



# Thermasheath<sup>®</sup>-3

Insulation for the Building Envelope

ROOF

WALL

SPECIALTY

## PRODUCT DESCRIPTION

Rmax Thermasheath-3 is an energy-efficient thermal insulation board composed of a closed-cell polyisocyanurate (polyiso) foam core bonded to reinforced aluminum foil facers on each side. Thermasheath-3 utilizes a CFC-, HCFC- and HFC-free blowing agent that has zero Ozone Depletion Potential (ODP) and negligible Global Warming Potential (GWP). This insulation is suitable for use in walls, ceilings and some limited roofing applications in new construction for commercial, residential, agricultural and industrial buildings and in thermal retrofit construction within existing buildings.



## COMPLIANCES

- ASTM C1289 Type I, Class 1
- International Building Code (IBC) Section 2603, Foam Plastic
- ASHRAE 90.1
- ESR-1864, ICC Evaluation Service
- International Energy Conservation Code (IECC)
- Miami-Dade County Product Control Approved
- RR 25322, City of Los Angeles Research Report
- California Code of Regulations, Title 24
- Canadian Construction Materials Centre Evaluation #CCMC 13381-L, manufactured to conform to CAN/ULC-S704-03 Type 1, Class 1
- Air Barrier Material per ASTM E2178
- 1, 2, 3 or 4 hour Fire Rated Assemblies as shown in the UL Fire Resistance Directory.
  - Design No.: U026, U326, U330, U354, U424, U460, U902, U904, U905, U906, U907, V454, V499

## CONSTRUCTION APPLICATIONS

- Stud walls; cavity walls; masonry walls; exterior stucco; re-siding; vaulted ceilings; attics and crawl spaces; concrete foundations; limited roofing applications

## PRODUCT BENEFITS

- Reduces energy costs
- Contributes toward LEED<sup>®</sup> credits
- Offers tax credits, where applicable

## 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>	System R-Value <sup>2</sup>	Pcs/Bdl
Inches	°F·ft <sup>2</sup> ·hr/Btu	°F·ft <sup>2</sup> ·hr/Btu	
0.50	3.2	5.97	96
0.75	5.0	7.77	60
1.00	6.0	8.77	48
1.50	9.6	12.37	32
2.00	13.1	15.87	24
2.50	16.7	19.47	19
3.00	20.3	23.07	16
3.50	23.9	26.67	13
4.00	27.4	30.17	12
4.50	31.0	33.77	10

<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 3/4 inch dead-air space against a reflective foil in a typical wall assembly.

Additional thermal R-values can be found on the insert to this document. Thermasheath-3 is shipped in bundles that are approximately 48 inch 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.

## TYPICAL PHYSICAL PROPERTIES

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

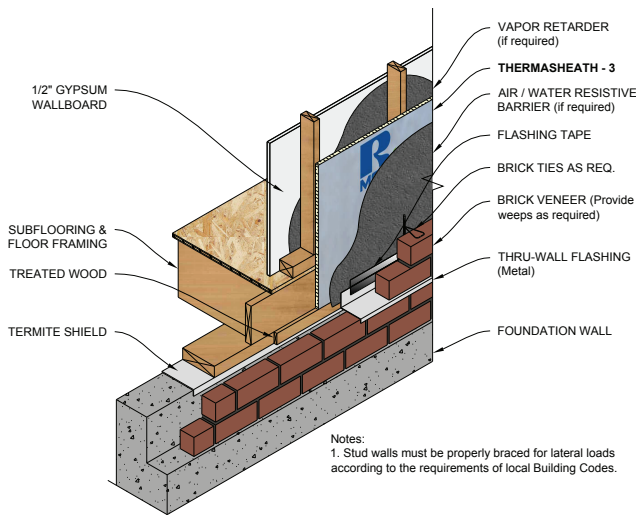
Property	Test Method	Results
Density, Overall, Nominal	ASTM D1622	2.0 pcf
Compressive Strength	ASTM D1621	20 psi <sup>1</sup>
Flame Spread, Core <sup>2</sup>	ASTM E84	75 or Less
Smoke Developed, Core <sup>2</sup>	ASTM E84	< 450
Water Vapor Transmission	ASTM E96	< 0.3 perm
Water Absorption	ASTM C209	< 1% Vol.
Dimensional Stability	ASTM D2126, 7 days, 158°F, 98% RH	< 2% Linear Change
Service Temperatures		-40°F to +250°F

<sup>1</sup>Also available in 25 psi upon request. Less than 1 inch is only available at 16psi.

