Rmax ECOMAXci™ Wall Solution
Installation Instructions For Continuous Insulation

RMAX: A BETTER INSULATION SOLUTION
Since 1978, Rmax has been manufacturing commercial, industrial and residential polyiso insulation products and providing engineered solutions for enhanced energy efficiency. Our building solution for commercial steel stud buildings, featuring ECOMAXci continuous insulation, is just one more example of our industry leadership in action.

Combining our proven, popular thermal insulation board with our own branded tape and flashing – the ECOMAXci Wall Solution provides a ready-made answer to fire, air and water, in addition to thermal efficiency for exterior commercial wall designs. It is designed to reduce the time and labor required to enclose the building envelope. ECOMAXci is an approved component of the High Velocity Hurricane Zone system, R-Trac.

This document contains storage and installation instructions for the ECOMAXci Wall Solution and must be followed in order for Rmax warranties to be valid.

STORAGE REQUIREMENTS:
• Rmax ECOMAXci boards are shipped in wrapped bundles, approximately 48” high. Rmax requires that insulation bundles be unloaded from trucks by a fork-lift truck or similar equipment with suitable forks to slide under bundles. Rolling or tumbling bundles off delivery trucks will damage the insulation and cause the Rmax warranties to become void.
• Insulation bundles shall be stored on pallets or other dunnage at least 4” above ground level. Dunnage supplied by Rmax for shipment of the insulation is not adequate for use in outdoor storage of the materials. Bundles placed directly on the ground may cause the Rmax warranties to become void.
• The wrapping materials used to ship the bundles are not adequate for weather protection at the job site. Additional coverage, such as tarps, should be added over the boards to keep them dry once offloaded from the delivery truck.

BEFORE YOU BEGIN:
OSHA safety and construction guidelines shall be followed on the job site as well as local code requirements. The following need to be confirmed/completed before beginning the installation of the ECOMAXci Wall Solution.
• All building structural members have been erected. Exterior wall stud framing finished surfaces shall be clean and free of irregularities that will affect the placement or performance of the ECOMAXci Wall Solution, including, but not limited to, dirt, debris, miscellaneous fasteners or warped, defective or otherwise damaged framing.
• Exterior wall steel stud framing members shall be a minimum of 3 5/8” depth, minimum 20 gauge and spaced a maximum of 24” on center with bracing as required by code. For the R-Trac HVHZ system, refer to the Appendix for minimum stud gauges based on the required wind resistance design pressure. Refer to Florida Product Approval (FL #16406) for additional system design requirements.
• Confirm that the metal exterior wall steel stud framing bottom and top track have been sealed per standard building practices to prevent air leakage at these locations.
• The design and construction of the exterior walls and supporting structure is the responsibility of the project architect, engineer, general contractor and the building owner. The structure must be designed to resist all live, dead, wind and construction loadings without excessive deflections as dictated by the governing building codes.

GETTING STARTED:
The following Rmax components are necessary for the ECOMAXci Wall Solution: ECOMAXci, R-SEAL 3000 and R-SEAL 6000.

COMPONENTS MUST BE TESTED TOGETHER TO PASS FIRE, AIR AND WATER SYSTEM TESTS. THEREFORE, SUBSTITUTION OF COMPONENTS IS NOT ALLOWED.
• All of the materials need to be inspected for any damages that might have occurred during shipment. Do not install the ECOMAXci Wall Solution components if significantly damaged. Doing so will void Rmax warranties.
• Once all products have been inspected and accounted for, installation may begin. High quality products cannot take the place of poor quality installation. Rmax requires that only skilled, trained contractors familiar with the ECOMAXci Wall Solution and the various other components of the building envelope design system, be used to perform the required work.
• At no point between working days shall the ECOMAXci be left partially fastened or sealed. All fastening, taping and flashing of a started section shall be completed and all exposed foam edges sealed by R-SEAL 3000 or R-SEAL 6000 before the work day ends.
• Do not install the ECOMAXci Wall Solution during adverse weather conditions, such as rain, sleet, snow or heavy winds.
• If insulation boards get wet, ensure they are fully air dried before installing, sealing or covering.

