

EverGuard® EPDM Ballasted System Application Instructions

Information Sheet

Updated: 8/02



*Quality You Can Trust Since 1886...
From North America's Largest Roofing Manufacturer™*

EVERGUARD® EPDM BALLASTED SYSTEM APPLICATION INSTRUCTIONS

TABLE OF CONTENTS

2.01.1	GENERAL	2
2.02.1	CONTRACTOR SUBMITTALS.....	2
2.03.1	JOB SITE CONSIDERATIONS (CAUTIONS AND WARNINGS).....	2
2.04.1	ROOF SUBSTRATE PREPARATION.....	3
2.05.1	WOOD NAILER LOCATION AND INSTALLATION.....	4
2.06.1	INSULATION INSTALLATION.....	4
2.07.1	MEMBRANE INSTALLATION.....	4
2.08.1	MEMBRANE SEAMING.....	5
2.09.1	ADDITIONAL MEMBRANE SECUREMENT AND BASE TIE-IN FLASHING.....	6
2.10.1	FLASHING INSTALLATION AND SEAMING USING EVERGUARD EPDM SPLICE ADHESIVE.....	7
2.11.1	SEAM EDGE TREATMENT.....	9
2.12.1	FLASHING - PENETRATIONS.....	9
2.13.1	FLASHING - WALLS, PARAPETS, MECHANICAL EQUIPMENT CURBS, SKYLIGHTS ETC.....	10
2.14.1	FLASHING - GRAVEL STOPS OR ROOF EDGE METALS.....	10
2.15.1	MEMBRANE REPAIR.....	11
2.16.1	BALLAST INSTALLATION.....	12
2.17.1	TEMPORARY CLOSURE.....	12
2.18.1	TOPCOAT® COATING.....	12
2.19.1	ROOF WALKWAYS.....	13
2.20.1	SHEET METAL WORK.....	13

IMPORTANT: ALWAYS REVIEW SAFETY INFORMATION ON LABEL AND MSD SHEETS

APPLICATION INSTRUCTIONS FOR EVERGUARD® EPDM BALLASTED ROOFING SYSTEMS

2.01.1 GENERAL

This section of the EverGuard EPDM Application and Specifications Manual is intended to serve as instructions for the installation of EverGuard EPDM Ballasted System. Reference to the Design Section, Technical Information Sheets, and other sections of EverGuard EPDM's Applications and Specifications Manual is necessary to assure that the finished roof system is installed in compliance with EverGuard requirements.

2.02.1 CONTRACTOR SUBMITTALS

A. **Submit Pre-Installation Form (PIF):**

Submit a completed Pre-Installation Form (PIF) to EverGuard Contractor Services a minimum of 14 days prior to project start-up.

NOTE: IF A PROPOSED APPLICATION FALLS OUTSIDE OF THIS SPECIFICATION, CONTACT EVERGUARD CONTRACTOR SERVICES FOR ADDITIONAL INFORMATION.

B. **Submit Pull-out Tests Results (When Required):**

1. When pull-out tests are required, submit a complete listing of the pull-out values to EverGuard Contractor Services for review.
2. Submit a roof drawing showing the locations where the pull-out tests were performed.

C. **Submit Notice of Acceptance (NOA):**

Submit the Notice of Acceptance (NOA) and Roof Drawing within 30 days of completion of the project. All pertinent information, such as penetrations, dimensions, building height and edge conditions, must be included. An inspection will be scheduled (if a system guarantee is requested). An EverGuard Inspector will perform the inspection to determine compliance with EverGuard EPDM specifications and details. Items found that are not in conformance with EverGuard EPDM specifications will be documented by the EverGuard Inspector and must be corrected by the Applicator prior to issuance of the requested guarantee.

D. **Submit Completed Inspection Results Form (IRF):**

Upon completion of any necessary repair(s), sign and submit the completed Inspection Results Form (IRF) form to EverGuard Contractor Services within 60 days of inspection.

2.03.1 JOB SITE CONSIDERATIONS (CAUTION AND WARNINGS)

- A. Adhesives, sealants and cleaning materials are **FLAMMABLE**. Keep them away from ALL ignition sources (i.e., flames, fire, sparks, etc.). Do not smoke while using these materials.
- B. Consult container labels, Material Safety Data Sheets and Technical Information Sheets for specific safety instructions for all products used on the project.
- C. Be careful used when installing fasteners to avoid possible conduits and other piping in and under the deck.
- D. Fumes from adhesive solvents may be drawn into the building during installation through rooftop intakes. Refer to EverGuard EPDM Technical Information Sheet "Recommended Guidelines for Application of Roofing Materials to an Occupied Building" for guidelines.
- E. Store EverGuard EPDM membrane in the original undisturbed plastic wrap in a manner to protect it from becoming damaged.
- F. Do not use oil-based or bituminous-based roof cement with EverGuard EPDM membrane.
- G. Store insulation properly and protected from ignition sources, moisture and damage.

