



GENERAL NOTES FOR USE OF RMAX ROOFING INSULATIONS IN LOW SLOPE APPLICATIONS

1.0 GENERAL NOTES

1.1 This standard applies to insulation for use in low slope roofing systems.

1.2 Low slope roofing is defined as a category of roof that generally include weatherproof membrane types of roof systems installed on slopes at or less than 3:12.

1.3 The design and construction of the roof deck 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, snow, wind and construction loadings without excessive deflections as dictated by the governing building codes.

1.4 The selection and use of Rmax insulations, as well as other roofing system components, to meet the requirements for any given project is at the sole discretion of the owner or his designated agent or representative. Rmax will provide available information requested by the designer to aid in this decision process.

1.5 The selection and use of any Rmax product should be based on the quality of the product and on the specific requirements for the entire roof system rather than solely on economic considerations.

1.6 High quality products cannot take the place of poor quality installation. Rmax recommends that only skilled, trained workmen familiar with Rmax products and the various other components of the roofing system be used to perform the required work.

1.7 NO WARRANTY, EXPRESSED OR IMPLIED, AS TO CHARACTERISTICS, PHYSICAL PROPERTIES OR PERFORMANCE UNDER ANY VARIATIONS FROM CONTROLLED CONDITIONS AT THE TIME OF MANUFACTURE IS MADE. These provisions may not be altered in any way by a salesperson, employee, agent or any other representative of Rmax, except by a letter from an officer of Rmax.

1.8 **WARNING:** Polyisocyanurate is an organic material which will burn when exposed to an ignition source of sufficient heat and intensity and may contribute to flames spreading.

1.9 Rmax does not assume any responsibility or liability for any product type or assembly of any products other than those manufactured by Rmax.

2.0 Rmax recommends that no insulation or membrane system should be installed on a roof deck until all other trades are finished on the roof.

2.1 Wind uplift ratings are based on specifications developed by FM Global. Ratings are noted as "I-60", meaning an ultimate uplift test force of 60 pounds per square foot and "I-90", meaning an ultimate uplift test force of 90 pounds per square foot. Wind loading forces for design consideration must be developed from nationally recognized building codes. The roofing system designer must give consideration to the anticipated wind loadings on field, perimeter and corner areas to provide adequate uplift resistance of the roofing system with allowances

for appropriate factors of safety.

2.0 ROOF DECKS

2.1 *Deck Design:*

2.1.1 The roof deck must be designed to resist all live, dead, snow and wind loadings without excessive deflections as dictated by the governing building codes. The roof deck should be designed to resist the construction loads without excessive deflections. The deck shall be adequately secured into the building structure to resist wind uplift forces and prevent lateral movement of various sections. Design and construction of the roof deck is not the responsibility of Rmax.

2.1.2 Rmax insulation may be applied over steel, poured-in-place concrete, precast concrete, gypsum concrete, cementitious wood fiber and wood decks.

2.1.3 Roof decks shall be prepared to receive the roofing system, including the Rmax insulation, as specified by the membrane supplier. Rmax does not formally approve the use of any particular roof deck for any membrane roofing system.

2.1.4 The roof deck must be designed for proper drainage. Providing for the adequate drainage of a roofing system is the sole responsibility of the project architect, engineer or designers.

2.2 *Deck Surfaces:*

2.2.1 Deck surfaces shall be smooth. All finished surfaces of poured-type decks shall be free of fins, ridges or depressions that will affect the placement or performance of the insulation.

NOTE: Rigid insulation will bridge or span low (hollow) areas of any poured-type roof deck. Loads placed on the insulation bridging these areas will cause the insulation to deform and can lead to delamination of the insulation facers and/or break the insulation. Forcing the insulation to conform to high ridge lines or low swale lines in roof decks can break the insulation and cause the facers to delaminate.

2.2.2 Deck surfaces shall be free of all ponded water or other surface moisture. Concrete roof decks should be cured and dry. Deck surfaces shall be swept clean of all debris and trash prior to installing the insulation. Do not leave sawdust or other extraneous materials in the flutes of steel decks.

