
GENERAL INFORMATION

This HANDBOOK has been designed to give the user a GENERAL DESCRIPTION of a **RUBBERALL®** fully adhered roof system. This HANDBOOK is intended as a broad reference aid and is not intended or meant to be all-inclusive.

We recommend the installer view the RUBBERALL® Roof System Installation Guide before installing a **RUBBERALL®** roof system. Both the Installation Video and a PDF of the Installation Guide are available at www.watertighttech.com, under the Rubberall Roofing section. URL links is below:

www.watertighttech.com/rubberall/installation-video

www.watertighttech.com/rubberall/installation-manual



RUBBERALL® User Cautions and Warnings!

Read Caution labels on all adhesive, primer and sealant containers. These materials contain petroleum distillates and are **extremely flammable**. Care must be taken to avoid open flames. Do not smoke when using these products. Product labels, **Safety Data Sheet** and **Technical Information** Sheet contain information for proper use of these products and should be consulted.

Adhesives should be used in a well-ventilated area. Avoid inhalation of fumes. Care should be taken to insure fumes do not enter building through windows or fresh-air-intake ventilation fans.

Avoid adhesive contact with eyes. Safety glasses should be worn. If adhesive comes in contact with eyes, flush for 15 minutes and call physician.

Avoid adhesive contact with skin. Chemically resistant gloves are required. If adhesive comes in contact with skin, wash with soap and water.

Safeguard against falling by reading ladder manufacturer's warnings and by establishing a perimeter warning system by using ropes with flags attached. Surfaces can be slippery when wet or covered with frost. Always work with a friend and never work with your back to the roof's edge. Know and follow OSHA fall protection guidelines.

Care must be taken with fasteners that penetrate a deck to avoid contact with plumbing or electric wiring.

Reroofing over a wet substrate is not good roofing practice. All wet material should be removed.

Condensation may occur when applying Bonding Adhesive at temperatures below 40 degrees when there is high humidity. If droplets of water are noted, discontinue installation until weather conditions improve. At that time reapply a thin coat of adhesive over the old coat of adhesive and continue installation.

Allow adhesives to adequately dry to avoid blistering of membrane. Given time blistering will likely go down and roof will perform

for the long term.

Positive drainage of at least one-eighth inch (1/8") in twelve inches (12") is required for warranty coverage.

Petroleum products such as roof cements and coatings will deteriorate **RUBBERALL®** membrane and should never be used on a **RUBBERALL®** membrane roof.

Warranty terms and conditions are on the final pages of the booklet. Note: **RUBBERALL® adhesives have been tested to insure compatibility with RUBBERALL® membrane. Use of non-RUBBERALL® products will void the membrane warranty.**

RUBBERALL® Tools Needed

The following list is for reference only, as tools and equipment may vary from project to project:

• 2-inch steel or hard rubber hand roller	• Stiff push broom
• 9-inch paint roller frame & several medium nap, solvent compatible roller covers	• Safety glasses and eye cleaning solution
• Caulk gun	• Lumber crayon
• Screw gun and hammer drill	• Hacksaw and blades
• Solvent resistant rubber gloves	• RUBBERALL® Scrub Pad
• Stir stick for adhesives	• Tin Snips
• Scissors & tape measure	• Hammer
• Sand paper for metal drip edge	• Duct tape
• Chalk Line	• Cotton rags
• UL approved can for solvents	• Fire extinguisher
• Utility Knife	• Paper hole punch

RUBBERALL® PRODUCTS AVAILABLE

.045 inch and .060 inch (mil) RUBBERALL® EPDM ROOFING MEMBRANE: Synthetic rubber (ethylene propylene diene monomer) membrane used for flat and low-sloped roofs. .060 inch is recommended for roofing as it is easier to install in a fully adhered application without getting wrinkles in the membrane. **RUBBERALL®** membrane, .045 inch thick, may also be used as a roofing membrane however this thinner gauge membrane is not recommended for the first time installer. **RUBBERALL®** membrane panels come in a variety of sizes: as small as 10' x 25', as large as 40' x 100' and almost any size in between. For your convenience, smaller rolls are folded and rolled on 6' cores. Larger rolls are on 11' cores. Approximate weight of **RUBBERALL®** is 30 lbs. and 40 lbs. per 100 sq. ft. for .045 inch and .060 inch, respectively. **RUBBERALL®** .060-inch membrane has a 30-year warranty while .045 inch has a 20-year warranty. **RUBBERALL®** membrane has many other uses, most notably as a flexible pond lining material.

SOLVENT BASED BONDING ADHESIVE: Used to adhere EPDM membrane to insulations (excluding polystyrene), plywood, OSB, concrete, block or brick. This yellow colored adhesive comes in 1-gallon cans or 5-gallon pails. Average coverage is 60 sq. ft. per gallon. Coverage may increase depending on the porosity of the substrate. Apply *Solvent Based Bonding Adhesive* by rolling to clean, dry, grease free surfaces. Both surfaces to be bonded must be coated with the bonding adhesive. An open time of five to thirty minutes is recommended before assembly depending on ambient conditions. The adhesive should be allowed to dry until it does not stick to a dry finger touch. Avoid prolonged and repeated contact with skin. Shelf life is 1 year when stored at temperature no higher than 90 degrees F in unopened containers.

WATER BASED BONDING ADHESIVE: A user friendly bonding adhesive used to adhere EPDM to a porous rigid board substrate such as plywood or wood fiberboard. *Solvent based Bonding Adhesive* is recommended when using OSB Board. *Water Based Bonding Adhesive* has an advantage over *Solvent Based Bonding Adhesive* as it needs to be applied to only one surface when adhering to plywood and wood fiberboard the **RUBBERALL®** membrane can be laid into the adhesive without waiting for the adhesive to dry.

With this adhesive you can reposition the membrane during installation thus wrinkles are easily eliminated. As the adhesive does not cure for 24 to 48 hours, be careful not to move the membrane when walking on it. This adhesive is applied at a rate of approx. 10 to 12 mils when applied to only one substrate (wet application). When the adhesive is applied to both the membrane and the substrate (similar to solvent based adhesive) coverage is approx. 60 sq ft of roof area. This product should not be used to seam EPDM panels together. Care must be taken to insure this product does not freeze and can only be applied when temperatures are 40 degrees F. and rising and with no chance of temperatures below freezing within the next 48 hours.

Follow all label directions and precautions. Shelf life is approximately 1 year when stored in a warm room with temperature range between 40 and 80 degrees F. **This material should not be allowed to freeze. If the product looks like cottage cheese when opened it should not be used.**

SEAM TAPE PRIMER : A solvent-based primer designed to clean and prime **RUBBERALL®** membrane prior to application of **RUBBERALL®** tape products. **RUBBERALL®** taped products will not adhere, or perform over time, if *Seam Tape Primer* is not used. *Seam Tape Primer* must be applied with a **RUBBER-ALL® Scrub Pad**. **RUBBERALL®** *Seam Tape Primer* is also recommended for use in cleaning membrane surfaces when using *Rubber to Rubber Adhesive* as it enhance the bonding of the membranes as compared to using *Membrane Cleaner*. **RUBBERALL®** *Seam Tape Primer* can be used on galvanized steel, stainless steel, and aluminum/metal drip edge in conjunction with the application of **RUBBERALL®** taped products on these surfaces.

Membrane surfaces must be clean, dry and free of foreign materials. Excessively dirty membrane should be cleaned with **RUBBERALL®** *Membrane Cleaner* and a clean rag. The solids suspended in the *Seam Tape Primer* tend to settle to the bottom of the container and should be thoroughly stirred before use and during use, re-stir frequently (every 15 - 20 minutes). The primer must be used full strength - **DO NOT DILUTE**.

RUBBERALL® *Seam Tape Primer* contains ingredients which could be harmful if mishandled. **It is important to read and follow all label safety instructions.** It is important to store product in original, unopened container, indoors, and out of direct sunlight at tempera-

tures below 80°F. The shelf life is approximately 24 months if stored in original unopened containers at temperatures between 60° and 80°F. ROTATE STOCK.

SEAM TAPE: A butyl tape used to adhere one membrane to another. Available in 3" x 25' rolls and 3" x 100' rolls for roofing applications and also 6" x 100' rolls for landscape/pond lining applications. **RUBBERALL® Seam Tape** has been formulated to provide high initial strength in both sheer and peel. Its performance over the full range of rooftop weather is unsurpassed as it is unaffected by heat or cold. *Seam Tape Primer* must be applied to the membrane surface, with a **RUBBERALL® Scrub Pad**, prior to applying the *Seam Tape*. Roll entire surface with a steel hand roller after mating the surfaces. *Lap Caulk* is not required when using *Seam Tape*. **RUBBERALL® Seam Tape** is a cured material and will not degrade in normal warehouse storage. In time, the release paper may become difficult to remove. For this reason, the recommended shelf life is 12 months.

CURED COVER STRIP WITH TAPE: *Cured Cover Strip with Tape* comes in rolls 5" x 25', 5" X 100' and 6" x 100'. The product is a laminated, cured EPDM membrane and butyl tape rolled on a release paper and used as a "self-sticking" cover strip. *Cured Cover Strip with Tape* is a black EPDM rubber based product developed for use with the **RUBBERALL® EPDM** roofing membrane. *Cured Cover Strip with Tape* is used to cover cuts in the field membrane or over the exposed fasteners attaching metal drip edge. Surfaces should be primed with *Seam Tape Primer* before installation and should be rolled with a steel hand roller after installation. *Cured Cover Strip with Tape* will not degrade in normal warehouse storage. In time, the release paper may become difficult to remove. For this reason, the recommended shelf life is 12 months. *Cured Cover Strip with Tape* is also used to repair membrane if it is damage by falling limbs etc. Be certain to clean the area to be repaired with *Membrane Cleaner* and prime with *Seam Tape Primer* using a **RUBBERALL® Scrub Pad**.

UNCURED FLASHING WITH TAPE: Moldable EPDM membrane is used for flashing details, protrusions, T-Joint patches and field seams with angle changes. Uncured flashing has the same properties as the field sheet. The only difference is it was never put in an oven and cured. Because it is uncured it can be molded into the shape of inside and outside corners, pipe flashings, etc. The heat of the summer sun will

cause the flashing to cure in much the same manner as the field sheet. *Uncured Flashing with Tape* has a self-adhering backing and should be applied using *Seam Tape Primer*. *Uncured Flashing with Tape* comes as "Patches" (10.5" x 13.5") and in rolls (12" x 25' and 6" x 100'). Store in original unopened cartons at temperatures between 60° and 80° F until ready for use. During hot weather, do not expose to sunlight or elevated temperatures until ready for use. **RUBBERALL® *Uncured Flashing with Tape*** will begin to cure even while on the warehouse shelf. For this reason, the recommended shelf life is 12 months. If the flashing has cured while in the warehouse, it will not work as a moldable flashing material, however it may still be used as cured cover strip. In time, the release paper may become difficult to remove. *Uncured Flashing Patches* are packaged 25 patches per box.

MEMBRANE CLEANER: Used to clean EPDM surfaces before using *Rubber to Rubber Adhesive*. Also used to clean Metal Drip Edge prior to installing *Cover Strip with Tape*. Store Membrane Cleaner at room temperature between 60° F and 80° F in the originally sealed explosion-proof container away from all sources of direct heat and ignition. *Membrane Cleaner* is available in one quart and one gallon cans. Keep in well-ventilated area. **RUBBERALL® *Membrane Cleaner*** is extremely flammable and must be kept away from electrical equipment, sparks, open flames and other sources of ignition. Avoid breathing vapors and use only in well-ventilated area. Handle with impervious gloves and goggles.

RUBBER TO RUBBER ADHESIVE: A synthetic based polymer adhesive that is specifically tailored to adhere EPDM sheet roofing stick to itself. ***Rubber to Rubber Adhesive* has long been used for seaming membrane panels. The introduction of tape products for seaming membrane has proven to be more user friendly and superior in long term performance. It is highly recommended that tape products be used where possible.**

For added bond strength it is recommended that **RUBBERALL® *Seam Tape Primer*** be applied with a **RUBBERALL® *Scrub Pad*** in place of the **RUBBERALL® *Membrane Cleaner***. In this case membrane cleaner need not be used unless the membrane is excessively dirty or covered with talc. **RUBBERALL® *Lap Caulk* must be used to seal all seams.**

Coverage rate for a 6" seam, assuming a 7" application on each

surface, is approximately 90 LF per gallon of finished seam. For rubber-to-rubber flashing, coverage is 50 to 60 sq. ft. finished surface per gallon when applying adhesive to both membrane surfaces. Follow all label directions. Cover cans when not in use. When exposed to lower temperatures restore to room temperature prior to use. Thinning is not allowed.

LAP CAULK: Used to caulk exposed edges of rubber to rubber seams, edges of uncured EPDM flashings, top of *Termination Bar* and top of *Pipe Boot Clamps*. Approximate coverage is 25 ft. per 10.3 oz. tube.

WATER CUT-OFF MASTIC: Mastic serves as a compression gasket preventing contaminants from accessing the roof system where the membrane has been mechanically terminated. Mastic is applied between the substrate and membrane prior to installing *Termination Bar* and prior to installing the *Pipe Boot Clamp*. Coverage is approximately 20 ft. per 10.3 oz. tube. Also used as a temporary overnight sealant or water-stop.