WARNING: DO NOT install or seal wet insulation boards within a wall assembly. Installation of wet insulation, tape, flashing or any other components within the wall assembly shall cause the Rmax warranties to become void.

For warranty information, refer to the Rmax “Sales Policy” and “ECOMAXci Wall Solution Limited Warranty”.
STEP BY STEP INSTALLATION:

1. ECOMAXci Continuous Insulation Boards
   
   A. Only remove the wrap from the bundles that are to be installed that day. **NOTE**: Insulation boards are very light in nature and must be handled with care, especially during windy days. Weigh down loose boards until they are securely attached to the structure, taking care not to damage or puncture the board.
   
   B. Do not block flashing, weeps or other drainage paths with insulation boards.
   
   C. Starting at an end wall condition, where possible, the insulation boards should be placed on the wall with the long dimension horizontal and level to the floor/slab. Orient the insulation boards with the Rmax Solutions shield logo facing the exterior.
   
   D. Continue installing ECOMAXci horizontally across the wall before starting a new row of panels. Stagger each row of insulation a minimum of one stud spacing to the row below. All boards must be tightly abutted.
   
   E. The bottom edge of the lowest row of boards along each wall facade should be placed a minimum of 1” BFF (Below Finished Floor) where possible. Reference Figure 6. The top edge of the highest row of boards along each wall facade should be placed at the top of the parapet or stud framing.
   
   F. At changes in wall planes (e.g. corners) the boards should snugly fit in an overlap. Reference Figure 3.
   
   G. Use maximum board lengths to minimize the number of joints which reduces the linear footage of joint tape.
   
   H. Where insulation is cut to accommodate throughwall penetrations, voids and gapping should be minimized.
   
   I. Minor damages to the foil facing that occur during installation must be repaired using R-SEAL 3000. See step 3-H.
   
   J. Any damages to the foam core and major damages to the foil facing that occur during installation must be replaced by fully cutting out the damaged area. The removed piece must be large enough to span entire stud spacing to ensure new vertical joints are backed by framing. Cut new piece of ECOMAXci board to fill the open area. This new piece shall be fastened and sealed similar to other insulation boards as outlined in this document.
   
   K. **NOTE**: ECOMAXci may be installed in multiple layers. All joints shall be staggered at least one stud space horizontally and a minimum of 6” vertically. Refer to step 2-E for fastening instructions and step 3-I for taping instructions.

2. Insulation Fasteners
   
   A. Fastener components shall include a minimum 2” diameter plastic plate/washer and self-taping steel screw. Rmax recommends using Rodenhous Thermal-Grip® Prong Washers and Grip-Deck® Self-Drilling Screws or equivalent, as determined by component manufacturer. **For the R-Trac HVHZ system.** 3” diameter Rmax washers are required in the field of the wall assembly for wind resistance design pressures above 40psf. (The standard 2” diameter washers may be used around fenestration and along the wall perimeter.)
   
   B. Plates/washers shall be snug and flush with the board surface, but never break the foil facing of the boards. Do not counter sink plates/washers.
   
   C. As shown in Figures 1 and 6, each insulation board shall be secured with a fastening pattern of 12” o.c. along the edge of each exterior wall facade and at the perimeter of each board where backed by framing. The pattern shall be 16” o.c. in the field at framing. **For the R-Trac HVHZ system,** refer to the Appendix for minimum stud gauges and fastening requirements in the field of the wall assembly along with corresponding wind resistance design pressures. (The standard 2” diameter washers at 12” o.c. may be used around fenestration and along the wall perimeter.)
   
   D. One fastener can be used to bridge a maximum of three adjacent boards. **For the R-Trac HVHZ system,** one fastener can be used to bridge a maximum of two adjacent boards.
   
   E. When utilizing multiple layers of ECOMAXci, the first layer need only be installed with enough fasteners to hold it in place, provided the exterior layer is completely fastened and sealed per these instructions by the end of the work day.