2.2.3 All deck surface irregularities, such as low or high spots, voids or joints between precast units, shall be grouted with appropriate non-shrink grout to return the surface to a proper flat uninterrupted surface to receive the insulation. It is the responsibility of the roofing contractor to insure that the roof deck is properly prepared to receive the insulated roofing system.

2.2.4 **DO NOT** score, slash or otherwise cut either facing of the Rmax insulation product in order to force the panel to conform to deck irregularities or "lay" in a pool of molten mopping bitumen exceeding 30 pounds per square.

2.3 *Insulation Stops / Deck Penetrations:*

2.3.1 All roof deck openings, edges and eaves shall have treated wood nailers installed as insulation stops. Treated wood

nailers should be at least 6 inches wide and of a thickness equal to the thickness of the insulation. Wood preservative treatment chemicals shall be of a type that is compatible with the roof membrane system. Consult the membrane supplier for compatibility requirements.

2.3.2 All roof deck penetrations or projections, as well as curb construction, shall be completed prior to the application of the insulation.

3.0 MATERIALS

3.1 *Rmax Insulations:*

3.1.1 Rmax manufactures a variety of polyisocyanurate foam insulation products for different roof membrane and low slope roofing applications. See the Rmax website at www.rmax.com for data sheets on each product:

Multi-Max®-3	Re-CoverBoard-3
Multi-Max® FA-3	Tapered Thermaroof® -3
Thermaroof® Composite-3	Ultra-Max®
Thermaroof® Plus-3	RDECK-3

3.2 *Storage and Protection:*

3.2.1 Rmax insulation is shipped in polyethylene wrapped bundles, approximately 48 inches high. These wrapping materials are not adequate for weather protection of the insulation at the job site.

3.2.2 Insulation bundles shall be stored on pallets or other dunnage at least 4 inches above the ground level. Dunnage supplied by Rmax for shipment of the insulation is not adequate for use in storage of the materials. Bundles placed directly on the ground are not properly stored and may cause the Rmax warranties to become void.

3.2.3 Insulation bundles, when placed on the roof deck for storage, shall be stacked on dunnage or pallets at least 4 inches above the deck. Insulation bundles placed directly on the deck or completed roof membrane systems for storage are not properly stored and may cause Rmax warranties to become void. Cover the bundles with a tarpaulin or other suitable "breathable" protection cover.

3.2.4 **Warning: DO NOT** use wet insulation products within a roofing assembly. Installation of wet insulation or other roofing system components shall cause the Rmax warranties to become void. Rmax insulation that has become wet may experience dimensional stability problems and every precaution must be taken in order to determine if the insulation is still useable. Rmax insulation that has become wet may only be applied in a roof system if dimensional changes have not occurred and after it has been dried thoroughly. All other roofing materials shall be stored as recommended by the supplier.

3.2.5 Rmax recommends 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 may cause the Rmax warranties to become void.

3.3 *Attachments:*

3.3.1 Mechanical Fasteners: Rmax recommends that any

insulation which is laid over a wood or steel roof deck be attached with screw and plate type mechanical fasteners. This type of fastener must be approved for use by FM Global in a Class 1 roof deck assembly. Fasteners must also be acceptable to the membrane supplier. The selection and use of any fastener is the responsibility of the roofing contractor.

3.3.2 Hot Bitumens: Rmax insulations may be attached to primed concrete, cementitious wood fiber or wood decks with hot bitumens. Maximum panel size for all hot bitumen attachments shall be 48 by 48 inches by the nominal thickness. See 3.4.5 for the recommended use of vapor retarders with concrete decks. Asphalt used for such applications shall be ASTM D312, Type III or IV. Rmax does not recommend the use of hot bitumens to attach insulation to steel decks. The use of hot bitumens to attach Rmax insulation to steel roof decks shall release Rmax from any liability for its insulation. See Section 4.0 for installation requirements.

