Malarkey Roofing Products™

B.U.R., Modified, & Steep Slope Roofing Systems

4. Low Slope Roofing Installation Instructions

This Page Intentionally Left Blank

4.1 STORAGE & HANDLING

The following is a list of Malarkey basic requirements for handling and storing roof insulations, roofing products, and construction materials.

Unload, handle and store all roofing products and construction materials with care.

Store all rolled roofing and materials on pallets, keeping it off of the ground or roof deck.

Check all material delivered to the work site for damage. If any material is damaged, contact your roofing products distributor to resolve the issue. All damaged material must be removed and replaced. Malarkey will assume no liability for damaged material once it has been released from Malarkey's manufacturing or warehouse facilities.

Protect all roofing materials and construction products from weather before, during, or after delivery.

Store all roll goods on end in a dry, clean, safe area.

Use breathable tarpaulin or covers to allow venting and protection from the weather of the roofing materials. Ensure that all unused materials at the end of each working day are protected as described above.

All lightweight insulation products must be stored, and properly weighted to avoid wind related damage.

Protect any roll goods, adhesives, and coatings from freezing.

When storing materials, ensure that the container or area is designed for that purpose and will not endanger any of the occupants, or contents of the building that is being roofed.

Materials stored on the roof surface shall be dispersed to avoid concentrated loading. Larger concentrations shall be set over major structural members.

4.2 SAFETY

Malarkey recommends that all applicable safety standards and good roofing practices be followed.

All roofing and construction personnel are responsible for their own safety on the work site, as well as for those around them.

Roofers should always wear and maintain their personal protection equipment (PPE) when handling or installing components of the roofing system.

Keep the roofing and staging areas clean.

All roofing personnel must be properly trained to operate and install roofing systems safely and effectively.

All roofing and construction materials should be stored and protected in a manner as not to endanger any personnel, personal property, occupants or contents of the building that is being roofed.

Always keep first aid kits, emergency telephone numbers, escape routes and area maps to emergency facilities in a place that is easily located.

Thoroughly train all personnel on preventing and safely extinguishing fires.

Thoroughly train all personnel in first aid procedures.

Never allow contact between heated surface of the membranes, adhesives, and flame equipment to your skin, hair, or clothing.

Have the correct type and number of fire extinguishers near the area being roofed, and the area where the roofing kettle or tanker is located.

Properly store and handle flammable materials.

Only use flammable materials in safe, well-ventilated areas.

Maintain and service all roofing equipment.

4.3 INSULATION

Malarkey recommends that you research the types and advantages of the many insulation products that are available when considering incorporating insulation into your Malarkey roof system.

Installation can vary greatly depending on the deck type, wind uplift requirements, roof slope and performance.

Should you have any questions on whether the insulation that you are considering will work with and meet Malarkey's minimum standards, contact our Technical Department.

4.3.1 POLYISOCYANURATE

Polyisocyanurate (PolyIso); is a rigid foam insulation board that consists of closed cell, blown pentane derivatives with a facer.

Polyisocyanurate is the most commonly used roof insulation in roofing systems because of its great thermal resistance, lightweight nature, and ability to be installed with conventional roofing practices.

Polyisocyanurate can be manufactured in various thicknesses and made to provide roof slope. It is also available with a perlite cover board, or an oriented strand board factory laminated to surface.

Malarkey requires that a cover board or a layer of #1000 ESHAvent™ venting base sheet be installed over the Polyisocyanurate before the application of the Malarkey roofing membranes. Contact Malarkey's Technical Department for details.

4.3.2 EXPANDED POLYSTYRENE (EPS):

This is a closed cell, rigid plastic made from petroleum derived from crude oil, and formed into typical insulation sizes and thickness.

Expanded Polystyrene can be manufactured as fill insulation or to provide slope for roof decks.

Its light weight, low cost and ability to be installed with conventional roofing practices make it a great alternative to re-sloping roof decks with traditional framing techniques.