TERMINATION BAR: 10' lengths of aluminum bar with holes 6 inches O.C. used to mechanically secure membrane at walls, curbs, chimneys, etc. May be used in lieu of metal drip edge on fascias. All holes in *Termination Bar* must be filled with appropriate fasteners.

PEEL-AND-STICK PIPE BOOT: Multi-size (1" to 6 7/8" diameter), premolded, EPDM boot used to flash pipes. *Peel-and-Stick Pipe Boot* is supplied with tape backing and release paper applied to bottom flange. *Pipe Boot* should be terminated at top with stainless steel *Pipe Boot Clamps*, which are included with the product.

SCREWS (3") AND PLATES: There are 250 each Phillips head drill point black roofing screws and 3 inch plates in each box. Screws and plates are used to install insulation board to the roof deck. The fastening pattern should be one set (screw and plate) to every two sq. ft. of insulation board for the perimeter of roofs and one set to every four sq. ft. of insulation board for the remainder of the roof. See **RUBBERALL®** "Roof Surface Preparation" section in this manual for the proper fastening pattern. **This and other sizes of screws are available.** Assembled screws and plates are also available, by special order.

SCRUB PAD: This is a specially designed pad and handle that is used to roughen the membrane surface and apply *Seam Tape Primer* without the user coming in contact with the primer. Its use is highly recommended.

STEEL HAND ROLLER: This is a specially designed hand roller that is of sufficient weight to roll seams without tiring the user. Its use is highly recommended.

RUBBERALL® WALKWAY PADS: These are 30" x 30" skid resistant, molded EPDM pads that can be adhered to the membrane in much the same manner as laying tile. These pads come with a peel and stick tape for ease of installation. They are used in high traffic areas and are often used for walk out decks to protect the **RUBBER-ALL®** membrane.

New RUBBERALL® Products are being added on a regular basis to enhance your roofing experience. Ask your dealer for a current list of RUBBERALL® Products.

ROOF SURFACE PREPARATION

RUBBERALL® roof membrane will adhere to certain isocyanurate insulation boards compatible with **RUBBERALL®** adhesives. **Solvent based adhesive will melt the polystyrene. Water based adhesive will not adhere to polystyrene.** The roof membrane will also adhere to plywood, OSB (Oriented Strand Board), and one-half inch (1/2") high-density wood fiberboard and concrete. Polystyrene insulation may not be adhered directly to rubber membrane. If polystyrene insulation is used, cover insulation with one-half inch (1/2") high-density wood fiberboard. Butt all insulation boards together, staggering all of the joints. All spaces larger than one-quarter of an inch must be filled to provide a uniform, smooth surface.

Screws and deck plates shall be applied at the minimum rate of eight (8) per 4 ft. x 8 ft. sheet of insulation, and five (5) per 4 ft. x 4 ft. sheet or as required by the insulation manufacturer. When installing insulation around the perimeter, the fastening pattern is one (1) screw and one (1) deck plate every two (2) square feet (that is sixteen fasteners per 4 ft. x 8 ft. sheet). Examples of fastening patterns are shown in Figure 1. **NOTE:** Extra fasteners should be

installed around protrusions such as pipes, chimneys, skylights and irregularities in the roof deck.

Do not install more insulation than can be covered with **RUBBERALL®** membrane by the end of the day.

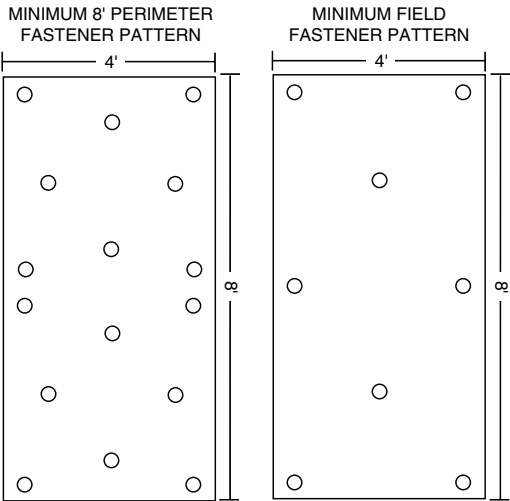
Reroofing over a wet substrate is not good roofing practice. All wet material should be removed and replaced.

The roof surface must be dry. Moisture will cause poor membrane adhesion and blistering.

The roof surface should be swept to remove dirt, dust and other loose particles.

Good roofing practice dictates that the roof surface must have positive drainage of at least 1/8 inch in 12 inches.

Figure 1 — Fastening Pattern

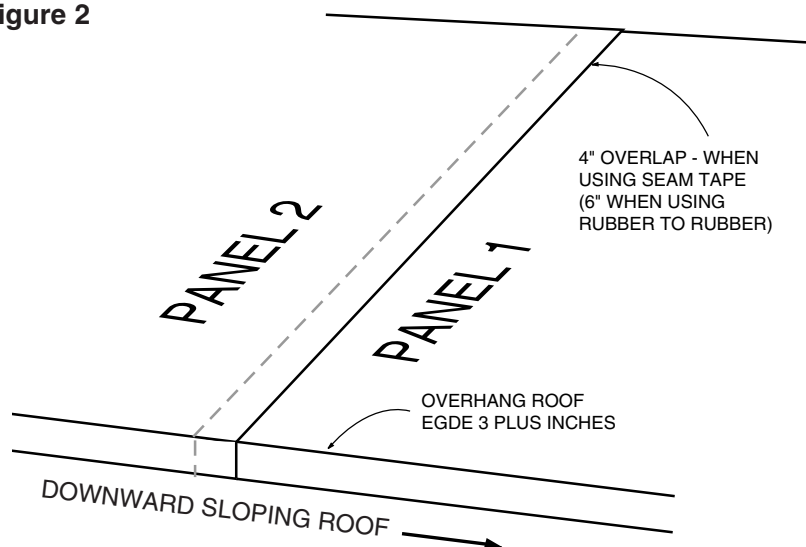


LAYING OUT RUBBERALL® EPDM MEMBRANE

Unroll the **RUBBERALL®** EPDM membrane over the substrate so that the sheet is in the desired position and is wrinkle free. If more

than one sheet of membrane is required always place the first sheet of membrane at the low point on the roof. Subsequent sheets would over lap the prior sheet at least 4" if using *seam tape*, 6" if using *rubber to rubber adhesive*, moving up the roof. Care should be taken to insure membrane overhangs perimeter of the roof at least three inches (3").

Figure 2

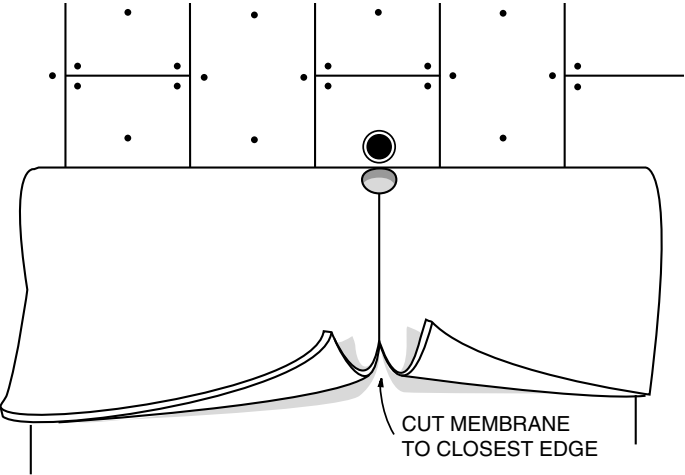


Allow the **RUBBERALL®** membrane to relax. Depending on weather conditions, this could take from fifteen (15) to thirty (30) minutes. Use strips of duct tape on upper edge of membrane to keep the membrane from moving.

PIPE PENETRATIONS

When laying out the field sheets and a pipe is encountered, roll the folded membrane to the pipe. Be sure to maintain the proper alignment of the sheet with the roof edge, wall, and seams. Make a straight cut from the pipe to the nearest edge of the field sheet. Cut a hole to match the diameter of the pipe and roll the field sheet around the pipe. Check the final position of the sheet, making certain the membrane does not bridge up the pipe.

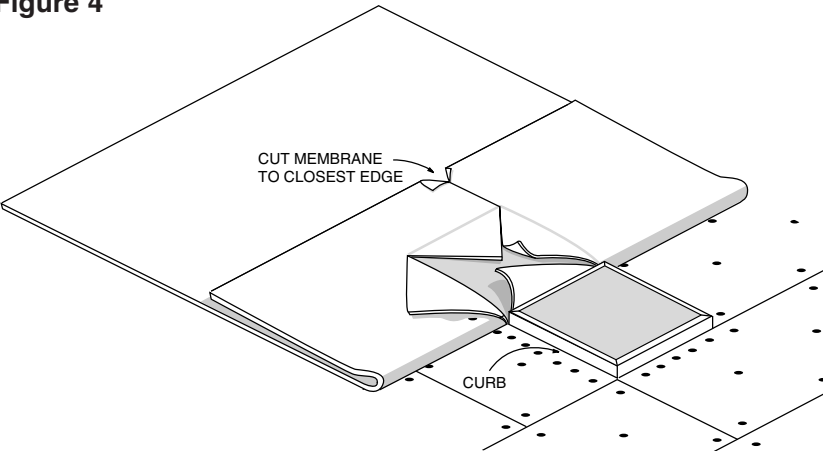
Figure 3



PROTRUSION IN THE ROOF

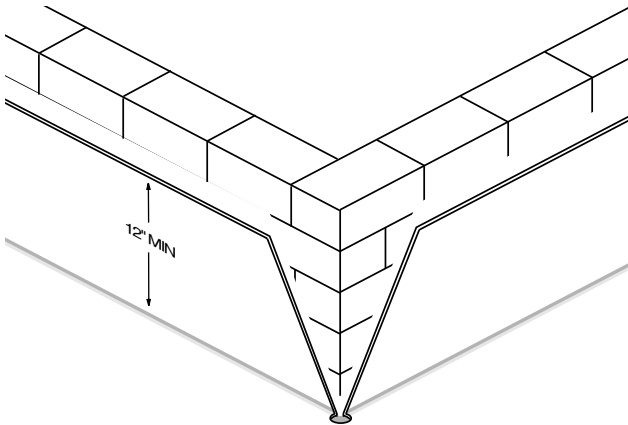
When laying out the field sheet and a curb (chimney, skylight, etc.) is encountered, unroll the folded membrane up to the curb while maintaining proper sheet alignment with walls, perimeter edges and other protrusions.

Figure 4



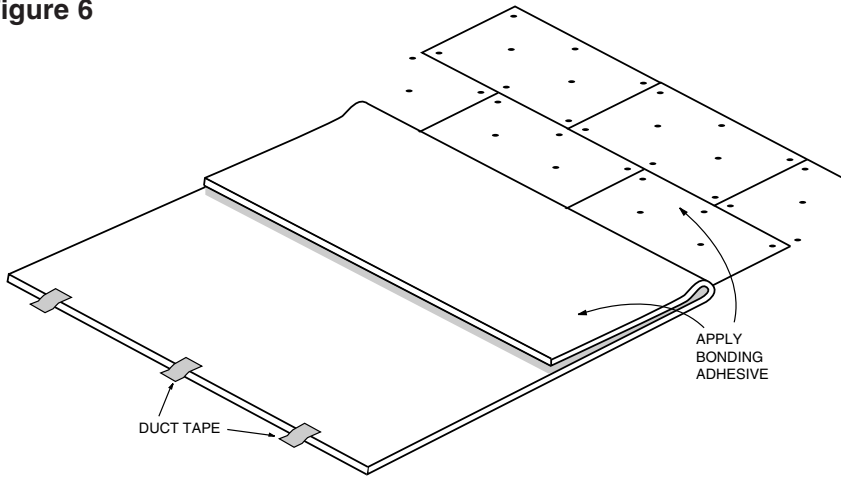
Measure the width and depth of the unit and transfer the corresponding dimensions onto the folded membrane. Draw an X inside the box. Cut the X mark and from one corner cut a straight line to the nearest edge of the membrane. Roll the membrane around the unit, leaving a triangle of membrane turning up all four (4) sides. Using a standard paper punch or scissors, punch or cut a round hole at every angle change of the membrane at the outside corners. (This will prevent the cut in the membrane from continuing.) After all cuts are made and the membrane has been correctly positioned, fold the membrane back and begin bonding procedures. After the field membrane is complete, bond the triangles up the sides of the unit (chimney, skylight, etc.). Take care to bond the membrane into the angle change so that the membrane is completely adhered. Membrane should travel up the wall at least twelve inches (12") or to the top of the opening if it is less than twelve inches (12").

Figure 5



ADHERING MEMBRANE WITH SOLVENT BASED BONDING ADHESIVE

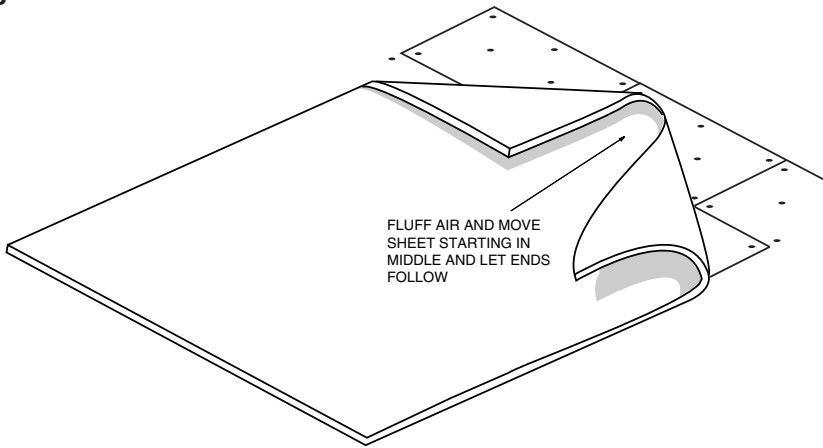
Fold the sheet onto itself so that one-half (1/2) of the sheet is exposed. Take care to avoid wrinkles.