NOTE: The contractor must be prepared to use sufficient quantities of bitumen in flood coat application to fill all deck low-spots so that insulation panels are firmly embedded. These quantities cannot exceed 30 pounds per square at final application.

3.3.3 Cold Applied Adhesives: Polyurethane and polyisocyanurate foam adhesives that are air cured may be used to secure Rmax insulation products to appropriate roof deck surfaces. If the roof deck is concrete, the maximum panel size shall be 48 by 48 inches by the nominal thickness. It is important that the contractor use these adhesives in strict accordance with recommended procedures. Rmax does not recommend the use of cold liquid applied adhesives for attachment of insulation to roof decks or to other layers of insulation. The use of cold liquid applied adhesives to attach Rmax insulations to any surface shall release Rmax from any liability for its insulation.

3.4 *Moisture and Vapor Retarders:*

3.4.1 Water can cause significant damage to most types of building materials. Water especially affects foam insulation by reducing its insulation properties (R-value) and adversely affecting dimensional stability. Some facing materials on foam insulation lose important physical properties when exposed to water. Loose laid and mechanically attached systems are more susceptible to moisture problems because fluttering of the membrane acts to draw air into the system. Moisture migration into the roofing system must be controlled to a level to not compromise the performance of the insulation.

3.4.2 Construction processes, such as curing of plaster or concrete or the use of propane-fired heaters, can generate enough moisture under certain conditions to condense in the roofing system and cause permanent damage. Adequate ventilation should be provided to preclude this possibility or a vapor retarder should be used to limit moisture-laden air from migrating into the roofing system. Rmax will not assume responsibility for insulation performance when installed under these or similar high-moisture conditions.

3.4.3 Vapor retarders are used to control the flow of moisture from a warm, humid area into a colder, drier area. Vapor retarders are placed to the warm side of the roof deck insulation. Rmax strongly recommends that the decision to use or not use a vapor retarder in any insulated roofing assembly be guided

by the recommendations of the National Roofing Contractors Association in the latest edition of the "NRCA Roofing and Waterproofing Manual". The decision to use a vapor retarder and the selection of the details of the retarder construction is left to the building architect, designer, building owner or their designated representative or agent.

3.4.4 Using two layers of insulation and offsetting joints will further reduce moisture migration into a roofing system. See Section 4.7 for Rmax's recommendations for using multi-layer insulation systems.

3.4.5 Special Note on Concrete Decks: Some mixes of concrete decks contain residual moisture even after an "adequate" drying time. Rmax recommends that all concrete decks be completely isolated from the insulation by a vapor retarder, regardless of the age of the deck. This vapor retarder can take the form of a properly installed "dry-laid" building paper, a metal foil, a plastic film, a bitumen-based self-adhesive type sheet, or the preferred vapor retarder of a layer of glass or organic roofing felt and hot bitumens properly applied. Furthermore, the use of attachment systems using screws and plates to secure the membrane or insulation to the concrete roof deck where these fasteners will penetrate the installed vapor retarder is strongly discouraged. Penetration of any vapor retarder will compromise the integrity of the retarder and allow water vapor to penetrate into the roofing system. Rmax therefore recommends that the roofing system designer select a combination of vapor retarder, insulation, and roofing membrane that are compatible with hot bitumen applications. The selection of these elements must include limitation of the insulation to a panel size of 48 by 48 inches, proper roof construction detailing for venting of vapors caught between the deck and retarder, and proper sealing of the vapor retarder up and over the edges of the insulation at all deck penetrations and edge terminations.

4.0 INSULATION INSTALLATION

4.1 *General:*

4.1.1 No more insulation shall be laid than can be covered with the completed membrane system by the end of the work for the day.

4.1.2 Do not shave, rasp or carve facers off any insulation panel. Removal of any portion of the insulation facer may cause the panel to warp or curl. Adhesives and hot bitumens used to assemble the roofing system may attack the exposed foam core.