Expanded Polystyrene can be manufactured with an oriented strand board laminated to the insulation.

Malarkey requires that a cover board be installed over the Expanded Polystyrene before the application of the Malarkey roofing membranes. Contact Malarkey's Technical Department for details.

4.3.3 PERLITE

This is an expanded volcanic ore that is blended with selected binders and fibers and formed into a homogeneous board.

Perlite can be manufactured in various thicknesses and used as fill insulation, a tapered insulated system, cant strip or tapered edge strips, or as a cover board.

4.3.4 WOOD FIBER

This is an insulation/cover or recovery board that consists of wood pulp, sugar cane, water that is blended with a binder, and formed into a solid sheet/board.

It can be coated with asphalt slurry on one or all six sides to reduce blisters and eliminate the need of priming for some roof systems.

4.3.5 GYPSUM ROOF BOARDS

These are manufactured with a gypsum slurry, fire retardant chemicals, and water and have various facers.

Contact Malarkey for approval when using gypsum roof boards as a recover, or roofing substrate.

4.3.6 RIGID INSULATION WITH FACTORY LAMINATED NAILABLE SUBSTRATE

The following information is intended for use on steep slope commercial applications when enhanced fastening is required. This is an alternative to the installation of an insulated steep slope commercial application that uses pressure treated wood nailers and/or insulation stops for back nailing of roofing plies and cap sheet. For residential shingle application over rigid insulation with a nailable substrate, refer to Section 7, Part 8 on page 7-4; Rigid insulation and venting installation instructions for residential roofing systems.

Above roof deck insulation with a factory laminated nailable substrate can be used under Malarkey roofing systems.

The use of this product must be installed according to the installation requirements and recommendations by the manufacturer of the product.

Malarkey recommends that a thermal barrier (a low permeance underlayment, vapor retarder/barrier, or a gypsum roof utility board) be installed directly to the roof deck, staggered and secured, before the installation of the rigid roof insulation with a factory laminated nailable substrate. This has been shown effective in reducing thermal transfer between the joints/gaps in the decking that cause 'picture framing' of the rigid insulation with a factory laminated nailable substrate.

Contact Malarkey if you have any questions regarding above roof deck rigid insulation with a factory laminated nailable substrate.

Malarkey will accept no responsibility for damage to the decking, building, or the contents of the building when above roof deck insulation is used.

4.4 INSULATION ATTACHMENT REQUIREMENTS FOR SPECIFIC DECK TYPES:

4.4.1 STRUCTURAL CONCRETE DECKS

Structural concrete decks are to be primed with asphalt based primer. The insulation is set in a uniform mopping of asphalt at a nominal rate of 30 pounds per square.

Other options for attachment are concrete fasteners with insulation plates, or roof insulation adhesive (see Malarkey's general requirements for concrete decks).

4.4.2 PRE-CAST CONCRETE DECKS

Pre-cast concrete decks are to be primed with asphalt based primer. The insulation is set in a uniform mopping of asphalt at a nominal rate of 30 pounds per square.

Other options for attachment are concrete fasteners with insulation plates, or roof insulation adhesive (see Malarkey's general requirements for concrete decks).

4.4.3 WOOD DECKS

Wood decks require the use of approved screw fasteners and plates that are secured through the roof insulation to the wood deck.

Alternate attachments may be used only after submission and approval by Malarkey's Technical Department before job start (see Malarkey's general requirements for wood decks)

4.4.4 POURED GYPSUM DECKS

Poured gypsum decks require a layer of #501 SBS base sheet, mechanically attached with approved fasteners, over the entire roof deck surface and roof insulation (if specified) installed on the base sheet using a uniform mopping of asphalt at a nominal rate of 30 pounds per square (see Malarkey's general requirements for poured gypsum decks).