3. R-SEAL 3000 Tape
   
   A. 4” wide R-SEAL 3000 shall be used to seal all joints of adjacent insulation boards. For added protection, use R-SEAL 3000 to cover all insulation fasteners. It shall also be used to repair minor damages to the foil facer of the ECOMAXci board. Refer to the R-SEAL 3000 data sheet for specific details on appropriate installation conditions. **For the R-Trac HVHZ system,** 5” wide R-SEAL 3000 shall be used to seal all joints of adjacent insulation boards, as well as cover all insulation fasteners anywhere 3” diameter washers are used. 2” diameter washers need only be covered with 4” wide R-SEAL 3000.
   
   B. All surfaces to which the tape is to be applied must be free of moisture, oils, dust, dirt and other debris that could inhibit adhesion. Clean surfaces with a dry cloth as necessary.
   
   C. Center tape along joint and fastener locations.
   
   D. Do not allow the tape to form voids or buckle as it is applied. Once applied, apply adequate pressure from the center out with a feathering tool or hand roller to smooth out wrinkles and apply adequate pressure. The more pressure that is applied, the more surface contact will be reached, therefore, the greater the bond surface. For tape that is wrinkled, folded over on itself, fishmouthed, or otherwise damaged, remove and replace. If removing tape causes damage to facer, an additional layer of tape should be applied to create a properly sealed transition from the face of one board to the other.
   
   E. Insulation Joints: The release liner should be removed 1’-2’ at a time and the adhesive face pressed firmly on the insulation facing. Apply tape in a shingle like fashion, working from bottom of the section up. In other words, first apply tape to the bottom horizontal joint, then both vertical joints and finally the top horizontal joint. A minimum of 4” overlap is required when connecting ends of tape segments. Reference Figures 1 and 6.
   
   F. Fasteners: For added protection, cut 4” by 4” square pieces at a minimum and apply on top of all insulation fasteners in the field or that are not fully covered by joint tape. Maintain a minimum 3/4”
radial coverage beyond plastic washers. Reference Figure 2.

G. Fasteners: For the R-Trac HVHZ system, use a minimum 5” by 5” square piece of tape anywhere a 3” diameter washers are used.

H. Minor Damages to Foil Facing: R-SEAL 3000 may be used to cover minor damages to the foil facing where the tape extends a minimum of 2” radially beyond the damaged location.

I. When utilizing multiple layers of ECOMAXci, the first layer need not be sealed, provided the exterior layer is completely fastened and sealed per these instructions by the end of the work day.

J. NOTE: In areas where R-SEAL 3000 and R-SEAL 6000 overlap, always apply R-SEAL 3000 first.

4. R-SEAL 6000 Flashing
A. 9” or 12” wide R-SEAL 6000 must be used to seal wall corners, ceiling and floor transitions, other changes in plane, windows, doors and other throughwall penetrations. Refer to the R-SEAL 6000 data sheet for specific details on appropriate installation conditions.

B. All surfaces to which the flashing is to be applied must be free of moisture, oils, dust, dirt and other debris that could inhibit adhesion. Clean surfaces with a dry cloth as necessary.

C. Always install flashing in a shingle-like fashion, starting with the bottom and working up. In other words, first apply tape to the bottom horizontal joint, then both vertical joints and finally the top horizontal joint.

D. Once attached, apply pressure along the entire surface of the flashing to create a good bond using a J-roller or firm hand pressure. Remove all wrinkles and bubbles by smoothing surface and repositioning as necessary. Use standard flashing practices.

E. Use R-SEAL 6000 at board terminations, including, but not limited to, building foundations, slabs, shelf protrusions, roofing membranes and blocking, to seal the end joints where butyl rubber tape is compatible.

F. Corners: Reference Figure 3 for flashing details.

G. Windows: Prior to flashing, install an R-SEAL 6000 patch at all corners that extend from the back of the window opening and fold out to the wall face. The patch should be large enough to cover a minimum of 2” on all surfaces (jamb, sill and wall face). Reference Figure 4, 5, and 6 for flashing details.

H. Throughwall Penetrations: Reference Figures 6, 7A, 7B, 8A, and 8B for flashing details of various throughwall penetration types and sizes.