4.1.3 **DO NOT** force rigid insulation to bend over roof ridges, deck irregularities or conform to deck low points such as drainage swales. Cut insulation panels around such details. Rmax does not recommend scoring or cutting the back side of an insulation panel to allow the board to conform to roof deck shapes or irregularities.

4.1.4 Place tapered edge strips for completion of roof edge details on top of the Rmax insulation product. Placing the Rmax insulation panel over the tapered edge strip can cause undue stress through bending of the panel and delamination of the facing from the insulation panel.

4.1.5 Rmax does not recommend the cutting or trimming of insulation panels with the "score and snap" method. Specifically, Rmax does not recommend that one side of a panel be scored

with a sharp knife and then completing the "cut" by breaking the panel along the scored line. Polyisocyanurate will not break cleanly or evenly. Instead, Rmax recommends the use of a sharp, fine-toothed saw for cutting or trimming insulation panels.

4.1.6 Furnish all labor, material, tools, equipment and services for all preformed roofing as indicated, in accord with the provisions of the Contract Documents. The manufacturer will provide all components required for a complete roofing system to include trim/flashing, facades, ridge, closures, sealants, fillers and any other required items.

4.1.7 Completely coordinate with work of all other trades.

4.2 *Built-up Roof Membranes:*

4.2.1 Insulations approved by Rmax for use under built-up roof membranes are Multi-Max[®]-3, Multi-Max[®] FA-3, Tapered Thermarroof[®]-3, Ultra-Max[®], RDECK-3, or Thermarroof[®] Composite-3. Re-Cover Board-3 greater than 1.0 inch thick may be used under built-up roof membranes; however, this product is sold without any FM Global or Underwriters Laboratories approvals for classified systems.

4.2.2 Insulation may be fastened to wood or steel roof decks with one (1) mechanical fastener every four (4) square feet, see NRCA Specification Plate INS-N (Nailable Deck) or INS-S (Steel Deck). Refer to FM Global RoofNav, latest edition, for specific fastener requirements under built-up roof membranes.

4.2.3 Rmax does not recommend mechanically attaching insulation to poured in place or precast concrete decks (see 3.4.5 for additional information on concrete decks).

4.2.4 Insulation, which is to be adhered to the deck in hot bitumens, shall be installed according to the following NRCA specifications:

- Specification Plates INS-N or INS-1-N: ATTACHMENT OF INSULATION TO A NAILABLE DECK
- Specification Plates INS-1-C: SECUREMENT OF INSULATION TO A NON-NAILABLE (e.g. CONCRETE) DECK.

4.2.5 Special Note on Hot Bitumen Attachments: The selection and use of Rmax insulation in a hot bitumen adhered system is the sole responsibility of the project architect, engineer, designers and roofing contractor. The responsibility for adhesion of the insulation and any problems that may arise due to poor adhesion of the system shall be that of the above noted parties. Asphalt should be applied at its recommended equiviscous temperature (EVT) plus or minus 25 degree F. Maximum panel size shall be limited to 48 by 48 inches by the nominal thickness.

4.2.6 Rmax recommends that insulations used under built-up membrane systems be protected by an overlay of wood fiber board, perlite or a vented base sheet as specified in Technical Bulletin #9 of the NRCA. Also, a venting-type base sheet should be applied prior to application of built-up roof membranes over the perlite side of Thermarroof Composite-3.

4.3 *Fully Adhered Single-Ply Membranes:*

4.3.1 Insulations approved for use by Rmax under fully adhered single-ply systems are Multi-Max[®] FA-3, Tapered Thermarroof[®]-3, or RDECK-3. Rmax does not recommend the direct attachment of fully adhered single-ply membrane systems to Thermarroof Composite-3, Thermarroof[®] Plus-3, Ultra-Max[®], or

Multi-Max®-3.