4.4.5 LIGHTWEIGHT CONCRETE DECKS

These require either a layer of #501 SBS Base Sheet or an inverted #502 Mineral Surfaced Cap Sheet, mechanically attached with approved lightweight concrete fasteners over the entire roof deck surface and roof insulation (if specified) installed on the base sheet using a uniform mopping of asphalt at a nominal rate of 30 pounds per square (see Malarkey's general requirements for lightweight concrete decks).

4.4.6 STEEL DECKS

Steel decks require the use of approved screw fasteners and plates that are secured through the roof insulation to the steel deck. Fastener attachment shall penetrate the top of the decking flutes, and extend a minimum of 3/4" from the bottom side of the steel decking.

Alternate attachments may be used only after submission and approval by Malarkey's Technical Department before job start (see Malarkey's general requirements for steel decks)

4.4.7 STRUCTURAL WOOD FIBER DECKS

Structural wood fiber decks require a layer of #605 SBS base sheet mechanically attached with approved fasteners over the entire roof deck surface and roof insulation (if specified) installed on the base sheet using a uniform mopping of asphalt at a nominal rate of 30 pounds per square (see Malarkey's general requirements for wood fibered decks)

4.5 INSULATION FASTENING PATTERNS

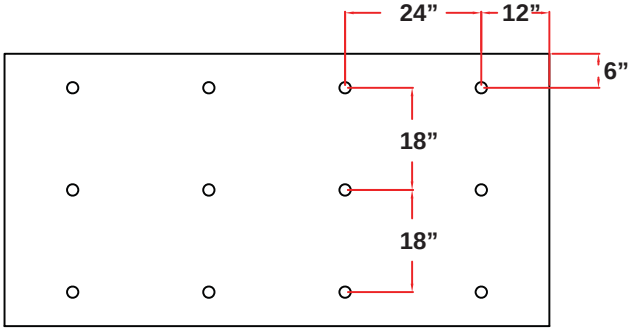
Board size, thickness, and type determine the type of fastener, insulation plate and spacing.

The following patterns are Malarkey's standard attachment patterns for 4' x 8' rigid insulation:

When the roof system requires enhanced fastening to meet higher wind uplift, contact Malarkey's technical department. A fastening pattern, listed as fastener installed per square feet of insulation product type, will need to be met in order for the roof system to comply with the higher wind uplift.

4.5.1 MECHANICAL ATTACHMENT

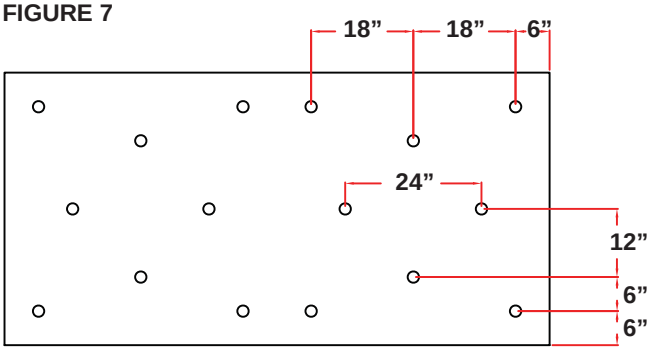
FIGURE 6



1 (ONE) FASTENER PER 2.67 SQUARE FEET (RIGID INSULATION THICKNESS OF 1.1" AND GREATER).

4-6 STAGGERING OF 4' X 8' INSULATION BOARD

FIGURE 7



1 (ONE) FASTENER PER 2 SQUARE FEET (RIGID INSULATION THICKNESS UP TO 1").

Start at the lowest part of the approved deck with a full layer of roof insulation. Maximum insulation size is 4' x 8'. Install approved plates and screw fasteners per the fastening pattern specified.

Continue to install full boards of roof insulation along the lowest part of the approved deck.

Start the second course with a 4' x 4' layer of roof insulation and install approved plates and screw fasteners per the fastening pattern specified. This pattern is designed to stagger the insulation joints and prevent possible problems that can relate from a non-staggered insulated roof system.