Figure 6

Open and thoroughly stir the *Solvent Based Bonding Adhesive* (available in either 1 or 5 gallon containers). Using a solvent accepting paint roller, apply the *Solvent Based Bonding Adhesive* to the substrate and the EPDM sheet at a rate of sixty (60) square feet per gallon. The adhesive must be applied to 100% of both surfaces in an even coat without glops or puddles. Allow the adhesive to dry to the finger touch of tacky but not stringy. If membrane is adhered to the substrate before the adhesive has dried, blisters will form under the membrane. If smaller blisters appear, they will normally disappear after a few days without causing the membrane to loosen from the substrate over time.

Fluff air under the top half of the sheet and roll the sheet onto the glued substrate. **It is important to roll from the middle of the sheet first, followed by the ends (shown in Figure 7).** DO NOT let the ends of the sheet roll ahead of the middle. This will cause wrinkles. With a stiff broom, broom the fully adhered portion of the sheet to the substrate to insure 100% adhesion. DO NOT apply enough pressure to cause the **RUBBERALL®** EPDM to wrinkle.

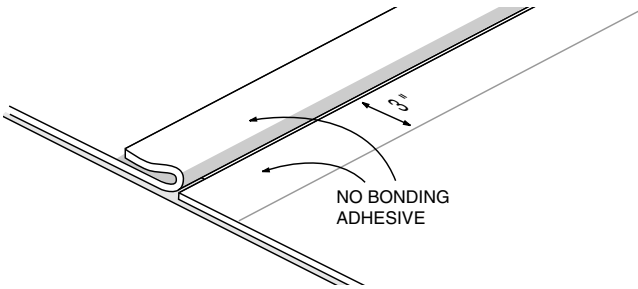
Remove the duct tape from the upper half of the membrane panel. Fold back the remaining unglued portion of the sheet and repeat the process.

Figure 7

If installing more than one sheet, always work up the roof so that water flows over and not against the lapping edges. Allow the next sheet to over lap the one already installed by three inches (3"). Use duct tape to hold this sheet in place. Again lay the sheet back halfway and apply *Bonding Adhesive* to both surfaces and proceed as you did with the first sheet.

NOTE: DO NOT APPLY BONDING ADHESIVE TO SEAM AREAS (see Figure 8). THUS NO BONDING ADHESIVE SHOULD BE APPLIED TO THE RUBBER ALREADY INSTALLED AS WELL AS NO *BONDING ADHESIVE* SHOULD BE APPLIED TO THE THREE INCH (3") OR (6") OVER LAP ON THE SUBSEQUENT SHEET. *SEAM TAPE PRIMER WITH SEAM TAPE* IS RECOMMENDED WHEN SEAMING MEMBRANE TO MEMBRANE.

Hint: If bonding adhesive is in area to be seamed, apply duct tape to adhesive. Roll with hand roller. Peel off duck tape. If any adhesive remains, repeat process.

Figure 8

ADHERING MEMBRANE WITH WATER BASED BONDING ADHESIVE

RUBBERALL® EPDM *Water Based Bonding Adhesive* is to be used only for bonding **RUBBERALL® Membrane and Flashing** to underlying roof surfaces, i.e. decking or insulation, walls, penetrations, etc. **RUBBERALL® Water Based Bonding Adhesive** is not to be used for field seaming of **RUBBERALL® Membrane or Flashing**. The application of this adhesive should be as follows:

- Apply adhesive at temperatures of 40°F (4°C) and rising with no chance of freezing in the next 48 hr.

Application to Non-Porous Surfaces Horizontal Surfaces (isocyanurate insulation) and Vertical Walls

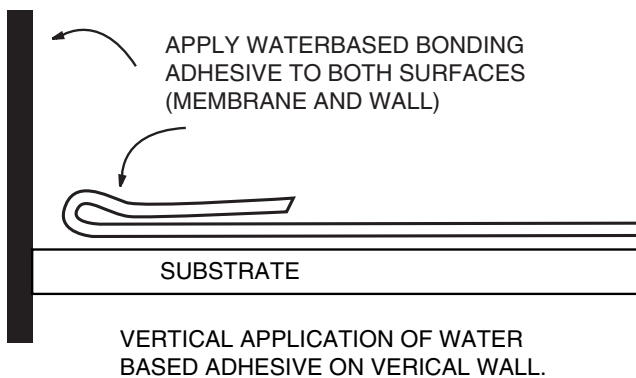
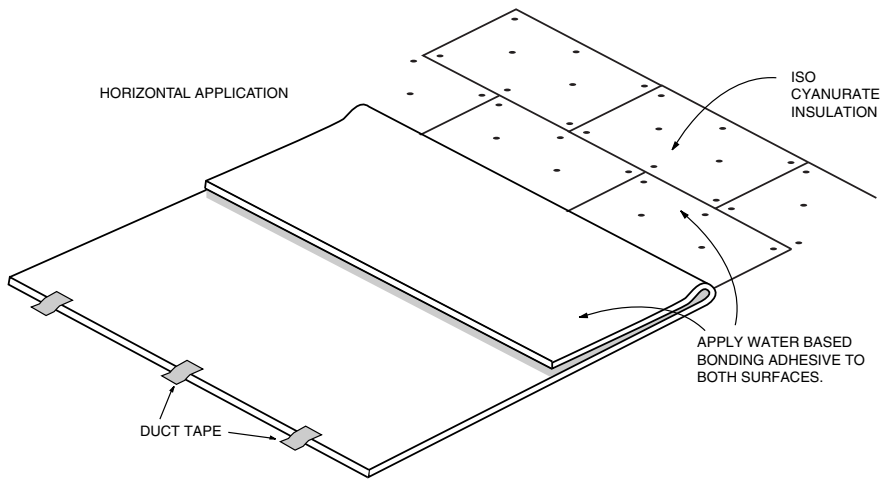
Figure 9

Figure 10

Fold the membrane back so that half of the sheet is exposed. Apply 5-6 mils of adhesive to **both** surfaces and allow it to turn transparent and it is dry to a finger touch. The membrane can then be folded over the insulation or up the wall. Broom or squeegee the membrane surface to insure intimate contact of the membrane to the substrate. Coverage rate is approximately 100-120 sq. ft. per gallon per surface (60 sq ft per gallon for total roof area), but may vary depending on job site conditions. Remove Water Based Bonding Adhesive from seam area with damp cloth.

Application to One Porous Horizontal Surface (Wet Application) (fiber board, gypsum board, plywood, OSB)

Fold the membrane back so that half of the sheet is exposed. Apply 10 to 12 mils of adhesive to the porous substrate only with a roller. Immediately lay the membrane into the adhesive while wet. If the adhesive has turned transparent, a thin coat of adhesive must be applied to the membrane. Laminating onto one surface while the adhesive is wet will allow for some repositioning of the membrane prior to the adhesive taking a set. Immediately broom or squeegee the membrane after it is laid into the adhesive to insure intimate contact. Coverage rate is approximately 60 to 100 sq. ft/gallon but may vary depending on job conditions. Remove Water Based Bonding Adhesive from seam area with damp cloth.

Figure 11

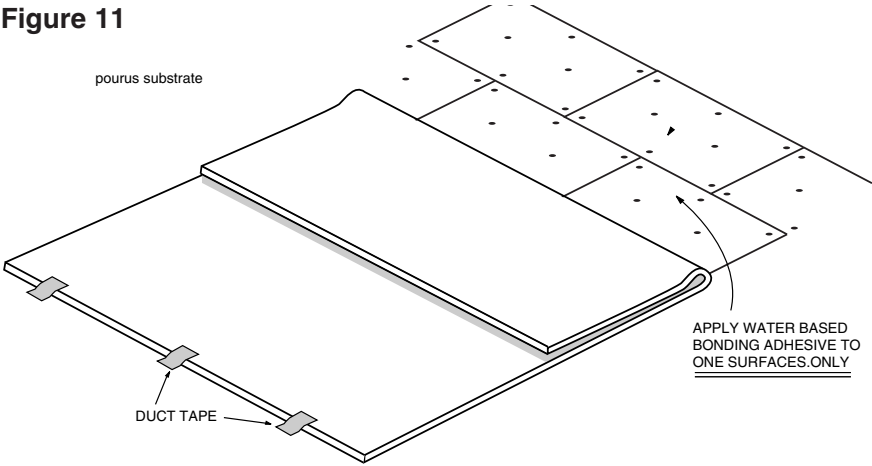


Figure 12

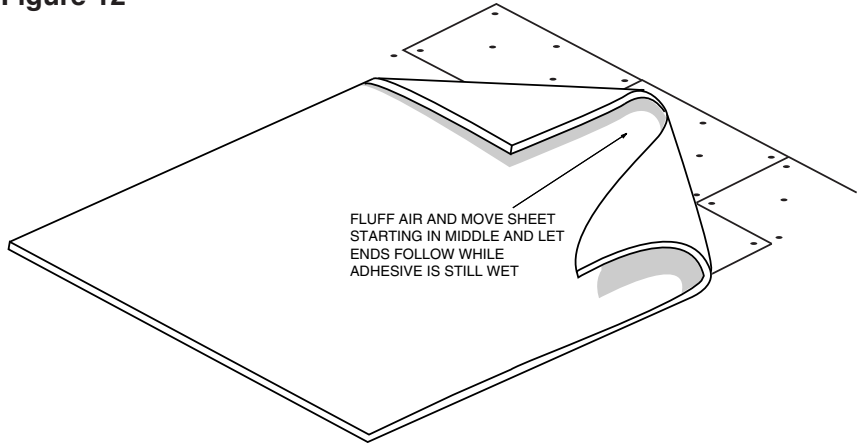
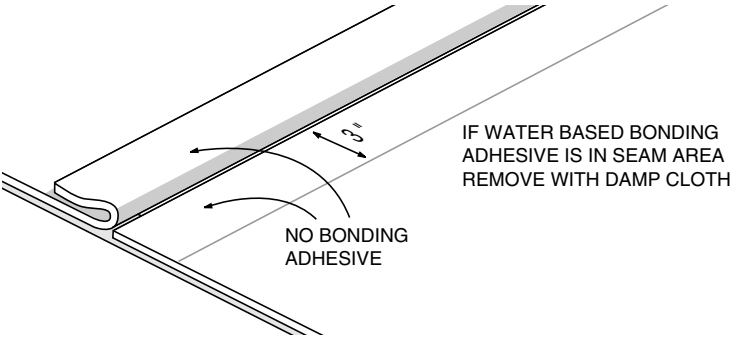


Figure 13



SEAMING MEMBRANE PANELS WITH SEAM TAPE

After adhering the membrane sheets so that the width of the seam is the width of the seam tape used, remove excess chalk from a chalk line by snapping the line into the air and then chalk a line one-half inch (1/2") from the leading seam edge. (shown in Figure 14a). Fold the top sheet back to expose the seam area. (HINT: A small piece of seam tape that is tacky on both sides is useful to tack the membrane back.) If the EPDM membrane is contaminated with dirt, dust or debris, clean the seam area with *Membrane Cleaner* on a cotton cloth before applying *Seam Tape Primer*. Using the *Scrub Pad*, apply the *Seam Tape Primer* to the area using back and forth strokes with moderate pressure until the seam surface attains a smooth black appearance. Apply the *Seam Tape Primer* past the seam edge to the chalk line. Allow the primer to dry. (shown in Figure 14b).

If Solvent Based Bonding Adhesive is in area to be seamed, apply duct tape to adhesive covered membrane area and roll with hand roller. Peel off duct tape. If adhesive remains repeat process. If is in area to be seamed, remove with damp cloth.

Seam Tape comes in rolls of 3" x 25' and 3" x 100'.