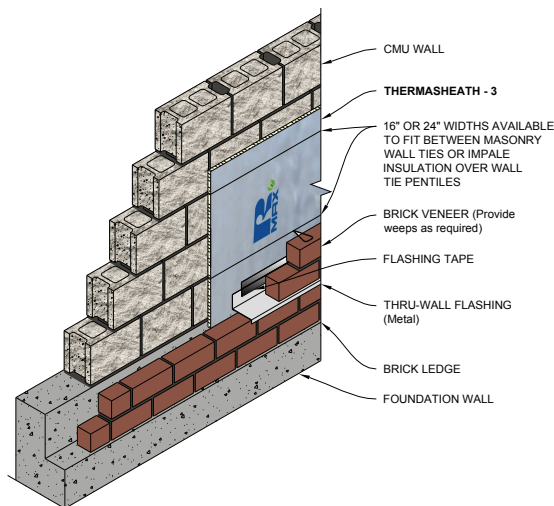
<sup>2</sup>Flame spread and smoke numbers are shown for comparison purposes only and are not intended to represent the performance of Thermasheath-3 and related components under actual fire conditions.

**APPLICATION / INSTALLATION**

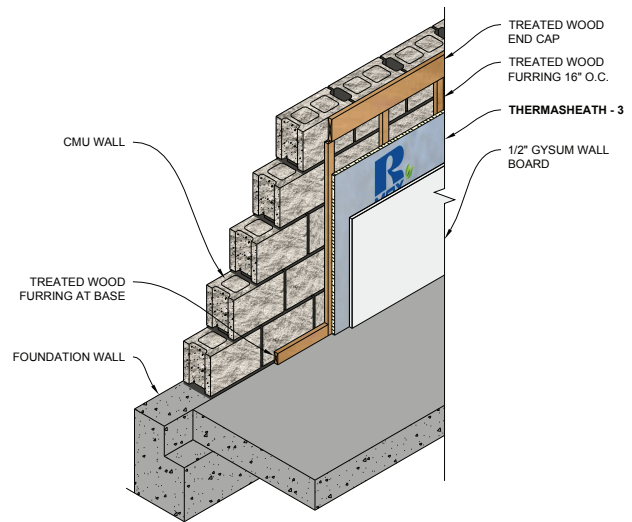
**Stud Wall Construction** - Thermasheath-3 applied to the exterior or interior face of studs, to cover all studs, sills, plates and header constructions, provides a layer of continuous insulation (ci) over details not normally covered by insulation products. It may be secured to the framing or structural sheathing with bugle-head screws, galvanized roofing nails or common nails driven through cap washers. Quality-grade construction adhesives may also be used to secure the Thermasheath-3 on interior applications. Exterior facades may include brick/stone veneer, exterior siding and stucco. Thermasheath-3 must be covered on the interior with a minimum 1/2 inch gypsum wallboard interior finish that is mechanically attached.



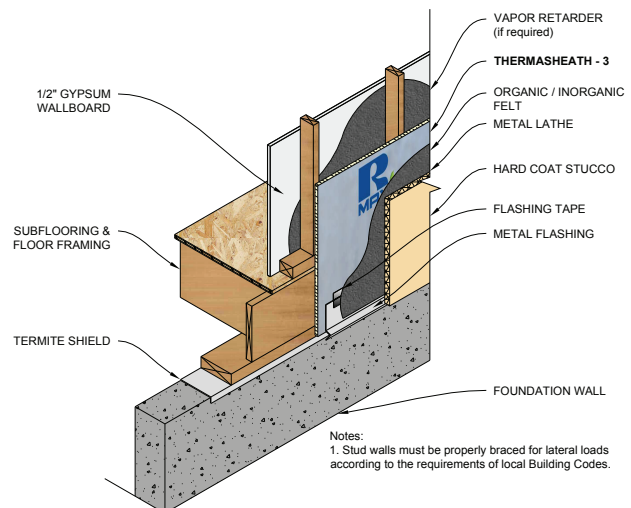
**Cavity Wall Construction (Brick Veneer)** - Thermasheath-3 is an excellent cavity insulation product fitting between the masonry block and finished brick veneer of any residential or commercial project. It may be secured to the dry face of the masonry block wall with a quality grade construction adhesive. Thermasheath-3 can be cut to fit between masonry joint reinforcements placed to tie the brick veneer to the concrete block back-up and installed horizontally in strips to allow the wall ties to extend beyond the face of the insulation leaving the proper air spaces as required.