Continue the second course of roof insulation by installing full layers of 4' x 8' insulation and install approved plates and screw fasteners per the fastening pattern specified.

Repeat until the deck has been covered.

4.5.2 ASPHALT ATTACHMENT OF A SINGLE LAYER OF ROOF INSULATION

Note: Malarkey recommends that any insulation (other than cover or recover cover board) installed with asphalt be limited to 4' x 4'. Contact Malarkey for details.

Start at the lowest part of the roof by mopping asphalt directly to the approved, primed deck (see general requirements for approved deck types and conditions prior to installing any roof installation) at a rate of 30 lbs. per square, and install a full width layer of roof insulation.

Set insulation into the fresh mopping of asphalt and carefully walk over the surface of the insulation to promote contact of the bottom side of the insulation and the asphalt.

Do not kick or damage the insulation at any time during the roofing process.

Continue to install layers of roof insulation along the lowest part of the roof deck.

Start the second course of insulation by installing a half sheet (2' x 4' for 4' x 4' boards, 4' x 4' for 4' x 8' boards) into a fresh mopping of asphalt, at the nominal rate of 30 lbs. per square, directly to the approved, primed deck.

Set insulation into the fresh mopping of asphalt and carefully walk over the surface of the insulation to promote contact of the bottom side of the insulation and the asphalt.

Do not kick or damage the insulation at any time during the roofing process.

Continue to install layers of roof insulation along the lowest part of the roof deck.

Repeat until the deck has been covered.

4.5.3 ADHESIVE ATTACHMENT

Refer to adhesive manufacturer's installation requirements.

4.5.4 ADDITIONAL INSULATION REQUIREMENTS

Install only as much insulation as can be completed (insulation, base and interply) that workday.

When possible, Malarkey recommends divorcing the insulation screws and plates from the roofing system.

Gaps along the joints of the insulation are to be less than 1/4". All gaps in excess of 1/4" are to be filled with the same insulation that is being installed.

Offset all side and end joints of the insulation layers a minimum of 12".

Insulation will be set in position and walked in, to ensure contact between the bottom of the insulation and the asphalt or adhesive used to attach the insulation to the deck surface.

Kicking of the insulation is not acceptable and can result in damage that will affect the layout and surface of the insulated roof deck.

Malarkey recommends that all insulation attached with asphalt be a maximum size of 4' x 4'. Cover boards are the exception.

Cover boards may be installed in 4' x 8' sections.

All Polyisocyanurate and Expanded-poly-styrene insulation is to receive a cover board (perlite, asphalt coated single sided wood fiber board, asphalt coated 6 sided wood fiber board). Type, thickness, and attachment method will be determined by the architect, specifier, or roofing professional per the insulation manufacturer's attachment requirements.

Malarkey recommends that polyisocyanurate be installed in a single layer of a maximum thickness of 2".

Mechanical attachment of insulation will be secured as recommended by the insulation manufacturer. If that information is unavailable, refer to Malarkey standard insulation attachment patterns.

Metal insulation plates are to be used when mechanically attaching base sheet over insulation when torch down (APP) membranes are used. No plastic plates should be used.

Malarkey will not accept any overlay of spray polyurethane foam (SPF) roofs. A complete tear-off and removal of the SPF roof to the deck must occur before attaching insulation for a Malarkey roof system.

4.6 MEMBRANE INSTALLATION

4.6.1 GENERAL RULES

Before installing any heavy duty base sheet or cap sheet, the membranes must be cut to desired lengths and allowed to relax prior to installation.

Additional time and methods may be needed to fully allow the membrane to relax when installing in colder temperatures. Contact Malarkey's Technical Department for recommendations.