Figure 14a

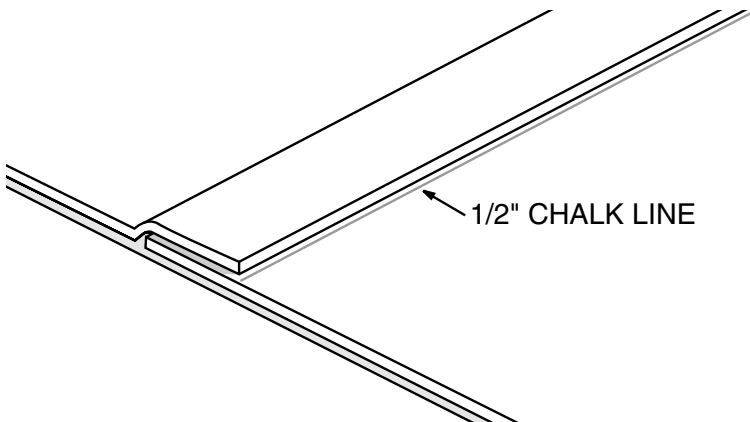
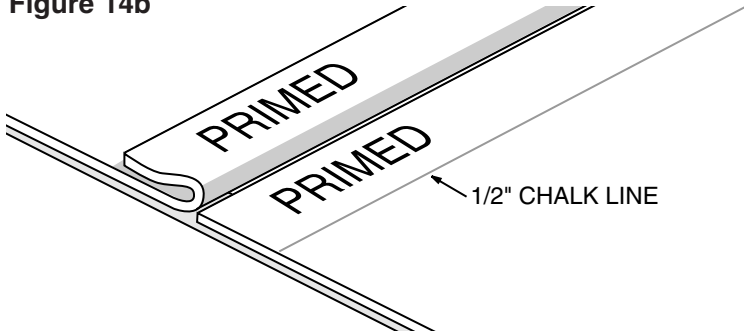
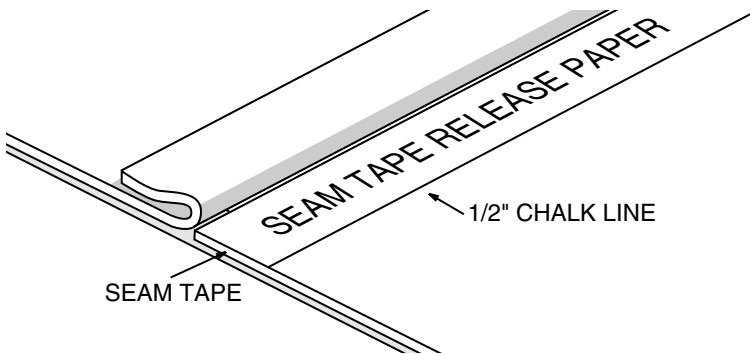
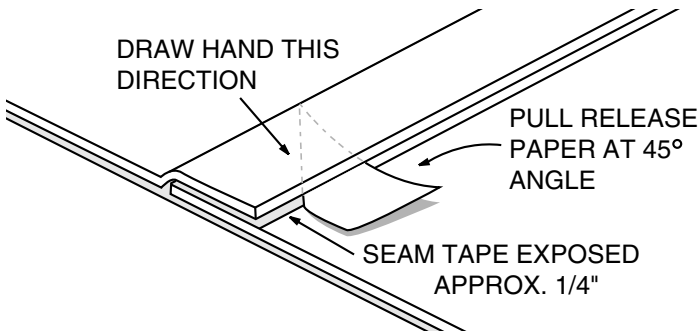


Figure 14b**Figure 14c****Figure 14d**

Unroll the *Seam Tape* along the length of the seam, tape side down, aligning the *Seam Tape* paper with the chalk line. Using moderate pressure, draw the *Scrub Pad* or roller along the *Seam Tape* release paper. This will set the *Seam Tape* into place and keep air from being trapped under the tape. Fold the top membrane onto the *Seam Tape* release paper (shown in Figure 14c).

Reaching under the top ply of membrane, pull the release paper away from the *Seam Tape* at a 45-degree angle to the seam (figure 14d). While removing the paper, draw your hand across the seam, from the back to the leading edge. This will prevent wrinkles and fish mouths from forming in the seam. After the paper is removed, roll the entire length of the seam with a steel hand roller -- first, across the seam, and then the length of the seam.

IMPORTANT! If the *Seam Tape* does not visibly extend beyond the leading seam edge, the edge (figure 14d) should be cleaned with *Membrane Cleaner* and caulked with *Lap Caulk*.

NOTE: When splicing *Seam Tape*, overlap each piece a minimum of one inch (1") and firmly roll with a steel hand roller.

SPLICING AND SEAMING WITH RUBBER TO RUBBER ADHESIVE (SEAM TAPE IS RECOMMENDED WHERE POSSIBLE)

Rubber to Rubber Adhesive is primarily recommended for use in completing roof details such as "pigs ears" at inside corners.

Fold the top ply of the seam back to expose the six inch (6") area to be seamed. Remove any bonding adhesive as noted in prior section. Using a clean cotton rag, clean both surfaces at the splice area with *Membrane Cleaner* at a maximum rate of two hundred (200) lineal feet per gallon. Be sure to clean a minimum of one inch (1") past the leading edge of the finished seam.

When cleaning the seam area, change the rags frequently. DO NOT ALLOW THE RAGS TO BECOME LOADED WITH TALC OR OTHER CONTAMINANTS FROM THE MEMBRANE.

WARNING: MEMBRANE CLEANER IS EXTREMELY FLAMMABLE!! USE UL APPROVED CONTAINERS.

Figure 15a

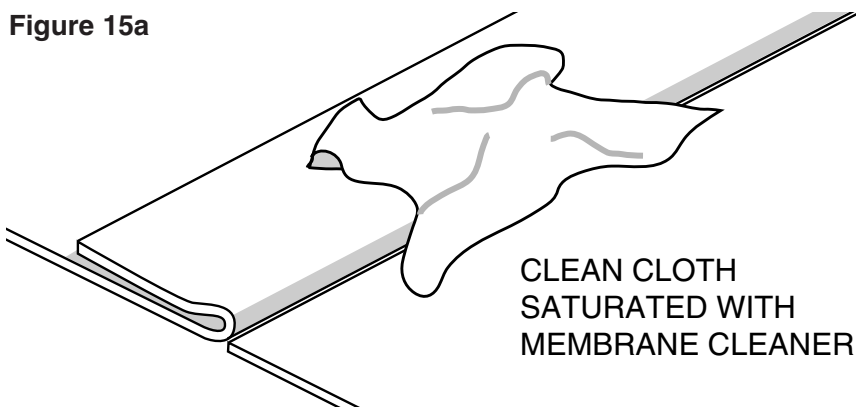


Figure 15b

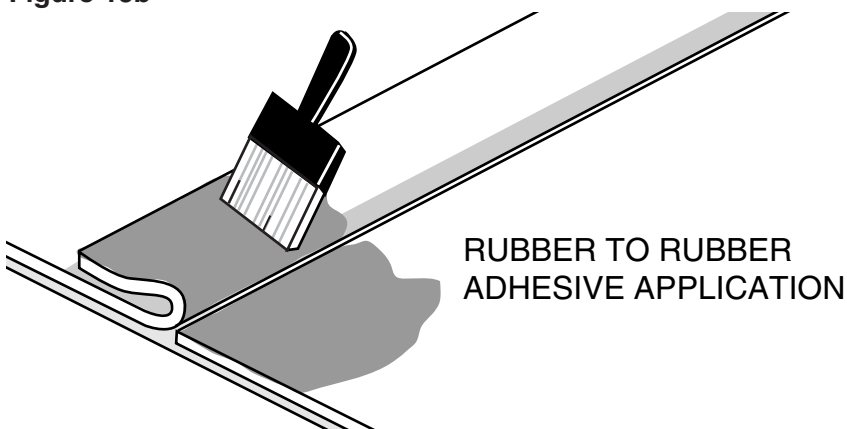
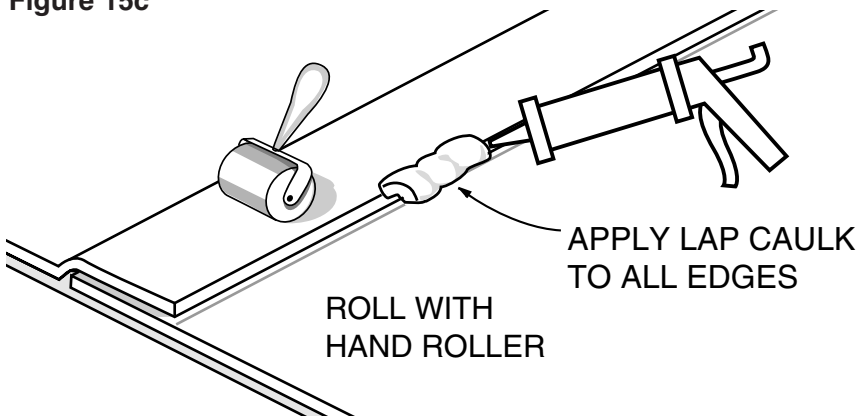


Figure 15c



RUBBERALL® *Rubber to Rubber Adhesive* should be applied at a maximum rate of one hundred-thirty to one hundred-forty (130 – 140) lineal feet per gallon (8 – 10 mils thick when dry). Allow the *Rubber to Rubber Adhesive* to dry to the finger touch (tacky not stringy).

IMPORTANT: WHEN CLEANING AND APPLYING RUBBER TO RUBBER ADHESIVE TO THE SEAM AREA, BE SURE TO EXTEND BOTH PROCEDURES PAST THE LEADING EDGE OF THE FINISHED SEAM.

Starting in the middle of the seam, fold the top ply onto the bottom ply, working from the middle to the ends of the seam. Make sure to avoid wrinkles and fish mouths. Using a steel hand roller, roll the entire length of the seam from the middle toward the ends of the seam, then rolling parallel with the seam.

Clean the seam edge with **RUBBERALL®** *Membrane Cleaner* and apply a one-quarter (1/4") bead of *Lap Caulk* centered over the seam edge. Make sure the caulk covers both the upper and lower parts of the seam membrane.

Note: Applying **RUBBERALL®** *Lap Caulk* should be the last application procedure. It is advisable to wait at least 4 hours after completing the seaming procedure before applying *Lap Caulk*. Applying Lap Caulk before the seams cure might cause the seam edge to distort and pucker.

ALTERNATIVE PANEL LAYOUT AND SEAMING

THE FOLLOWING SEAMING TECHNIQUE IS ACCEPTABLE FOR ONLY FULLY ADHERED ROOFS.

Lay roof panels out with at least a 2" overlap. Fully adhere roof as instructed earlier. After the roof is adhered, use a straight edge and utility knife to cut through both layers of membrane in the area where the panels are overlapped. (See Figure 15d) Remove the end cuts from both panels. This procedure creates a perfect **butt splice** in the same manner as a wall paper hanger would.

Using a **RUBBERALL® Scrub Pad** and *Seam Tape Primer* prime an area 4" on either side of the **butt splice**. Center **RUBBERALL® 6" Cured Cover With Tape** over the butt splice and unroll while removing the backing paper. (See Figure 15e) Roll the cover strip with a steel hand roller, first rolling the length of the seam and then across the seam.

Figure 15d

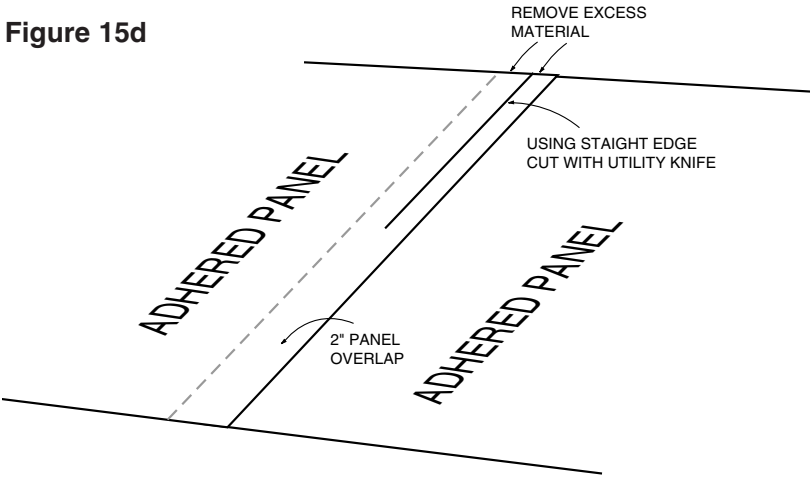
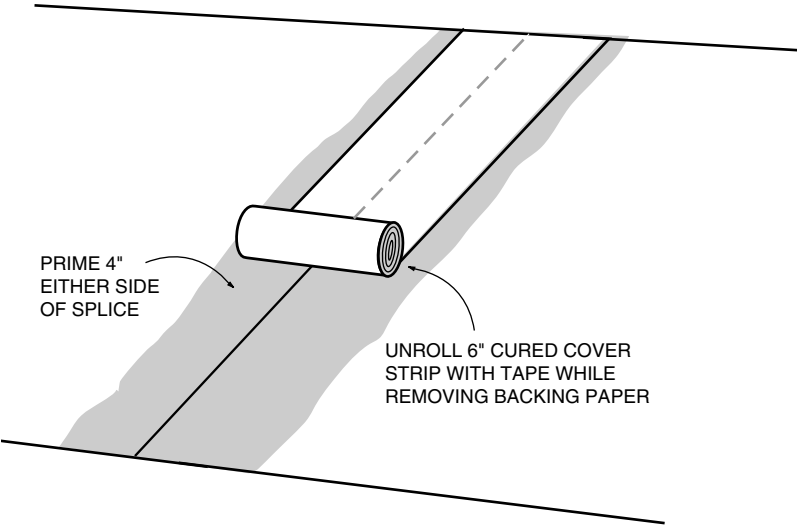


Figure 15e

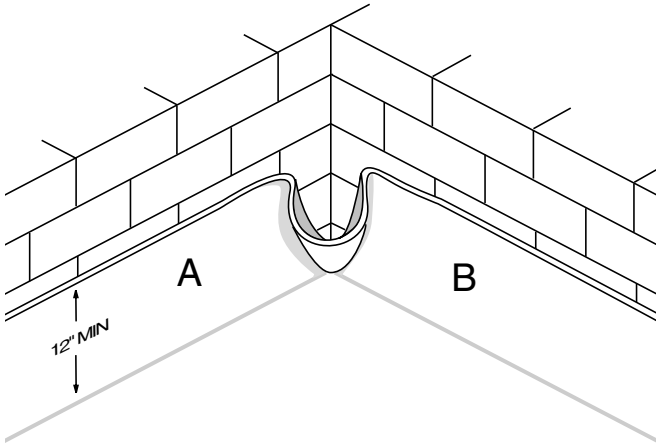


PERIMETER WALLS & INSIDE CORNERS

Adhere the field sheet to the substrate until the membrane reaches the wall. *Apply Bonding Adhesive* to the folded membrane and the wall area. Starting at the base or angle change between the corner and opposite end of each wall, begin to roll the EPDM sheet up and along the wall to form a wall flashing. Roll the excess EPDM material towards the corner. Take care to thoroughly adhere the membrane into the angle change before rolling the membrane up the walls. Broom or hand rub the flashings to ensure 100% adhesion.

