletin No. 101.

<sup>2</sup>Includes the ASHRAE assigned 2.77 R-value of a ¼ " air tight space against a reflective foil in a typical wall assembly.

## TYPICAL PHYSICAL PROPERTIES

Physical properties shown are based on data obtained under controlled conditions and are subject to normal manufacturing tolerances.

Property	Test Method	Results
Density, Overall, Nominal	ASTM D1622	2.0 pcf
Compressive Strength <sup>1</sup>	ASTM D1621	20 psi Standard Also Available in 25 psi Upon Request
Flexural Strength	ASTM C203	60 psi
Flame Spread, Faced <sup>2</sup>	ASTM E84	25 or Less
Smoke Developed, Faced <sup>2</sup>	ASTM E84	< 450
Air Barrier	ASTM E2178	< 0.02 L/(s.m <sup>2</sup> )
Water Vapor Transmission	ASTM E96	< 0.03 Perm
Water Absorption	ASTM C209	< 0.2% Vol.
Dimensional Stability, Length and Width	ASTM D2126	< 1% Linear Change
Mold Resistance	ASTM D3273	10, no defacement
Reflectance Emittance	ASTM E408	0.96 0.04
Service Temperatures		250°F max

<sup>1</sup>Less than 1" is standard at 16 psi.

<sup>2</sup>Flame spread and smoke numbers are shown for comparison purposes only and are not intended to represent the performance of TSX-8500 and related components under actual fire conditions.

TSX-8500 is shipped in bundles that are approximately 48" high and wrapped in plastic for easy handling. Visit [www.rmax.com](http://www.rmax.com) for a complete list of thicknesses and packaging information.



## APPLICATION / INSTALLATION

**General** – TSX-8500 passes UL1715/NFPA 286 in single or multiple layers without joint treatment of any kind.\* Therefore, the boards only need to be tightly butted. However, taping the seams is acceptable using R-SEAL 3000, or equivalent. For a more professional, finished look, use Rmax's PVC insulation clip. Refer to Rmax publication, *Joint Closure Recommendations and Installation Instructions for Interior Exposed Applications*, for additional information and guidelines on installation, joint treatment and sealing techniques. TSX-8500 may be covered with an interior finish product provided it is compliant with the requirements of IBC Chapter 8, including interior paint. A quality grade acrylic latex paint is recommended for coating the surface. While primer is not generally required, consult the paint manufacturer and/or industrial paint supply for recommendations and best practice.

**Securement** – TSX-8500 may be fastened to wood framing using washers with roofing nails or bugle head screws or minimum 3/4" cap nails. The fasteners shall be long enough to penetrate wood framing a minimum of 1". TSX-8500 may be fastened to metal framing using self-taping screws and plastic washers. The fasteners shall be long enough to penetrate metal framing a minimum of four threads. The insulation boards shall be installed with all edges tightly butted and vertical joints backed by framing. When the insulation boards are installed horizontally, i.e., perpendicular to framing, the maximum span shall be 5'. TSX-8500 may be secured to concrete surfaces using plastic masonry fasteners with washer or a quality grade construction adhesive. Rodenhouse fasteners, sold by Rmax, are a great option for fastening TSX-8500 to wood, steel and concrete substrates. Refer to the Rmax/Rodenhouse Fastener List and Installation Guide for more details.

**Water-Resistive Barrier** – When TSX-8500 is installed over wood or steel studs with the joints sealed, it serves as a Water-Resistive Barrier (WRB). TSX-8500 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, TSX-8500 shall be installed with vertical board joints placed directly over wood or steel framing spaced a maximum of 24" o.c. All insulation board joints shall be covered by R-SEAL 3000 tape. All transitions and throughwall penetrations must be flashed to comply with applicable code.

**Pressure Washable** – TSX-8500 is pressure washable, up to 1000 psi using a cleaning spray rig. The wand nozzle must have a fan spray tip with an angle of at least 15 degrees. The washing wand should not be used at a distance of less than 3' from the surface of the insulation board. Pressures greater than 1000 psi may result in damage to the insulation facer.

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## LIMITATIONS

TSX-8500 is not recommended, nor warranted, for use as a commercial roof insulation directly under membrane systems. Consult Rmax Sales for suitable commercial roof insulation products.

TSX-8500 is not a structural panel. It must not be used as a nailing base for any other building products. Furthermore, walls insulated with TSX-8500 must be properly braced for lateral loads according to the requirements of local Building Codes.

## WARNING

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

Consult local Building Codes and insurance authorities regarding special applications or details required when using TSX-8500 as an exposed product.

Per the IBC and IRC, 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" and "Fifteen Year Limited Thermal Warranty" 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: All Rmax products must be tarped, placed on skids and kept dry before and throughout construction.**

\*Walls only or ceilings only without a thermal barrier or walls and ceilings without an ignition barrier.

## Rmax Sales Offices and Plant Locations

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