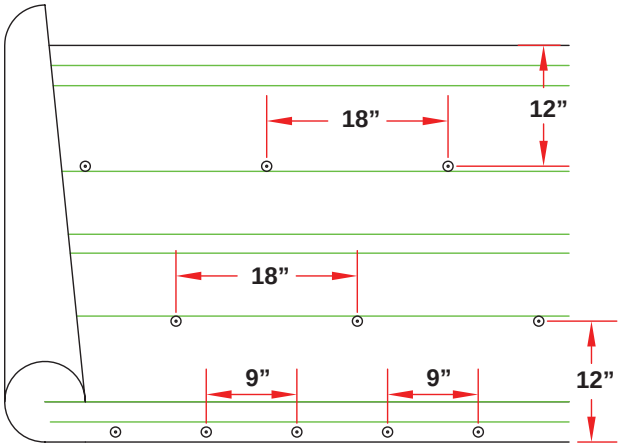
Malarkey #500 and #506 Premium ply sheets do not require relaxing prior to installation.

Care must be used when staging, positioning and installing the membrane.

All base sheets should be positioned and kept taut while mechanically attaching.

4.7 BASE SHEET FASTENING PATTERN

4.7.1 BASE SHEET FASTENING WITH 1” CAP NAILS

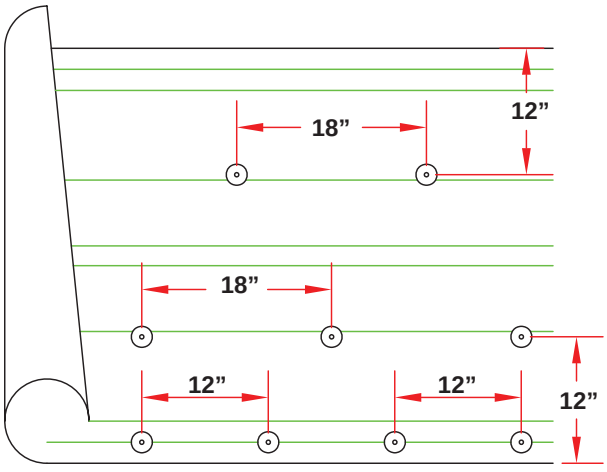


Install 1 ply of specified base sheet so that the flow of water is over or parallel to, but never against the laps.

Lap 2” on all sides, 6” on all ends, and turn up to the top of cant.

Nail all side laps with 1” tin cap fasteners at 9” centers, and install 2 rows of fasteners at 18” centers along a line of 12” from each edge.

4.7.2 BASE SHEET FASTENING PATTERN USING PLATES & SCREWS



Install 1 ply of specified base sheet so that the flow of water is over or parallel to, but never against the laps.

Lap 4” on all sides, 6” on all ends, and turn up to the top of cant.

Install a row of approved plates and screws at all side laps at 12” centers, and install 2 rows approved plates and screws at 18” centers along a line of 12” from each edge.

4.7.3 BASE SHEET ATTACHMENT USING TAPE & STAPLES

Install 1 ply of specified base sheet so that the flow of water is over or parallel to, but never against the laps.

Lap 2” on all sides, 6” on all ends, and turn up to the top of cant.

Install a row of tape and staples at all side laps at 12” centers, and install 2 rows of tape and staples at 12” centers along a line of 12” from each edge. Enhanced fastening would be 9” on center for all rows.

4.7.4 BASE SHEET ATTACHMENT USING HOT ASPHALT & COLD ADHESIVE

Always stand above or on up-slope the deck side of the installation when installing membrane to prevent asphalt or adhesive displacement.

Avoid foot and machine traffic over any newly laid membranes to reduce asphalt or adhesive displacement. This may affect the overall adhesion and performance of the waterproofing and could result in voids within the roofing system.

Install a uniform mopping of asphalt at the nominal rate of 25 lbs. per square or cold adhesive at the nominal rate of 1.5 to 2 gallons per square directly to the insulation cover board, and install 1 ply of specified base sheet so that the flow of water is over or parallel to, but never against the laps. For cold adhesive attachment of base sheets to cover board, Malarkey recommends using asphalt impregnated wood fiberboard.