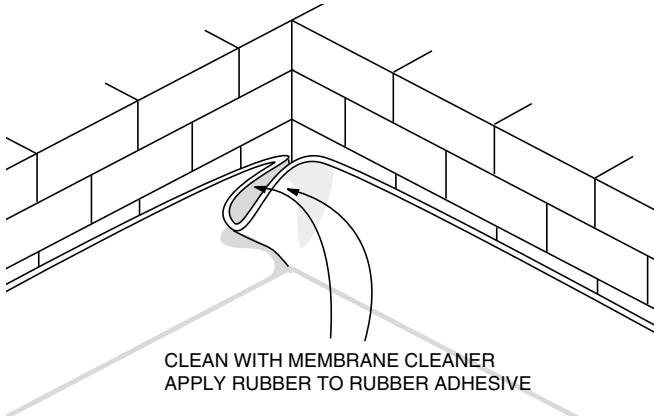
NOTE: Wall Flashings should extend a minimum of twelve inches (12") above the roof deck (shown in Figure 16).

Figure 16



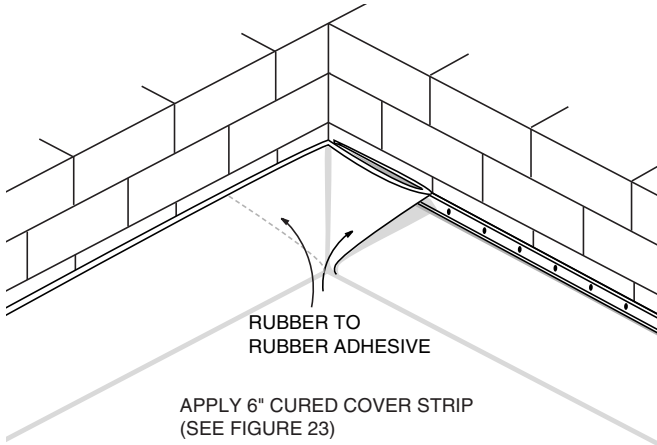
When one side is flashed in, (A), begin the other side, (B). When both walls are flashed in, all excess material should form a pocket in the corner.

Clean the inside and outside of the pocket with *Membrane Cleaner* and apply *Rubber to Rubber Adhesive* to both sides of the pocket. (shown in Figure 17). Allow the adhesive to dry to the finger touch as tacky, not stringy.

Figure 17

Note: It is important to adhere the wall flashing on each side of the corner as tightly into the corner as possible.

Starting at the base of the inside corner pocket, press the two glued surfaces together. Following standard seaming procedures adhere the pocket to either wall (shown in Figure 12). Install a 6" *Cured Cover Strip with Tape* extending from the bottom of the pocket fold to the top, as shown in Figure 23.

Figure 18

OUTSIDE CORNER FINISH DETAIL

1. Prior to installing any flashings, use the **RUBBERALL® Scrub Pad** and apply *Seam Tape Primer* to all areas to be flashed. Cut *Uncured Flashing with Tape* six inches (6") wide by eight inches (8") long. Cut the corners round to prevent inadvertent peeling. After the *Primer* has dried, fold one end of the flashing two inches (2") from the end. Place the membrane against the vertical surface so that half the flashing is on either side of the corner. Fold the flashing around the corner and adhere to the vertical surface. The flashing should extend two inches (2") onto the roof deck, and six inches (6") up the vertical.

Figure 19 a

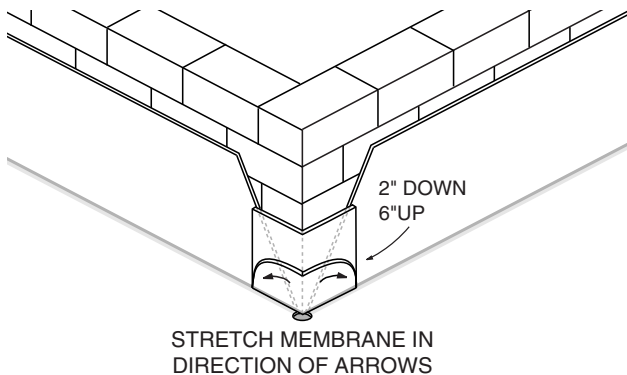


Figure 19 b

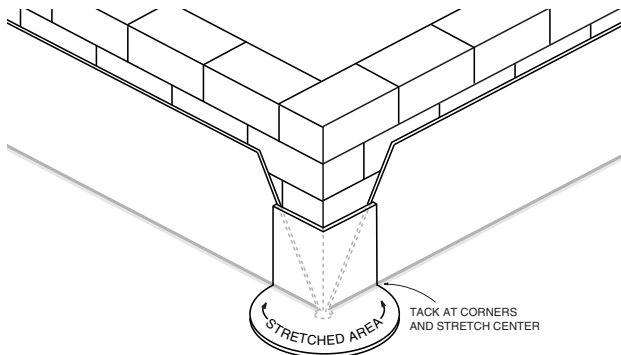
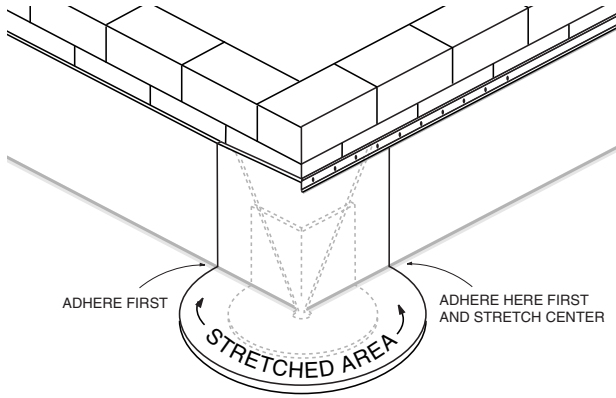


Figure 19 c

Uncured Flashing with Tape comes in *Patches* (10.5" x 13.5") and rolls (12" x 25' or 6" x 100').

2. Adhere the flashing at each corner and stretch the middle of the flashing away from corner as the flashing is mated to the field membrane.

IMPORTANT: All stretching should be done in the middle of the flashing.

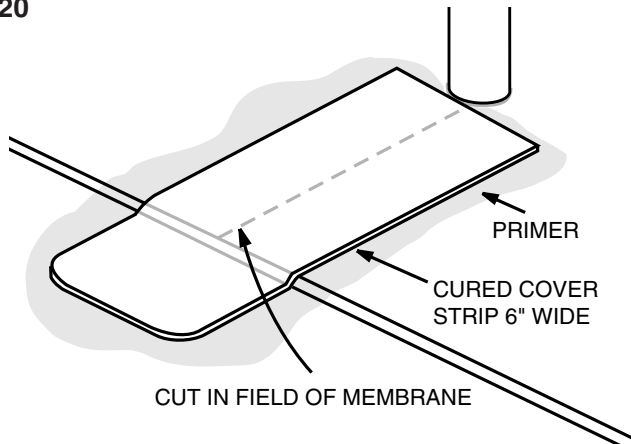
3. The second layer of *Uncured Flashing with Tape* should be installed following the same flashing procedures as the first, but using 10.5" x 13.5" *Uncured Flashing with Tape* (see Figure 19c). This flashing should extend onto the roof a minimum of four inches (4") and up the vertical wall a minimum of eight inches (8").
4. If it is necessary to add flashing membrane to attain a taller flashing detail, cut field membrane the desired dimensions and adhere the new membrane over the previously installed membrane and flashing details using *Rubber to Rubber Adhesive*.

IMPORTANT: ALWAYS EXTEND THE NEW FLASHINGS ABOVE ANY EXISTING MEMBRANES OR FLASHING MATERIALS.

COVER STRIP

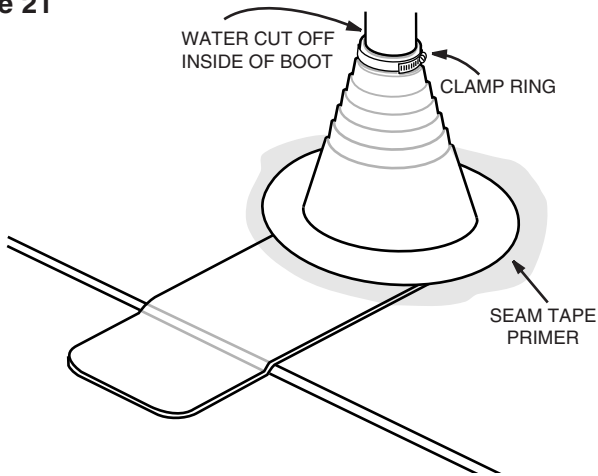
Where a protrusion in the roof, such as a pipe or curb opening, was encountered while installing the **RUBBERALL®** membrane; the membrane was cut to the nearest edge to allow easy layout of the membrane. After the field sheet has been glued and broomed into place, apply a six inch (6") wide *Cured Cover Strip* over the entire cut in the field sheet from the pipe to the end of the sheet, prior to pipe boot installation.

Figure 20



PEEL AND STICK PIPE BOOT

1. Select the proper size of *Multi-Diameter Peel and Stick Pipe Boot* and cut the pipe boot above the thick index ring. **DO NOT CUT DIAGONALLY THRU THE INDEX RING.** The pipe boot should fit snugly over the pipe.
2. Install the pipe boot over the pipe and turn the boot inside out exposing the bottom of the boot flange. Apply *Seam Tape Primer* at least ten inches (10") in all directions from the pipe. Remove seam tape release paper from the pipe boot. Pull the pipe boot down and adhere it to the field membrane (shown in Figure 15). Roll adhesive area with a steel roller.
3. Pull the top of the pipe boot back and apply *Water Cut-Off Mastic* between the pipe and boot. Bring the boot back into position and remove any excess *Water Cut-Off Mastic*. Install a stainless steel adjustable clamp ring over the pipe boot. Apply *Lap Caulk* around the top of the boot.

Figure 21

PIPE OR CONDUIT FLASHINGS USING UNCURED FLASHING WITH TAPE

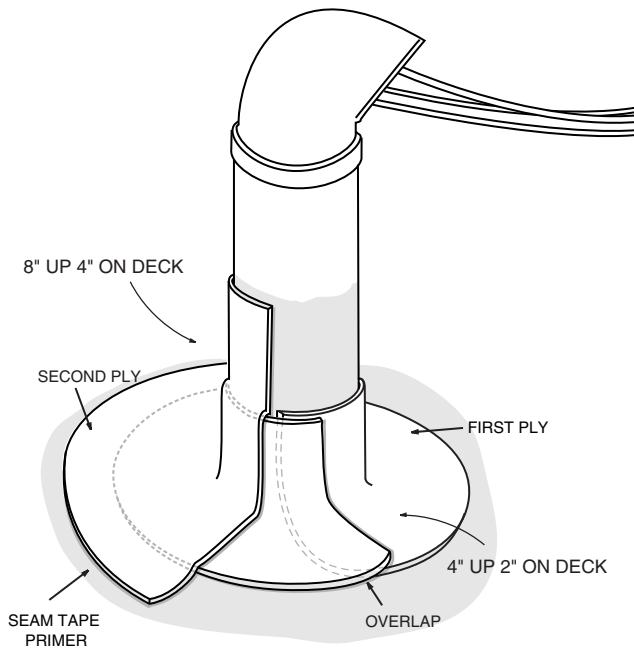
When a pipe or conduit is encountered that cannot be flashed with a *Peel and Stick Pipe Boot*, the protrusion must be flashed using 2-plys of *Uncured Flashing with Tape*.

1. Make sure to clean the protrusion and remove any loose flashings. Using the *Scrub Pad*, apply *Seam Tape Primer* around the protrusion.
2. Cutting from *Uncured Flashing with Tape*, install a six inch (6") wide piece extending four inches (4") up the protrusion and two inches (2") onto the roof deck. Wrap the entire protrusion, allowing a two inch (2") overlap of each flashing. Use as many pieces as necessary to flash the pipe.
3. After the first ply is completed, install the second ply using twelve inches (12") of *Uncured Flashing with Tape*. Wrap the protrusion with eight inches (8") of *Uncured Flashing with Tape* extending up the protrusion, and four inches (4") onto the roof deck. Make sure to stagger the end laps of the *Uncured Flashing with Tape* so that one lap is not directly over another. Using as many pieces as necessary to complete the flashing detail.

NOTE: It is recommended to extend the flashings above the roof deck a minimum of eight inches (8"). Wrap the entire protrusion with another ply of *Uncured Flashing with Tape* to attain the desired height. Make sure to overlap the top of the prior ply a minimum of two inches (2").

Always extend the new EPDM flashings above any old flashings that may remain on the protrusion. Clean and apply Lap Caulk to the flashings. **DO NOT** install a *Pipe Boot Clamp* over *Uncured Flashing with Tape*.