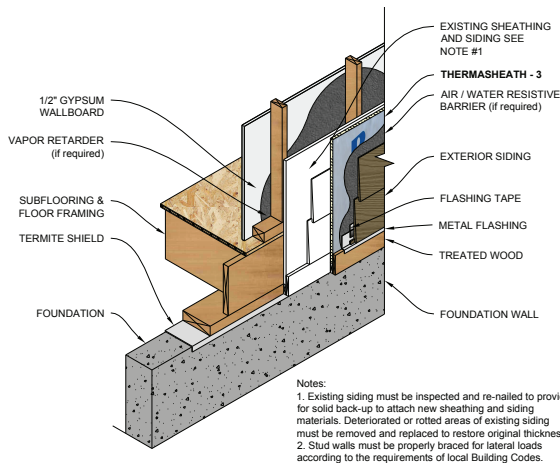
**Masonry Wall Construction** - Thermasheath-3 is applied to either the exterior or interior face of concrete or concrete masonry walls to provide a layer of continuous insulation (ci) over the entire surface. It may be secured to the inside face of a concrete or concrete masonry wall, over or under the furring strips, and covered with a minimum 1/2 inch gypsum wallboard interior finish. Adhesives, screws or nails may be used to hold the Thermasheath-3 in place against the wall temporarily, until the furring strips and gypsum wallboard are installed. The furring strips and gypsum wallboard must be secured with suitable screws or nails.



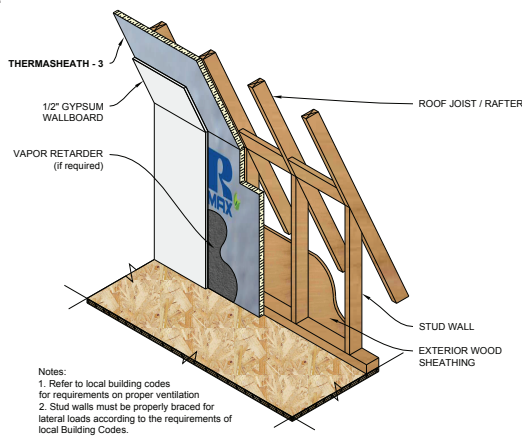
**Exterior Stucco Construction** - Thermasheath-3 may be used as the insulative sheathing under hard coat stucco finishes. It may be secured to the studs with bugle-head screws, galvanized roofing nails or common-nails driven through cap washers. Cover the Thermasheath-3 with a suitable separation layer such as an organic or inorganic felt. Then, attach conventional metal wire lath and expansion joints with appropriate fasteners as dictated by the local Building Code. Rmax does not recommend the direct attachment of stucco, such as Portland cement or polymer-modified types, directly to the face of the insulation product. Consult stucco manufacturers for details.



**Re-Siding Construction** - Thermasheath-3 may be used in retrofit construction provided the existing siding is sound and solidly attached. It is secured with galvanized nails of sufficient length to penetrate the old sidings, sheathings below and at least one inch into the existing wall studs. Then, cover the Thermasheath-3 with a suitable new siding of aluminum, vinyl, fiber cement, wood or wood fiber based products.



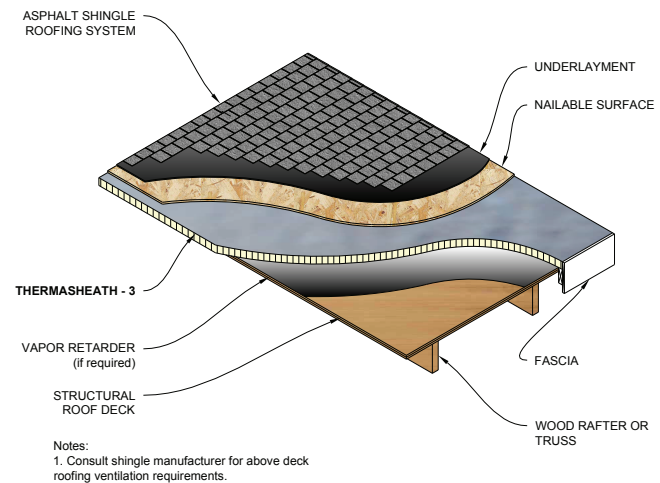
**Vaulted Ceiling Construction** - Thermasheath-3 may be applied to the inside face of the roof rafters in vaulted ceiling construction to provide a layer of continuous insulation (ci) and increase the R-value of the roof. Simply nail the Thermasheath-3 to the face of the rafter, cover with a minimum 1/2 inch gypsum wallboard and finish.