Install the membrane without wrinkles, buckles, voids, fish-mouths, direct membrane to membrane contact, or direct lap to lap contact.

Cut and patch any wrinkles, buckles, voids, fish-mouths, membrane to membrane, or lap to lap with the like amount and type of membrane a minimum of 6” beyond all sides of the affected area set in hot asphalt or cold adhesive.

Lap 2” on all sides, 6” on all ends, and turn up to the top of cant achieving an asphalt or cold adhesive bleed out of the seams of a minimum 1/4” to a maximum of 1”.

When hand mopping, only mop ahead of the set roll 8’ to prevent the asphalt from cooling.

When using cold adhesive, set all base, inter-plies, or cap into the wet adhesive.

Broom all plies to ensure a good bond between the asphalt or cold adhesive and the bottom of the membrane.

4.7.5 THERMALLY ADHERED BASE SHEETS

Malarkey ESHAvent™ is a thermally adhered bituminous waterproofing and ventilating base sheet membrane. The top surface is coated with a weathering grade of SBS bitumen and surfaced with fine mineral sand. The underside is covered with a perforated aluminum foil sheet, allowing the adhesive SBS undercoating to “spot weld” to the deck or insulation. The “weld” is enhanced to its permanent bonded state upon application of a torch or hot asphalt applied system.

Concrete decks require the installation of asphalt primer prior to the application of ESHAVent™ base sheet.

All vertical surfaces require the installation of asphalt primer prior to the application of ESHAVent™ when used as a part of the base flashing assembly

Position ESHAVent™ over approved roof deck or insulation so that the flow of water is over or parallel to, but never against the laps. Extend ESHAVent to the top of all canted areas.

Re-roll 1/3 to 1/2 of the ESHAVent™ and carefully peel the release film from the back of the ESHAVent before rolling back into position. Re-roll the remaining ESHAVent and carefully peel the release film from the back of the ESHAVent before rolling back into position.

Continue to install the ESHAVent™ over the remaining roof deck or insulation.

Carefully remove the release film located at the head lap of each course of ESHAVent™ and press the overlapping base sheet into the head lap adhesive.

Install a uniform layer of plastic roof cement a minimum of 3” wide under each end lap of the bottom course of ESHAVent™ and press overlapping course into the plastic roof cement.

Install ESHAVent™ to the vertical wall surfaces before installing the fields inter-ply, surfacing or base flashing membranes.

4.7.6 INTER-PLY HOT/COLD ADHESIVE ATTACHMENT

When using cold adhesive, only base sheets are to be used: DO NOT USE CONVENTIONAL PLY SHEETS.

Always stand above or on the up-slope side of the deck of the installation when installing membrane to prevent asphalt or adhesive displacement.

Avoid foot and machine traffic over any newly laid membranes to reduce asphalt or adhesive displacement. This may affect the overall adhesion and performance of the waterproofing and could result in voids within the roofing system.

Install all inter-plies so that the flow of water is over or parallel to, but never against the laps in a uniform mopping of hot asphalt at a rate of 25 lbs. per square or 1.5 to 2 gallons per square of cold method adhesive.

Install the membrane without wrinkles, buckles, voids, fish-mouths, direct membrane to membrane contact, or direct lap to lap contact.

Cut and patch any wrinkles, buckles, voids, fish-mouths, membrane to membrane, or lap to lap with the like amount and type of membrane a minimum of 6” beyond all sides of the affected area set in hot asphalt or cold adhesive.

Only install the adhesive per the manufacturer’s requirements.

Asphalt or cold adhesive bleed out of the seams shall be a minimum 1/4” to a maximum of 1”.

When hand mopping, only mop ahead of the set roll 8’ to prevent the asphalt from cooling.