Figure 22



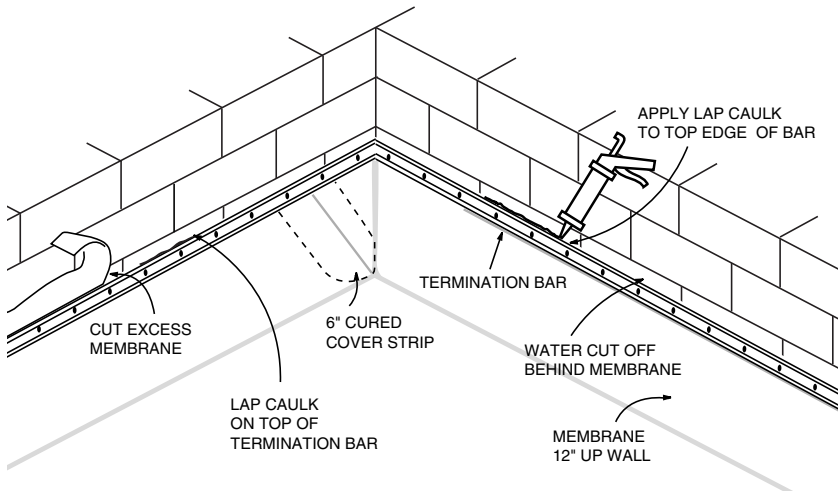
WALL TERMINATION

Always extend the membrane up the wall a minimum of twelve inches (12"). When using wood shakes, or other siding materials, a Termination *Bar* is not required if the siding material is brought down at least eight inches (8") below the top of the EPDM sheet. All siding must be kept a minimum of four inches (4") above the roof deck.

Determine the height of the finished wall flashing (12" height or less if job conditions won't allow for full 12") and the placement of the aluminum **RUBBERALL®** Termination *Bar*. Chalk a line at this level. Peel the top of the wall flashing from the wall to chalk line and apply a heavy bead of *Water Cut-Off Mastic* between the EPDM and wall. The mastic should be applied so that the final position of the Termination *Bar* will be directly over the *Water Cut-Off Mastic*.

Fasten the Termination *Bar* with nylon/metal anchor pins, or aluminum sheet metal screws. Install a fastener in every pre-drilled hole. Remove excess membrane that extends above the Termination *Bar* and apply Lap Caulk to the top of the *Bar*.

Figure 23



Termination bar comes in ten foot (10') lengths.

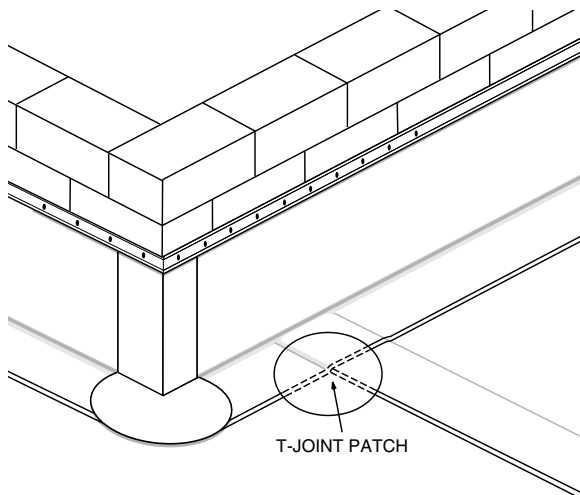
T-JOINTS

A *T-Joint* is formed when two sheets of cured EPDM form a seam that travels under, or over, a third ply. The center of the "T" is where the middle sheet ends and the top sheet bridges over the middle sheet. This *T-Joint* can provide opportunity for water to seep under the membrane. To avoid problems at this area, a *T-Joint* patch should be installed as follows:

1. Clean the membrane with Membrane Cleaner.
2. Prime area at least four inches (4") in all directions from the *T-Joint*.
3. Cut a piece of *Uncured Flashing with Tape* 3" larger than the T-Joint(s) and round corners. A single *T-Joint* patch can be made large enough to accommodate more than one T-Joint, as shown in Figure 24 b.
4. Remove backing, place over *T-Joint* and roll with hand roller.

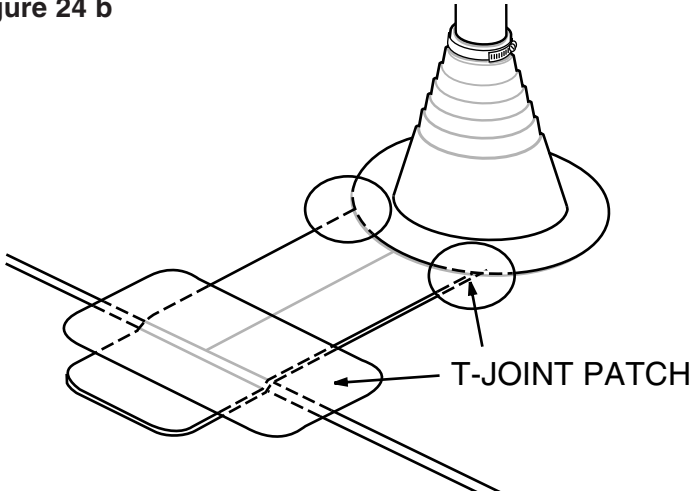
Figure 24 — AREAS WHERE T-JOINT PATCHES ARE REQUIRED:

Figure 24 a



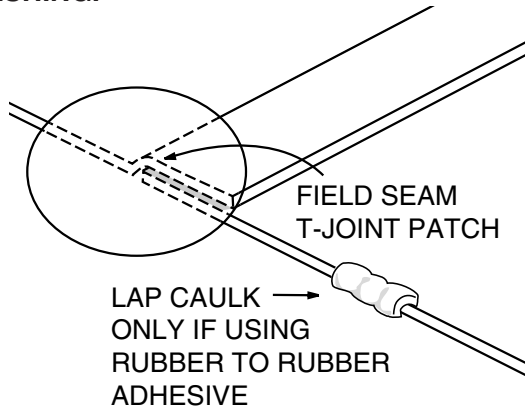
WHERE A FIELD SEAM TRAVELS UNDER A WALL FLASHING.

Figure 24 b



WHERE A COVER STRIP TRAVELS UNDER A PIPE BOOT OR OTHER FLASHING.

Figure 24 c



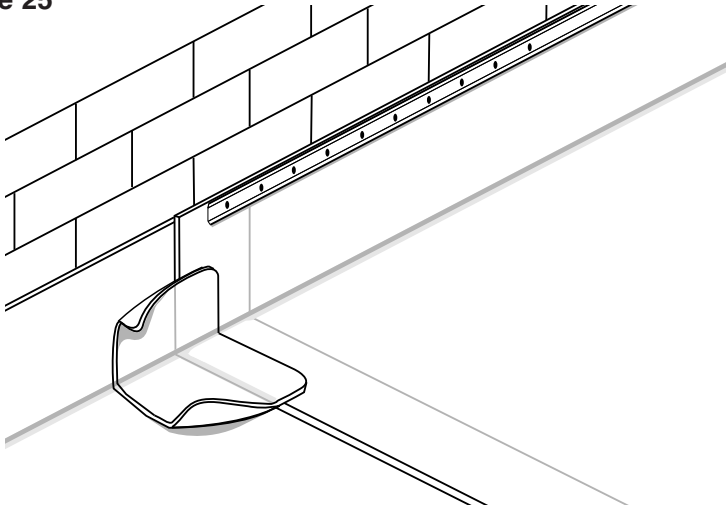
WHERE A HORIZONTAL SEAM WILL LAP OVER, OR TRAVERSE A VERTICAL SEAM.

IMPORTANT: ONLY UNCURED FLASHING WITH TAPE, CUT TO SIZE, IS USED FOR T-JOINT PATCH. ALL T-JOINT PATCHES SHOULD BE THOROUGHLY ROLLED WITH A STEEL HAND ROLLER.

FIELD SEAM RADICAL BEND

Where a field seam makes a radical bend (turns up a wall or down over a perimeter edge), a six-inch (6") wide by twelve inch (12") long piece of *Uncured Flashing with Tape* is to be adhered over the seam. Round the corners of the *Uncured Flashing with Tape* to prevent accidental peeling. Following standard flashing procedures, install the flashing so that half of the flashing is on either side of the radical bend.

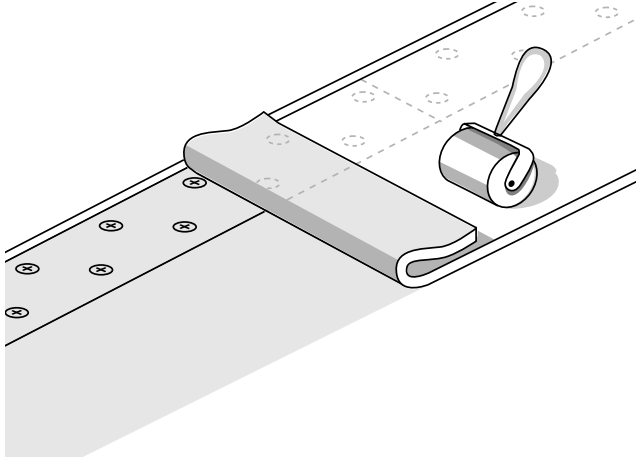
Figure 25



ROOF EDGE TERMINATION WITH METAL DRIP EDGE

Fully adhere the membrane over the roof edge. Allow the membrane to extend past the previous roofline and nail it every four inches (4') on center.

Prior to installing the metal drip edge, sand the metal with sandpaper. Install using galvanized deck screws or galvanized ring shank nails every six inches (6") on center.

Figure 26

Using *Membrane Cleaner* and a clean cotton cloth, clean the metal and the membrane to be seamed. Using a **RUBBERALL® Scrub Pad**, apply the primer to the metal and field membrane using back and forth motions the entire length of the metal edge. To ensure 100% adhesion, always apply the primer to an area that is **WIDER** than the *Cured Cover Strip with Tape*. After the *Seam Tape Primer* has flashed off, install the *Cured Cover Strip with Tape* one-half inch (1/2") in from the outside edge of the metal drip edge. Roll the entire cover strip with a small hand roller.

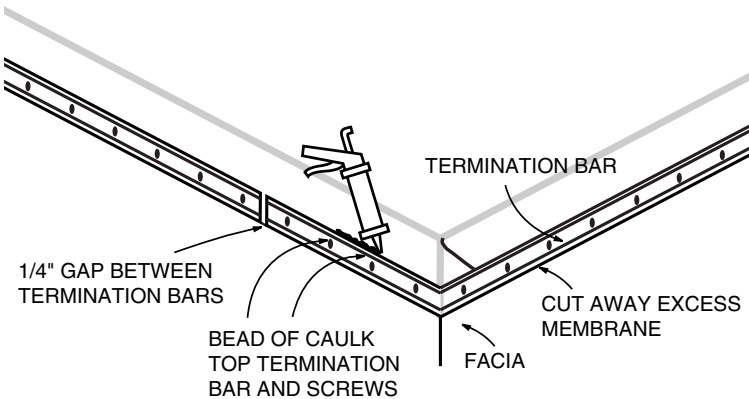
When splicing two pieces of *Cured Cover Strip with Tape*, allow for a minimum lap of four inches (4"). After properly rolling the entire *Cover Strip*, install a six inch (6") *Uncured Flashing with Tape* over any T-Joints.

TERMINATING RUBBERALL® ON FASCIA

Bring **RUBBERALL®** membrane over edge of roof approximately 4". Where membrane wraps an inside or out side corner, create a flap and tack to one side of the fascia with a roofing nail. Using **RUB-BERALL® Termination Bar** in 10' lengths and an appropriate length **RUBBERALL® Screw**, secure the *Termination Bar* with a screw in every hole. Leave a 1/4" gap between *Termination Bars* for expansion.

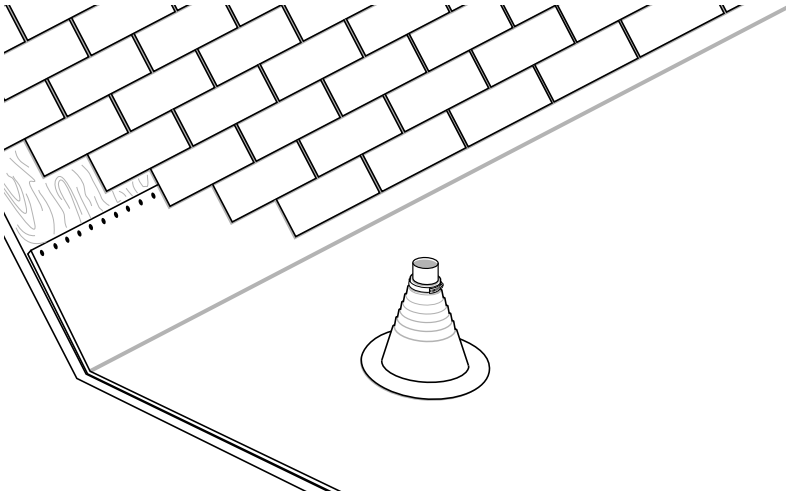
Termination Bar can easily be bent around an outside corner. With a utility knife cut excess membrane from the bottom side of the *Termination Bar*. Apply a bead of *Lap Caulk* to the top of the *Termination Bar*. It is also advisable to put a spot of *Lap Caulk* over each screw to prevent water from penetrating around screw and rotting fascia.