4.3.2 Insulation may be fastened to wood or steel decks with one (1) mechanical fastener every two (2) square feet. Reduced fastener requirements may be allowed for certain thicknesses of Multi-Max® FA-3. Refer to the Multi-Max® FA-3 Data Sheet for proper fastener pattern and insulation thickness requirements. Refer to FM Global "Loss Prevention Data Sheet 1-28/1-29" for special considerations at perimeters and corners of roofs.

4.3.3 Rmax does not recommend mechanically attaching insulation to poured in place or precast concrete decks (see 3.4.5 for additional information on concrete decks).

4.3.4 Insulation, which is to be adhered to the deck in hot bitumens, shall be installed according to the following NRCA specifications:

- Specification Plates INS-N or INS-1-N: ATTACHMENT OF INSULATION TO A NAILABLE DECK
- Specification Plates INS-1-C: SECUREMENT OF INSULATION TO A NON-NAILABLE (e.g. CONCRETE) DECK.

4.3.5 Special Note on Hot Bitumen Attachments: The selection and use of Rmax insulation in a hot bitumen adhered system is the sole responsibility of the project architect, engineer, designers and roofing contractor. The responsibility for adhesion of the insulation and any problems that may arise due to poor adhesion of the system shall be that of the above noted parties. Asphalt should be applied at its recommended equiviscous temperature (EVT) plus or minus 25 degree F. Maximum panel size shall be limited to 48 by 48 inches by the nominal thickness.

4.3.6 Fully adhered systems attached to Multi-Max® FA-3, Tapered Thermaroof®-3, or RDECK-3 shall be installed according to the following:

4.3.6.1 Adhesives must be stored at temperatures as specified by the adhesive supplier. Adhesives must be kept at or above the recommended storage temperature when in use on the roof. Protect all adhesive containers not in use from temperatures below the recommended storage temperature.

4.3.6.2 Adhesives shall be applied at the rate and in the fashion recommended by the membrane supplier. Adhesives applied with a paint roller shall be rolled on the insulation surface in one direction only. DO NOT re-roll an area previously coated. Adhesive shall be spread in an even stroke and shall not be allowed to puddle or build up in any area.

4.3.6.3 Adhesives shall be allowed to completely flash all solvents prior to adhering the membrane. Excessive amounts of water and/or organic solvents trapped between the membrane and the insulation can result in dimensional stability problems with the foam insulation and delamination problems with the insulation facer. Consult the membrane supplier's literature for recommended drying times. Allowances for longer drying times must be considered for systems applied in cold weather and high humidity conditions. Rmax recommends that systems not be applied in temperatures of 40 degree F and falling.

4.4 **Mechanically Attached Single-Ply Membranes:**

4.4.1 Insulations approved by Rmax for use under

mechanically attached single-ply membranes are Multi-Max® FA-3, Multi-Max®-3, Ultra-Max®, RDECK-3, Tapered Thermaroof®-3, Thermaroof® Plus-3, or Thermaroof® Composite-3.

4.4.2 Insulation shall be pre-attached to steel decks with one (1) mechanical fastener every eight (8) square feet. The attachment of the membrane shall provide the additional fastening required to restrain the system. Consult membrane supplier specifications for any additional fastener requirements for the insulation.

4.4.3 Fully adhered portions of the mechanically attached membrane shall be installed as outlined in Section 4.3.

4.4.4 NOTE: Certain design applications may call for the use of vapor and/or air barriers between the roofing insulation and the roof deck when installing a mechanically fastened single-ply. The use of such sheets or films may cause the system to behave as a fully adhered roofing system and thus require significantly more fasteners in the insulation. Please consult the membrane supplier for recommendations when using air and/or vapor barriers with mechanically fastened single-plys.

4.5 **Loose-laid Ballasted Single-Ply Membranes:**

4.5.1 Insulations approved by Rmax for use under loose-laid, ballasted single-ply membranes are Multi-Max® FA-3, Ultra-Max®, RDECK-3, Tapered Thermaroof®-3, Thermaroof® Plus-3 or Thermaroof® Composite-3.