When using cold adhesive, set all base, plies, or cap into the wet adhesive.

Broom all plies to ensure a good bond between the asphalt or cold adhesive and the bottom of the membrane.

4.7.7 INTER-PLY TORCH INSTALLATION

Torch weld inter-ply sheet so that the flow of water is over or parallel to, but never against the laps. Unroll first roll completely and set in position. Re-roll the membrane a minimum of 6’ or no more than 16’ (1/2 of total length) making sure sheet remains aligned correctly.

Install the membrane without wrinkles, buckles, voids, and fish-mouths.

Cut and patch any wrinkles with the like amount and type of membrane a minimum of 6” beyond all sides of the affected area.

A propane torch flame will be applied to the exposed, outer surface of the membrane’s underside in an even and steady motion until the membrane reaches the application temperature (350-400℉).

An indicator of proper application temperature is the complete melting of the burn-off film and a slight compound flow that’s present at the bottom of the rolled membrane.

Apply the flame with a steady ‘L’ shaped motion that starts from the head lap side of the roll, towards the side lap of the roll, then away from the applicator on the side lap side of the roll from 8” to 18” then reversed (The flame should be split between the rolled membrane and the Base/Inter ply 75% rolled membrane, 25% Base/Inter ply) and the rolled membrane is un-rolled slowly.

A minimum compound flow-out of 1/4” to a maximum 1” of bitumen should be visible from all side and end laps of

the membrane. This is an indication of a thermally sealed membrane.

All laps that do not have a minimum 1/4" compound flow-out may be lifted, reheated and sealed.

If the reheated membrane does not achieve minimum compound flow-out, strip off with a 10" wide layer of membrane, centered over suspect seam, and torched into place.

4.7.8 CAP SHEET TORCH INSTALLATION

Torch weld specified cap sheet over the base sheet/inter-ply sheets so that the flow of water is over or parallel to, but never against the laps.

Unroll first roll completely and set in position. Re-roll the membrane a minimum of 6' or no more than 16' (1/2 of total length) making sure sheet remains aligned correctly.

Install the membrane without wrinkles, buckles, voids, and fish-mouths.

Cut and patch any wrinkles with the like amount and type of membrane a minimum of 6" beyond all sides of the affected area.

A propane torch flame is than applied to the exposed, outer surface of the membrane's underside; in an even a steady motion until the membrane reaches the application temperature (350 to 400 degrees). An indicator of proper application temperature is the complete melting of the burn-off film and a slight compound flow that's present at the bottom of the rolled membrane.

Apply the flame with a steady 'L' shaped motion that starts from the head lap side of the roll, towards the side lap of the roll, then away from the applicator on the side lap side of the roll from 8" to 18" then reversed (The flame should be split between the rolled membrane and the Base/Inter ply, 75% rolled membrane, 25% Base/Inter ply) and the rolled membrane is un-rolled slowly.

A minimum compound flow-out of 1/4" to a maximum 1" of bitumen should be visible from all side and end laps of the membrane. This is an indication of a thermally sealed membrane.

When installing ESHAlum™ torch applied, immediately use a damp sponge or mop to cool the metal film after the membrane has been torched in place. Roll any delaminating metal facing with a silicone roller into the heated membrane immediately after the membrane has been torched in place, then use a damp sponge or mop to cool.

All laps that do not have a minimum 1/4" compound flow-out may be lifted, reheated and sealed.

If the reheated membrane does not achieve minimum compound flow-out, strip off with a 10" wide layer of membrane, centered over suspect seam, and torched into place.

Cap sheet laps should not be located on top of either inter-ply or base sheet laps.

4.7.9 CAP SHEET HOT/COLD ADHESIVE ATTACHMENT

Install specified cap sheet so that the water flow is over or parallel to, but never against the laps.

Cut cap to 1/3 of total length (10.6') for hot asphalt or to longest workable length for cold adhesive, and allow membrane to relax.