Figure 27



RUBBERALL® MEMBRANE TO SHINGLE TRANSITION

When installing an EPDM membrane system with a tie-in to an existing shingle roof, remove a minimum of three (3) courses of shingles. Adhere the membrane onto the sloped roof deck. Peel the top of the EPDM membrane back and apply a bead of *Water Cut-Off Mastic* between the membrane and the deck. Nail the top of the membrane every six inches (6") and install the shingles over the EPDM membrane.

Figure 28

Keep the bottom course of shingles a minimum of four inches (4") above the roof angle change. To adhere the bottom course of loose shingle tabs to the membrane, lift each tab and apply a one-inch (1") long bead of *Lap Caulk*.

ONE PIECE DRAIN SLEEVE

Drain Sleeve Inserts are used when the existing drain does not have a clamping ring assembly, or cannot be taken up, properly cleaned and incorporated into the new roofing system.

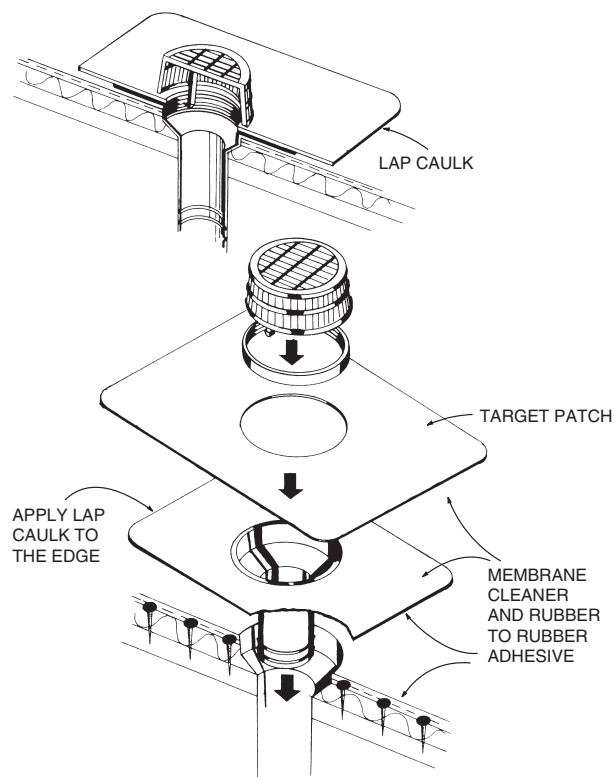
NOTE: Before beginning the reroof project, thoroughly clean the existing drain. Do not allow debris to clog the drain pipe. The new *Drain Sleeve* Insert should be lower than the new roof system surface.

Install the field membrane over the drain. Cut a circle the size of the *Drain Sleeve Pipe* directly over the existing drain. Following standard seaming procedures, clean the field membrane and *Drain Sleeve Insert* with *Membrane Cleaner*. Apply *Rubber to Rubber Adhesive* to the field membrane and the bottom of the drain inserts. After the adhesives have flashed off, apply a heavy bead of *Water Cut-Off Mastic* above each back up ring and at the angle change of the drain bowl and insert the drain sleeve into the existing drain. If it

is necessary to mechanically fasten the *Drain Sleeve*, use the proper length deck screws with two inch (2") or three inch (3") plates. After the *Drain Sleeve Insert* has been installed, using standard seaming procedures, install a "target patch" to extend six inches (6") on all sides, past the edge of the *Drain Sleeve Insert*. Cut the target hole one-half inch (1/2") larger than the strainer securement ring.

Clean all seam edges with *Membrane Cleaner* and apply a one-quarter inch (1/4") bead of *Lap Caulk*. Insert the strainer ring into the drain bowl and install the strainer.

Figure 29



DRAINS WITH CLAMPING RINGS

If the existing drain has a clamping ring assembly, remove the strainer, clamping ring bolts and clamping ring. Clean the drain bowl, clamping ring flange and clamping ring. Do not allow debris to clog drain pipe.

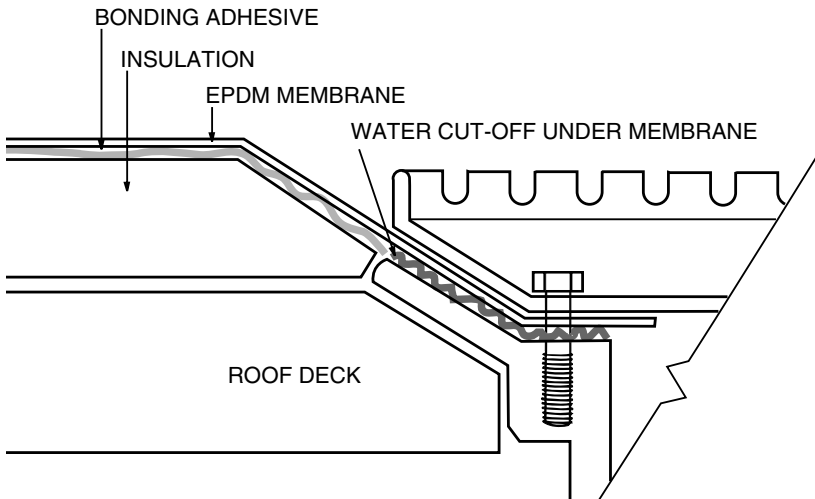
Install the field membrane over the drain. To determine where to cut the hole, place the drain clamping ring over the membrane onto the

clamping ring flange. Allow the membrane to extend one inch (1") past the clamping ring.

After the membrane has been cut, lift the membrane and apply several heavy beads of *Water Cut-Off Mastic* to the clamping ring flange. It is recommended to use a minimum of one-half (1/2) tube per drain.

Align the clamping ring over the membrane and punch holes where necessary to install the clamping ring bolts. Do not cut the membrane back to the bolts. Secure the clamping ring and install the strainer.

Figure 30



PITCH POCKETS

When installing a metal *Pitch Pocket* on a reroof project, always install a wooden nailer around the protrusion. The nailer should be wider than the base flange of the *Pitch Pocket*, and the same thickness as the retrofit or insulation board. Remove any foam insulation wrap to a point above the *Pourable Sealer* line. To ensure the *Pourable Sealer* will adhere to the protrusions, clean and apply *Rubber to Rubber Adhesive* to the protrusion, extending above the *Pourable Sealer* line.

Adhere the membrane up to and around the protrusion. Apply a bead of *Water Cut-Off Mastic* to the bottom of the *Pitch Pocket* and secure the pocket to the nailer.

Flash-in the *Pitch Pocket* using *Cured and Uncured* membrane/flash-ing, adhering the material past the top of the Pitch Pocket into the inside of the Pocket. Thoroughly mix the Pourable Sealer and fill the Pitch Pocket. Allow for slope of the Pourable Sealer from the protru-sion to the *Pitch Pocket*.

Figure 31a – New Construction

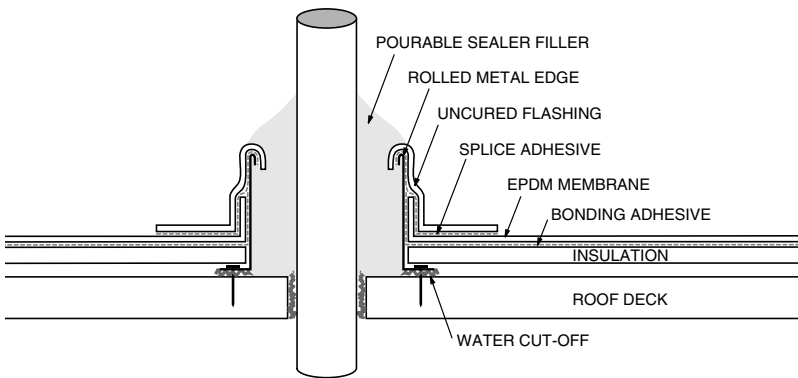
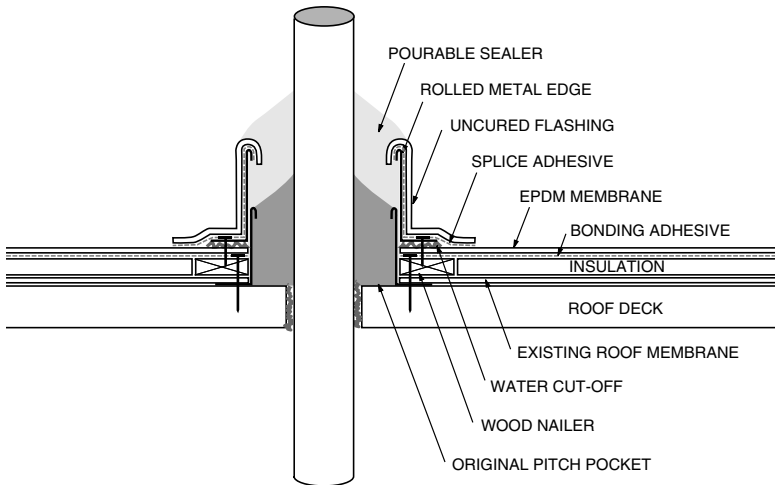


Figure 31b – Reroof



PROTECTING RUBBERALL® MEMBRANE IN HIGH FOOT TRAFFIC AREAS (DECKS)

IMPORTANT -- THE EPDM MEMBRANE IS NOT DESIGNED AS A FINAL WALKING SURFACE AND SHOULD BE PROTECTED FROM EXCESSIVE FOOT TRAFFIC. THE FOLLOWING ARE OPTIONS TO BE CONSIDERED:

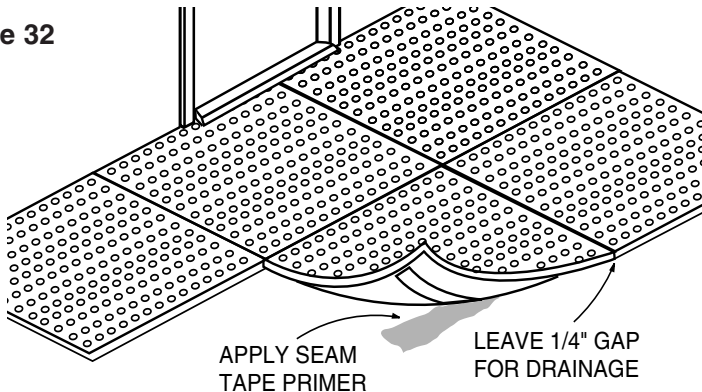
Covering With RUBBERALL® Walkway Pads

RUBBERALL® *Walkway Pads* (Peel & Stick) are 30" x 30" skid resistant, molded EPDM pads that can be adhered to the membrane in much the same manner as laying tile:

- Clean the membrane with **RUBBERALL® Membrane Cleaner** if it is heavily soiled.
- Lay the pad in place and mark the area where the membrane will contact the tape. Leave 1/4" gap between pads for drainage.
- Remove the walkway pad and apply **RUBBERALL® Seam Tape Primer** to the area where the tape will contact the membrane using a **RUBBERALL® Scrub Pad**.
- Peel the backing paper from the tape and place the pad into position. Apply heavy hand pressure or use a linoleum roller to insure the tape is secure to the membrane.

You may also use rubber to rubber adhesive over the entire RUBBERALL® *Walkway Pad and* membrane to fully adhere. Refer back to section on rubber to rubber adhesion for more information.

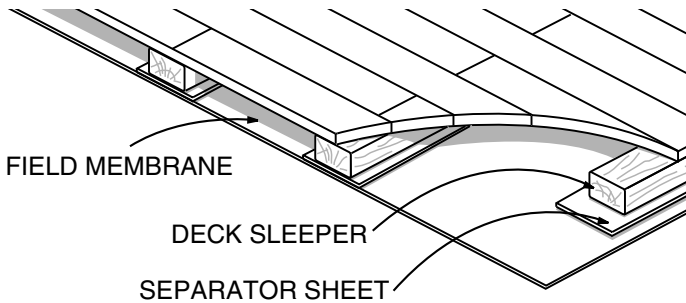
Figure 32



Covering With Wood Deck

When installing a wood deck over an EPDM membrane, the deck sleepers should be laid over an extra piece of membrane called a separator sheet. The separator sheet should extend a minimum of two inches (2") past the sleeper on all sides and should be adhered with *Seam Tape*.

Figure 33



DO NOT attach the sleepers through the membrane. The deck should be secured at a sidewall, post, or perimeter area.

Covering With Exterior Grade Carpet

When attaching an outdoor carpet, use any exterior grade adhesive and install according to carpet manufacturer's instructions.

REPAIR OF RUBBERALL® MEMBRANE

If your **RUBBERALL®** membrane is punctured, repairs can be made easily by:

1. Clean membrane with *Membrane Cleaner*
2. Prime area with *Seam Tape Primer* using **RUBBERALL® Scrub Pad** at least four inches (4") in all directions from puncture.
3. After the primer has flashed off, cut a piece of *Cured Cover Strip with Tape* 3" larger than the puncture and round corners. Remove backing and place over puncture.
4. Roll with hand roller.

APPLICATION REVIEW

1. SUBSTRATE

- a. Plywood, OSB or high-density wood fiberboard
- b. Concrete or brick.
- c. Insulation boards - all **but** polystyrene insulation.

2. INSULATION

- a. Insulation joints are butted together with no gaps.
- b. Correct fastener pattern and quantity used.
- c. 100% adhesion of the membrane to the substrate.