**Attics and Crawl Spaces** - Thermasheath-3 may be applied to the interior face of stud walls or roof rafters within attics and crawl spaces to provide a layer of continuous insulation (ci). Simply nail the Thermasheath-3 to the framing members and cover with an approved ignition barrier such as 3/8 inch gypsum wallboard or 1/4 inch wood structural panel, particle board or hardboard.

**Concrete Foundations** - Thermasheath-3 may be installed horizontally under foundations and vertically inside of the footings. A separate vapor retarder sheet should be installed directly against the crushed stone base and well tamped backfill or undisturbed earth. Then simply lay in the insulation with tightly butted joints. While not required, taping the joints is acceptable using Rmax R-SEAL 3000, Rmax R-SEAL Construction Tape, or equivalent.

**Roofing Construction** - Thermasheath-3 is laid over a suitable roof deck such as tongue-and-groove timber, plywood or metal deck and covered with a suitable layer of plywood, wafer board or OSB. Asphalt or wood shingles, concrete or clay tiles or a standing seam metal roof may be installed over the insulated roof deck according to the roofing system instructions. NOTE: It may not be necessary to cover the insulation with a nailable surface when used under a standing seam metal roof assembly, consult manufacturer for details.



## LIMITATIONS

Thermasheath-3 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.

Thermasheath-3 is not a structural panel. It must not be used as a nailing base for any other building products. Furthermore, stud walls insulated with Thermasheath-3 must be properly braced for lateral loads according to the requirements of local Building Codes.

## WARNING

DO NOT leave Thermasheath-3 exposed. 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.

Installations utilizing Thermasheath-3 must be fully protected on the interior side of the building by a thermal barrier such as a minimum of 1/2 inch gypsum wallboard. Masonry or concrete that is a minimum of one inch thick, plywood that is a minimum of 1/2 inch thick and wood that is a minimum of one inch nominal thickness may also be recognized as suitable thermal barriers. Consult your local Building Official for specific governing codes and requirements.

The interior and/or exterior of the building should be protected with a suitable vapor retarder and/or a water resistive barrier, if required, based on local Building Codes and climate zone.

## WARRANTY

See Rmax "Sales Policy" for warranty 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.**



**Doing one thing well in so many ways...**

Rmax is a U.S. owned company that only manufactures polyiso insulation. Thermasheath-3 is manufactured in the U.S. and is offered through an extensive distribution network. It is available in standard four foot wide panels, with standard panel lengths of eight or nine feet. Custom lengths are available for special orders. Contact Rmax Sales at your regional Customer Service Center for product availability, pricing information, and your nearest distribution center.

**Corporate & Technical**

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**Western Region**

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# Thermasheath-3

**ADDITIONAL THERMAL R-VALUES**

“R” means resistance to heat flow. The higher the R-value, the greater the insulating power. According to the ASHRAE Handbook of Fundamentals, the reflective foil facing of Thermasheath-3 contributes additional R-value to the overall assembly when installed against a dead air space. For example, ASHRAE assigns a 2.77 R-value to a 3/4 inch dead-air space against a reflective foil in a typical wall assembly. This value is in addition to the R-value of the polyiso foam - see Sytem R-Value below.

Nominal Thickness	Thermal R-Value <sup>1</sup>	System R-Value	Pcs/Bdl
Inches	°F·ft <sup>2</sup> ·hr/Btu	°F·ft <sup>2</sup> ·hr/Btu	
0.50	3.2	5.97	96
0.75	5.0	7.77	60
1.00	6.0	8.77	48
1.25	7.8	10.57	38
1.50	9.6	12.37	32
1.55	10.0	12.77	30
1.75	11.4	14.17	27
2.00	13.1	15.87	24
2.25	14.9	17.67	21
2.30	15.3	18.07	20
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# Improving Your Design.

For warranties, limitations and conditions refer to Rmax Sales Policy and applicable warranties. All documents are located at [www.rmax.com](http://www.rmax.com). For technical and sales support, email [rmax@rmax.com](mailto:rmax@rmax.com) or call (800) 527-0890.

Proudly Made and Engineered in the U.S.A.



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