4.5.2 Insulations do not need to be pre-attached with mechanical fasteners before laying membrane or ballast. Ballast is placed at the specified application rate by the membrane supplier to restrain the entire assembly.

4.5.3 Care should be exercised when ballasting the membrane to avoid over-loading the stone carts so that the insulation is not crushed. Rmax recommends that adequate walkway protection be placed down to roll the carts into position. Failure to provide adequate walkway protection may result in deformation/delamination of the facings and/or crushing of the Rmax insulation. Refer to Section 4.8 for walkway/runway recommendations.

4.6 **Modified Bitumen Membranes:**

4.6.1 Insulations approved by Rmax for use under modified bitumen membranes are Multi-Max®-3, Multi-Max® FA-3, Tapered Thermaroof®-3, Thermaroof® Composite-3, Ultra-Max®, and RDECK-3.

4.6.2 Rmax requires an overlay of wood fiberboard, perlite or heavy vented base sheet suitable and approved by the membrane supplier for torch-applied modified bitumen membrane systems placed over Multi-Max®-3, Multi-Max® FA-3, Tapered Thermaroof®-3, Ultra-Max®, or the mat facer of Thermaroof® Composite-3. Rmax recommends that insulations used under hot-mopped down modified bitumen membrane systems be protected by an overlay of wood fiber board, perlite or a vented base sheet as specified in Technical Bulletin #9 of the NRCA. Also, a venting-type base sheet should be applied prior to application of built-up membranes over the perlite side of Thermaroof® Composite-3.

4.6.3 Insulation may be fastened to wood or steel decks with

one (1) mechanical fastener every four (4) square feet. Refer to FM Global "Loss Prevention Data Sheet 1-28/1-29" for special considerations at perimeters and corners of roofs.

4.6.4 Rmax does not recommend mechanically attaching insulation to poured in place or precast concrete decks (see §3.4.5 for additional information on concrete decks).

4.6.5 Insulation, which is to be adhered to the deck in hot bitumens, shall be installed according to the following NRCA specifications:

- Specification Plates INS-N or INS-1-N: ATTACHMENT OF INSULATION TO A NAILABLE DECK
- Specification Plates INS-1-C: SECUREMENT OF INSULATION TO A NON-NAILABLE (e.g. CONCRETE) DECK.

4.6.6 Special Note on Hot Bitumen Attachments: The selection and use of Rmax insulation in a hot bitumen adhered system is the sole responsibility of the project architect, engineer, designers and roofing contractor. The responsibility of adhesion for the insulation and any problems that may arise due to poor adhesion of the system shall be that of the noted parties. Asphalt should be applied at its recommended equiviscous temperature (EVT) plus or minus 25 degree F. Maximum panel size shall be limited to 48 by 48 inches by the nominal thickness.

4.7 **Multi-Layer Insulation Systems:**

4.7.1 The roofing industry has long recognized the advantages of multi-layered insulation systems; e.g., the reduction of thermal losses through insulation joints and thermal bridging, reduced moisture migration into the roof system, and less movement in the system thereby reducing mechanical stress on the membrane.

4.7.2 For single-ply systems over insulation mechanically fastened to the roof deck, Rmax strongly recommends the use of a suitable cover board whenever the thickness of the insulation exceeds 3.0", otherwise the insulation should be installed in multiple layers. The minimum thickness of any layer should be 1.5" to resist the specified wind load of I-90.

4.7.3 For hot-applied BUR and Modified Bituminous systems Rmax recommends two layers of insulation whenever the total insulation requirement exceeds 3.0". A two layer system may be installed on a roof deck by mechanically attaching the first layer and then attaching the second layer in hot bitumens. Refer to Section 4.2, 4.3, 4.4, 4.5 or 4.6 for details of installation for the selected roof membrane. The thickness of the bottom layer of the two layer system that is mechanically attached with a hot adhered top layer must be a minimum of 1.5" to resist I-90 wind uplift.

4.7.4 Joints should be offset between the various layers of insulation as well as between the insulation and a cover board.