3. FIELD SEAMS

- a. *Seam Tape Primer* should be visible past the leading edge of the field seams (over scrub).
- b. There are no wrinkles, voids or fish mouths in any portion of the field seams.
- c. All angle changes in the field seams are flashed over with one ply of six inch (6") wide by twelve inch (12") long *Uncured Flashing with Tape*.
- d. *Seam Tape* should extend past leading edge of seam. If not use *Lap Caulk at seam edge*.

4. FLASHING DETAILS

- a. No bridging occurring in the *Uncured Flashing with Tape* at any angle changes.
- b. Two plies of *Uncured Flashing with Tape* are applied on all outside corners, pipes (when not using a *Pipe Boot*) and stacks.
- c. One ply of *Uncured Flashing with Tape* applied at all *T-Joints* field seam angle changes and over inside corner folds.
- d. *Seam Tape Primer* is visible past leading edge of flashing (over scrub).

5. TERMINATION BAR

- a. *Apply Water Cut-Off Mastic* behind membrane prior to installing the *Termination Bar*.
 - b. Install fastener in every hole and maintain a one-fourth inch (1/4") space between bars.
 - c. *Termination Bar* installed on parapet walls a minimum of twelve inches (12") above the roof deck.
 - d. *Lap Caulk* applied over top of *Termination Bar*.
-

6. PENETRATIONS

- a. *Uncured Flashing with Tape* is applied in two layers a minimum of eight inches (8") above the roof deck.
- b. *Peel and Stick Pipe Boots* have *Water Cut-Off Mastic* applied between the pipe and boot, are terminated with a *Pipe Boot Clamp* and are caulked with *Lap Caulk*.

7. METAL EDGING

- a. Metal Edge is prepped (cleaned and sanded), and of sufficient gauge and adequately fastened to withstand wind uplift.
- b. Properly stripped in using six inch (6") wide *Cured Cover Strip with Tape*. *Cover Strip with Tape* should extend a minimum of two inches (2") beyond any fastener.

8. OVERALL APPEARANCE

- a. *Termination Bars* are level.
- b. Seam widths are uniform and completely rolled in.
- c. All trash or debris is removed from job site.

OVERALL APPEARANCE IS VERY IMPORTANT.

FREQUENTLY ASKED QUESTIONS

Q - Why do bubbles or wrinkles form after the membrane is adhered?

A - Solvents in the adhesives, which are not allowed to "flash off" or evaporate, cause distortions or bubbles. The wet adhesive distresses the membrane causing wrinkles. Depending on the substrate and the amount of wet adhesive, bubbles or distortions in the membrane will eventually be absorbed by the membrane and disappear.

Q - Can the adhesive dry too long?

A - Yes. After the adhesive is applied and has flashed off, the surfaces should be mated together. Allowing the prepared surfaces to remain open longer than necessary risks contamination from dust and debris. Also, high temperatures as well as falling cool temperatures and moisture can affect the performance of the adhesives if the prepared surfaces are left open too long.

Q - Can I put a deck over an EPDM roof?

A - Yes. See Figure 32 and 33 in this manual.

Q - Can I install outdoor carpet over a RUBBERALL® EPDM roof?

A - Yes. The best method is to fully adhere the carpet using an exterior grade carpet adhesive to the deck on the sleepers.

Q - Can I adhere EPDM to concrete or wood?

A - Yes. Both substrates should be free of splinters, burrs, loose fasteners, sharp edges, dust and debris.

Q - Are there warranties for residential applications?

A - Yes. Water Tight Technologies will furnish free Membrane Warranties for all registered installations using .060" and .045" **RUBBERALL®** membrane provided all accessories (adhesives, seam tape, etc.) are **RUBBERALL®**. Warranty duration is 30 and 20 years for .060" and .045" respectively.

Q - What temperature is too cold for a successful installation?

A - Adhesives perform best at temperatures over + 40 degrees Fahrenheit. Below +40 degrees it is best to install only on full sun days with low air moisture content. Application may only be possible during the middle part of the day when the temperature is stable and humidity is lowest. Rule of thumb. . . .If it is comfortable to work, you can adhere **RUBBERALL®**. It just takes longer for the adhesive to flash off.

Q - Can I use RUBBERALL® EPDM below grade?

A - Yes. **RUBBERALL®** can be used below grade as a waterproofing membrane on basement walls, water retention ponds and earth homes. It is important that the substrate be free of burrs and sharp edges that could puncture the membrane. Earth homes and side-walls should have a barrier board between the membrane and the backfill.

Q - Is RUBBERALL® Membrane safe to use in ponds with aquatic life?

A - Yes. **RUBBERALL®** membrane has been tested and has proven to be "Suitable for Aquatic Life".

Q - Can I install EPDM over smooth surface asphalt or shingle roofs?

A - Installing EPDM over old smooth surface asphalt or shingles is not recommended. The adhesives used to adhere the membrane will

activate "dead" asphalt and not bond properly. A retrofit or insulation board should be installed over the old substrate.

Q - When I adhered the membrane, several wrinkles occurred. Will the wrinkles affect the roof?

A -Although wrinkles are unsightly, unless they traverse a seam, they will not leak. Large wrinkles can be cut out and patched. Small wrinkles might be absorbed into the membrane as it goes through several expansion/contraction cycles. Any wrinkles that migrate through a seam must be removed and repaired.

Q - When should I use .045" and when should I use .060" RUBBERALL® membrane?

A - .060" membrane is recommended for roofing applications primarily for ease of installation. .045" membrane as a roofing membrane should only be used by the experienced installer. Inexperienced installers will find that they encounter wrinkles when adhering the membrane. Cutting these wrinkles out take time and leaves a less pleasing roof appearance.

The .045" EPDM membrane is the product of choice for water retention ponds, below grade waterproofing and also for many other uses around the home.

GLOSSARY

BONDING ADHESIVE: RUBBERALL® *Bonding Adhesive* used to adhere the field sheet to substrate, walls and curbs. It should be thoroughly stirred before using. Adhesives can be either *Solvent Based* or *Water Based Bonding Adhesives*.

BRIDGING: Occurs when the membrane is unsupported at a juncture or angle change. Moisture condensing on the bottom of the membrane can cause further delamination. Areas where bridging occurs should be repaired and re-flashed.

CURED COVER STRIP: Six inch (6") wide cured EPDM membrane with butyl tape laminated to one side. Used when stripping in metal drip edge, repairing cuts in the field membrane or flashing that requires cured membrane.

DECK PLATES AND SCREWS: Used to mechanically attach the insulation board to the roof deck.

EPDM MEMBRANE: RUBBERALL® cured field sheet membrane applied to roof decks, walls and flashings. Available in variety of widths and lengths.

FISH MOUTH: A wrinkle is formed when an increasing amount of membrane is forced onto an area too small to accommodate the material. When the wrinkle ends at the edge of the material, a conical opening is formed called a Fish Mouth. Wrinkles and Fish Mouths in seams are not acceptable. They must be removed and flashed in.

FLASH OFF: Allowing the solvents in the adhesives or primer to evaporate, leaving the material in a tacky, not wet or stringy condition, before mating the two surfaces together. If the proper Flash Off time is not allowed, blisters will form in the membrane. Blisters will not harm the membrane and over time, will usually disappear.

LAP CAULK: Applied at the top of all *Termination Bar* applications; at the top of *Pipe Boots* after the *Pipe Boot Clamp* has been installed and to adhere shingle tabs to **RUBBERALL®** membrane. Lap Caulk must be used when *Rubber to Rubber Adhesive* is used to bond two pieces of membrane.

MEMBRANE CLEANER: Used for cleaning metal drip edge after it has been sanded, prior to applying *Rubber to Rubber Adhesive*; cleaning seam edges prior to applying *Lap Caulk*; cleaning excessively dirty membrane; splicing membrane or inside and outside corner details.

METAL DRIP EDGE: Used to create a finished appearance and prevent water from running down the surface of fascias and walls. *Metal Drip Edge* is made from painted aluminum and galvanized or painted steel and is available at local building material outlets.

PIPE BOOT: Pre-molded EPDM boot with tape: The best and most cost effective way to flash pipes.

PIPE BOOT CLAMP: Stainless steel clamp used to secure the top of the pipe to the Pipe Boot.

SEAM TAPE: Butyl tape used to splice two layers of membrane into a watertight seam. Available in a three-inch (3") and six-inch (6") widths.

SEAM TAPE PRIMER: Solvent based primer used to clean and prime EPDM membrane before applying *Seam Tape* or any cured or uncured tape backed membrane. It is applied using a *Scrub Pad*. DO NOT APPLY PRIMER DIRECTLY TO TAPE. Primer is only applied to surfaces being prepared to accept tape products. *Seam Tape Primer* enhances the strength of membrane bonds using *Rubber to Rubber Adhesive*.

SUBSTRATE: The surface on which the membrane is applied (brick, concrete block, high-density wood fiberboard, plywood, OSB, isocyanurate insulation). NOTE: Membrane should not be adhered directly to asphalt roofing, shingles or polystyrene insulation.

T-JOINT: A T-Joint is formed when two sheets of cured EPDM form a seam that travels under, or over, a third ply. The center of the "T" is where the middle sheet ends and the top sheet bridges over the middle sheet.

TARGET PATCH: A piece of membrane used to flash over a roof jack or pipe. A Target Patch is always larger than the object it is flashing in, and is a cured membrane. **NOTE:** Do not apply membrane directly to gas furnace stacks.

TERMINATION BAR: Extruded aluminum bar used to terminate the membrane at parapet walls, chimneys, skylights and AC curbs. It is also used to terminate membrane fascia when no metal drip edge is used. The proper fastener should be installed in every hole and a one-quarter inch (1/4") space maintained between bars.

UNCURED FLASHING WITH TAPE: EPDM membrane that is not cured (meaning it was not put in oven and baked in the manner of cured membrane) and is used whenever the field sheet has to be cut to accommodate outside corners, pipes, T-Joint patch and field seams making angle changes. After *Uncured Flashing with Tape* is applied, it will cure in the position in which it was applied. It should be applied using *Seam Tape Primer*.

WATER CUT-OFF MASTIC: Used to create a waterproof compression gasket whenever the membrane is mechanically fastened using a *Termination Bar* or *Pipe Boot Clamp*. *Water Cut-Off Mastic* is applied between the membrane and the pipe or wall. The mechanical termination is installed over the membrane, compressing the mastic and creating the gasket.

RUBBERALL® ROOFING MEMBRANE MATERIAL AND LABOR LIMITED WARRANTY

30 Years on .060 inch membrane (Fully Adhered Roofing Installations Only)

20 Years on .045 inch membrane (Fully Adhered Roofing Installations Only)

RUBBERALL® EPDM in a fully adhered roofing installation is warranted against premature deterioration to the point of failure due to weathering of a period of thirty (30) years for .060-inch membrane or twenty (20) years for .045-inch membrane from the date of purchase if installed using **RUBBERALL®** adhesives. (Other than **RUBBERALL®** tested adhesives may cause pre-mature deterioration).

The holder of this warranty must keep receipts showing that both the membrane and adhesives are **RUBBERALL®** products. This warranty is transferable to subsequent owners.

Water Tight Technologies, LLC's (WTT) liability is limited to providing replacement membrane and the labor to install replacement membrane. The value of the credit will be determined on a pro-rata basis. For .060-inch membrane: number of remaining months of the warranty divided by 360 times the value of the replacement membrane and the labor to install. For .045-inch membrane: number of remaining months of the warranty divided by 240 times the value of the replacement material and the labor to install. Replacement accessories, other materials and replacement material shipping costs are not included in this warranty.

If a claim is made the following must be submitted: a current picture of the roof installation showing membrane deterioration; a sample of material said to have deteriorated; and original receipts showing membrane and accessories are **RUBBERALL®**. WTT reserves the right to inspect the roof before compensation is made under this warranty. This warranty is voided if the **RUBBERALL®** membrane is removed from the rooftop before a WTT representative is given the opportunity to inspect the roof

for improper use of non-**RUBBERALL**® products or exposure to any of the non-warranted conditions noted below. This warranty does not cover the workmanship of the installer of **RUBBERALL**® products nor does it assure the roof will not leak due to poor workmanship of the installer. This warranty applies only to **RUBBERALL**® membrane installed on projects that have been registered by mailing (U.S. Postal service) the **RUBBERALL**® registration card or by completing the registration card found on the WTT website. Failure to use an original warranty card or to completely fill in requested information will void the warranty. It is not WTT's responsibility to return a card for more complete information. Warranty claims must be made in writing and mailed to Water Tight Technologies, LLC, P.O. Box 899, Payson, Arizona 85547.

WTT shall have no obligation under this warranty for membrane deterioration caused by any of the following:

- Natural disasters, including but not limited to lightning, fire, insect infestation, earthquake, tornado, hail, hurricanes, wind and other Acts of God.
- Intentional or negligent acts, accidents, misuse, abuse, vandalism, civil disobedience, or the like.
- Acids, oils, asphalt, roof patch products (other than Rubberall approved products), harmful chemicals, and the like.
- Foot traffic.

The remedies stated in this warranty are the sole and exclusive remedies for failure of the RUBBERALL® membrane. There are no warranties, either expressed or implied, including the implied warranties of fitness for a particular purpose and merchantability, which extend beyond the warranties, stated above. Water Tight Technologies, LLC shall not be liable for any direct, incidental, consequential, special or other damages, including but not limited to loss of profits or damage to the building or its contents under any theory of law. This warranty applies to RUBBERALL® purchased after April 1, 2002. Water Tight Technologies, LLC reserves the right to modify and/or withdraw said warranty at its discretion having given advance notification to its dealers.

