

## ECOMAXCI® FR (REPLACES TSX-8500)

### EXTERIOR WALLS AND INTERIOR EXPOSED USE

#### PRODUCT DESCRIPTION

Rmax ECOMAXci® FR is an energy-efficient thermal insulation board composed of a closed-cell polyisocyanurate (polyiso) foam core bonded to embossed, glass fiber reinforced aluminum 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
- California Code of Regulations, Title 24 (BHFTI License T1523)
- 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

**NOTE:** For details, requirements and/or limitations, refer to Third-Party Evaluation Reports

#### APPLICATIONS

Exterior walls (Type I-IV): Masonry, steel stud, FRTW stud; 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.

#### 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<br>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<br>Emittance                | ASTM E408   | 0.96<br>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 ECOMAXci® FR and related components under actual fire conditions.

ECOMAXci® FR 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.



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## APPLICATION / INSTALLATION

**General** – ECOMAXci® FR 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. ECOMAXci® FR 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** – ECOMAXci® FR 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". ECOMAXci® FR 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'. ECOMAXci® FR 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 ECOMAXci® FR to wood, steel and concrete substrates. Refer to the Rmax/Rodenhouse Fastener List and Installation Guide for more details.

**Water-Resistive Barrier** – When ECOMAXci® FR is installed over wood or steel studs with the joints sealed, it serves as a Water-Resistive Barrier (WRB). ECOMAXci® FR 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, ECOMAXci® FR 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** – ECOMAXci® FR 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

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

ECOMAXci® FR is not a structural panel; stud walls insulated with ECOMAXci® FR must be properly braced for lateral loads according to the requirements of local Building Codes.

## 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.

Consult local building codes and insurance authorities regarding special applications or details required when using ECOMAXci® FR as an exposed product.

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: 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.



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## RMAX SALES OFFICES / PLANT

### Central

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## PRODUCT DATA SHEET

ECOMAXci® FR

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