4.7.5 Failure to follow these recommendations for multi-layer applications will release Rmax from any responsibility for roof system performance.

4.8 **Roof Protection:**

4.8.1 Completed portions of the membrane/insulation

system shall not be used for storage surfaces or work surfaces without adequate protection first placed over the membrane. Rmax recommends that no insulation or membrane be installed on a roof until all other trades are finished on the roof.

4.8.2 Rmax recommends that walkways be laid on any completed area used for access to the construction area or roof top equipment. Failure to lay walkways may cause adhesion and delamination problems which shall be the responsibility of the owner and roofing contractor. Note: Plywood of 3/4" thickness or greater may be used as a temporary protection layer during construction. Thin OSB panels (i.e. thickness less than 3/4-inch) are considered inadequate for proper protection of an installed roofing system.

5.0 **REROOFING/RECOVER SYSTEMS**

5.1 **General:**

5.1.1 Definitions: Rmax shall recognize the use of the terms "reroof" and "recover" as defined below:

REROOF - the practice of removing the existing roofing membrane(s) and any associated insulation down to the original roof deck, the repair/replace of any deteriorated roof structure elements and installing a new insulated roof system.

RECOVER - the practice of preparing the existing roofing surface, such as removal of ballast, debris and repair of deteriorated areas and installing a new insulated roof system.

5.1.2 Rmax insulation may be used in reroofing systems where the existing roof system, including the deck below, is still sound and attached.

5.1.3 Rmax recommends that in all projects where roof replacement is necessary that the existing deteriorated roof system be removed to the original roof deck and a new roofing system be installed. Rmax strongly recommends that the roofing system be torn off and not "recovered" when two or more roofing systems are present over the roof structure. **NOTE:** Three or more roof membranes on a roof structure may violate local building codes.

5.1.4 Rmax recommends that when the existing roof system is not to be torn off, the existing roof system and deck should be thoroughly investigated for water intrusion and deterioration. Wet or deteriorated zones require complete removal of the affected area and repairs made to restore a level substrate to begin work.

5.1.5 The deck and structure must be investigated by competent engineers to determine if the new imposed loads of the reroof system may be added.

5.2 **Installation Requirements:**

5.2.1 Rmax recommends that gravel or slag ballast of existing built-up membranes be scraped off to produce a smooth surface. Loose ballast may be vacuumed up and the remaining ballast and uneven spots leveled with a flood coat of asphalt. All surfaces must be swept clear of dust, dirt and debris. Application

of Rmax insulation products on loose or protruding gravel will crush the insulation and damage the facers. This damage can cause the insulation to become dimensionally unstable and lose R-value.

5.2.2 Gravel or slag ballast that will be left in place on the roof in a recover roofing application must be covered with a minimum 1/2-inch thick wood fiberboard or 1/2-inch thick perlite re-cover board prior to application of the Rmax insulation and new membrane system.

NOTE: Stone ballast can retain certain amounts of moisture regardless of roof surveys that indicate a roofing system to be "dry." Any insulation placed over ballast is subject to curling and bowing after application regardless of the number of fasteners. DO NOT LEAVE BALLAST ON A ROOF WHEN RECOVERING.

5.2.3 Rmax recommends that the membrane supplier be consulted for treatment of existing single-ply membranes, which are to be left in place when recovering with a new roof system.

5.2.4 Rmax insulation shall be installed in the reroof systems, depending upon the new roof membrane, as specified in Section 4.0.

5.2.5 Special Note on the Use of Re-Cover Board: Rmax's Re-Cover Board-3 may be used directly as a membrane underlayment in reroof applications. This product is sold without any FM Global or Underwriters Laboratories approvals for classified systems.

Rmax Operating, LLC

Email: rmax@rmax.com - Web Site: www.rmax.com

Central Region

Dallas, Texas
(800)527-0890

Eastern Region

Greer, South Carolina
(800)845-4455

Western Region

Fernley, Nevada
(800)762-9462