I. NOTE: In areas where R-SEAL 3000 and R-SEAL 6000 overlap, always apply R-SEAL 3000 first.

5. Exterior Facade Penetrations
A. When installing the exterior facade, take care to minimize the damage to the insulation, tape, and flashing so as not to break the water and air seal provided by the ECOMAXci Wall Solution. Any damages beyond anchor penetrations must be repaired as detailed in this document.

B. All anchors must be securely attached through the insulation directly to the steel framing. ECOMAXci Wall Solution is non-structural and must not be used to support any exterior cover materials.

C. Vertical strap/wire exterior anchor penetration types requiring implant, such as BLOK-LOK BL-607, are typically installed and in place before the placement of the ECOMAXci board. The ECOMAXci should be pre-cut with a slit to avoid excessive damage to both the foam and facer. After impalement of the board, all areas around the penetrations on the face of the board shall be completely sealed with a one part moisture cure sealant, such as Henry HE925-BES or equivalent.

D. Install barrel style exterior anchor penetrations, such as Heckmann Building Products Pos-I-Tie®, only after all taping and flashing of the ECOMAXci has been completed. All areas affected by the penetration of the anchor shall be completely sealed with either a one part moisture cure sealant, such as Henry HE925-BES or equivalent, or a minimum 20 mil self-sealing membrane. Rodenhouse Thermal-Grip® Brick Tie Washers with Barrel Style Brick Ties can be used in lieu of insulation fasteners without additional sealants.

E. Other exterior wall materials including, but not limited to facade penetrations, may be installed on the exposed face of the ECOMAXci boards only when all taping and flashing has been completed. The following must be met when installing exterior materials though the ECOMAXci Wall Solution:
• Penetration of the ECOMAXci shall only consist of structural screws back to the structural studs.
• The installer uses common construction practices of maintaining water and air barriers by applying a piece of self-sealing flashing larger than the anchor’s surface area on the board before penetrating with the structural screws.
• Materials must not penetrate or break the ECOMAXci board or facer at any time without proper repair and sealing techniques.

F. For the R-Trac HVHZ system, R-SEAL 6000, or equivalent self-sealing flashing membrane, must be applied prior to penetrating the ECOMAXci with the exterior façade to maintain the water and air barrier.

6. Expansion and Control Joints
A. Insulation boards shall be cut to ensure all expansion and control joints align with a joint between insulation boards. ECOMAXci insulation panels must never span an expansion or control joint.

B. DO NOT use fasteners to bridge insulation boards at expansion or control joints; boards must be fastened separately on both sides of the joint.

C. R-SEAL 6000 flashing must be used in lieu of R-SEAL 3000 tape for insulation board joints at expansion and control joints. Loop flashing along the entire wall surface and top of the boards to allow for movement.

COMMON PRACTICES
The following do not take the place of installation instructions contained within this document:
Gaps greater than 1/8” around insulation boards can be filled with polyurethane expansion spray foam, including, but not limited to, board joints, fenestration and throughwall penetrations. Similar spray foam, or other construction grade sealants, can also be used to provide additional sealing around any framing or structural members, especially at transitions.
*NOTE: Sealing of field fasteners is only required for the R-Trac HVHZ System.
ECOMAXci™ Wall Solution

NOTE: INSTALL CORNER PATCHES PRIOR TO FLASHING SEQUENCE. INSTALL R-SEAL 3000 TAPE & R-SEAL 6000 FLASHING AS SHOWN TO FORM WATER SHEDDING LAPS.

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The following chart shall be used for the R-Trac HVHZ system based on the required wind resistance design pressure. Refer to Florida Product Approval (FL #16406) for additional system design requirements.

### RMAX FOAM ANCHORING CHART

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**Ecomaxci™ Wall Solution**

Improving Your Design.
For warranties, limitations and conditions refer to Rmax Sales Policy and applicable warranties. All documents are located at www.rmax.com. For technical support, email technical@rmax.com. For sales support, pricing and availability, email rmax@rmax.com or call (800) 527-0890.

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

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