Position the cap membrane for installation and embed in a uniform mopping of hot asphalt at a rate of 25 lbs. per square. For cold adhesive, position cap membrane for installation and apply cold adhesive to the base sheet/inter-ply sheet only, then embed cap membrane into wet adhesive.

Install the membrane without wrinkles, buckles, voids, and fish-mouths.

When installing ESHAlum™ mop applied, immediately use a damp sponge or mop to cool the metal film after the membrane has been hot mopped in place. Roll any delaminating metal facing with a silicone roller into the heated membrane immediately after the membrane has been mopped in place, then use a damp sponge or mop to cool.

Cut and patch any wrinkles with the like amount and type of membrane to a minimum of 6" beyond all sides of the affected area.

Broom or roll all cap membrane to ensure contact between cap membrane and the hot/cold adhesive.

4.8 LOW SLOPE MEMBRANE INSTALLATION WITH SLOPES 1" OR GREATER

Commercial roof systems over decks with slope of 1" or greater require strapped installation. Strapped installations are run parallel to the roof slope.

Non-insulated nailable roof decks require no additional nailers to attach components of the roof systems (edge metal, straight metal flanges, etc.). These components can be flashed as shown in the Malarkey commercial details section of this spec book.

Insulated roof decks require the installation of mechanically attached wood nailers, the same thickness as the roof insulation to the roof deck, at the edges of the roof deck, around penetrations (i.e. sheet metal, non-lead flashings), roof top equipment and projections (unless roofer obtained a variance approved by Malarkey prior to job start). Wood nailers or insulation stops are to be a minimum width of 3.5" and at least 1" wider than any of the sheet metal flanges.

Wood nailers and/or insulation stops shall be placed in the field of the roof, perpendicular to the roof slope at the spacing intervals indicated on page 3-2, Figure 1.

Install all cover boards up to 3/4" in thickness directly over the insulation and the wood nailers and/or insulation stops. Mark the location of the wood nailer and/or insulation stops on the cover board.

Installations where the cover board and insulation thickness combined will equal the height or thickness of the wood nailer may also be used. With this method, your fasteners will not penetrate the cover board.

Install the interply over the cover board and secure the leading edge of the interply with one 1" cap head fastener no more than 1-1/2" from the outside edge of the sheet at all wood nailers and/or insulation stops. The fastener must penetrate the wood nailer 3/4" minimum.

Install all overlapping interply as described above.

Note: all fasteners of the interply shall be covered by the amount of interply specified (i.e. two ply interply if installed correctly will have 2 plies over each nail head).

Cap sheet installation does not require a staggered end lap pattern and can be run in a common end lap configuration as indicated in Figure 2 (page 3-2).

When securing strapped mineral surfaced cap sheet membrane with insulation plates and screws, the cap sheet shall be secured at the head lap with 4 plates and screws in a straight line and evenly spaced. Overlapping mineral surfaced cap sheet shall cover all plates and screws a minimum of 6".

4.9 PHASING

Phasing is when sections of roof are partially completed and left exposed for a period of time before continuing or surfacing.

Whenever practical, phasing of your roof system should be avoided.

Phasing can occur during the installation of the base, ply, cap, or surfacing.

Problems such as blistering, delaminating, physical abuse, other trade damage, and water intrusion can result from phased roofing.

Incomplete sections of exposed base or ply sheets can also accumulate dirt or contamination on its surface, and can affect the bond between the adhesive and the rest of the built up roofing membranes.

Any areas that are damaged due to phased roofing must be repaired in a manner that is acceptable to Malarkey before continuing the roof installation.

Malarkey believes that a roofing contractor should install the surfacing to any roof system as soon as possible after the plies have been installed. This will limit the exposure of the plies to the weather.

4.10 COLD WEATHER INSTALLATIONS

(See General Requirements: Ambient temperature precautions for asphalt applied roofing systems at +50℉ and below)