- H. When the outside temperature is below 40 °F (4.4 °C), certain combinations of temperature and humidity may cause condensation on the surface of solvent-based adhesives and primers. If condensation occurs, discontinue the application. When the ambient air conditions no longer cause condensation on adhesive surfaces, re-apply additional adhesive or primer and proceed.
1. The consistency of sealants, adhesives and primers will begin to thicken as the temperature drops. To minimize this, the following is recommended:
 - a. Start work with sealants, adhesives and primers that have been stored between 60°F and 80°F (15.5°C and 26.7°C). Insulated heated boxes may be helpful.
 - b. Complete test areas to determine if conditions will cause problems such as condensation with the application of the material.
 - c. Stop the operation or change to another warm container when material becomes too thick to properly apply.
 2. Never use heat guns or open flames to dry adhesives and primers.
 3. No-fold or single fold panels are easier to apply in cold weather and are recommended. If using Water-Based Bonding Adhesive, temperatures must be at least 40 °F (4.4 °C) and rising for the material to apply and perform as designed. Expect longer drying times at lower temperatures and higher humidity.

2.04.1 ROOF SUBSTRATE PREPARATION

A. Correct Substrate Defects:

1. Defects that need to be corrected before work can commence should be brought to the attention of the General Contractor or Owner in writing and addressed.
2. For re-roofing applications, remove existing roof system components as specified by the project designer. If components are discovered during installation that could be detrimental to the performance of the new roof system, they should be brought to the attention of the project designer for corrective action.
3. Good roofing practice requires a complete tear-off to the structural deck if soundness and integrity of the existing roof system cannot be verified. Recovering an existing roof system is an alternative to removing existing roof components. However, non-destructive testing in conjunction with core cuts must be completed to determine the condition of the existing roof system and decking.
4. The building owner or project designer is responsible for assuring that all wet insulation and wet substrate materials are removed in a re-roofing application. The best diagnostic technique to locate wet areas is taking and evaluating a series of roof cuts. There are three other techniques that are currently available to make this determination by indirect means. These are: nuclear moisture detection, infrared thermography and electric capacitance. These techniques provide measurement of factors that can be associated with the presence of moisture, which can then be correlated to the roofing core cuts to verify the results of the non-destructive testing.

B. Remove Moisture:

Ponded water, snow, frost and/or ice, present in more than trace amounts, must be removed from the work surface(s) prior to installing the EverGuard® EPDM Ballasted System.

C. Prepare Surface:

Acceptable substrates to which the EverGuard EPDM Ballasted System will be installed must be properly prepared prior to membrane installation. The surface must be relatively even, clean, dry, smooth, free of sharp edges, fins, loose or foreign materials, oil, grease and other materials that may damage the membrane. Rough surfaces that could cause damage to the membrane must be overlaid with insulation.

D. Fill Voids:

All surface voids in the immediate substrate greater than 1/4" (6.35 mm) wide must be filled with insulation.

E. Install Vapor Retarder (When Specified):

Install a vapor retarder as specified by the project designer. Refer to the System Design Guide of this manual for additional information.

2.05.1 WOOD NAILER LOCATION AND INSTALLATION

Wood nailers must be installed as specified by the project designer or as noted in EverGuard® EPDM Details and the System Design Guide. Install wood nailers as follows:

A. Position Wood Nailer:

Total wood nailer height must match the total thickness of insulation being used, and should be installed with a 1/8" (3.2 mm) gap between each length and each change of direction.

B. Secure Wood Nailer:

Wood nailers must be firmly fastened to the deck or building. Mechanically fasten wood nailers to resist a force of 200 lbf (890 N) in any direction. Refer to attachment requirements as specified by the project designer.

C. Taper Wood Nailer:

The wood nailer must be tapered (if applicable) so that it will always be flush at the point of contact with the insulation (refer to EverGuard EPDM Details).

D. Chemical Treatment of Wood Nailer:

Chemical treatment for fire resistance or other purposes (other than pressure treating for rot resistance, i.e. "Wolmanized" or "Osiose K-33") may affect the performance of the EverGuard EPDM membrane and accessories. Submit MSDS sheets for any chemically treated lumber that comes in contact with the EverGuard Membrane, with active ingredients listed, to EverGuard Contractor Services for acceptance regarding compatibility.

E. Installation of Wood Nailers by Others:

Make these specifications and details available when nailers are to be installed by others. Work that compromises the integrity of the system may jeopardize the guarantee for the entire project.

2.06.1 INSULATION INSTALLATION

A. Install Insulation:

Install only as much insulation as can be covered with roofing membrane and completed before the end of the day's work or before the onset of inclement weather.

B. Fit Insulation:

Neatly fit insulation to all penetrations, projections, and nailers. Insulation should be loosely fitted, with gaps greater than 1/4" (6.3 mm) filled with like material. Under no circumstances should the membrane be left unsupported over a space greater than 1/4" (6.3 mm). Tapered or feathered insulation must be installed around roof drains so as to provide proper slope for drainage as shown in EverGuard EPDM Details.

C. Stagger Insulation Joints:

When installing multiple layers of insulation, it is good roofing practice to stagger all joints between layers but staggering is not required for the issuance of a GAFMC guarantee.

DO NOT MECHANICALLY ATTACH THE INSULATION LAYER DIRECTLY BENEATH A BALLASTED SYSTEM.

2.07.1 MEMBRANE INSTALLATION

A. Place Membrane and Allow to relax:

Place membrane panel, without stretching, over the acceptable substrate and allow to relax for a minimum of 30 minutes before splicing or attaching. During cold weather application, it is recommended that narrower panels be used to minimize folds. Wider panels have factory folds, which will take longer to relax during cold weather.

The EverGuard® EPDM Ballasted System must be installed so that the splices shed the flow of water.

B. Move Membrane to its Final Position:

Move the membrane panel to its final position, allowing for a minimum 4" (102 mm) field seam onto adjacent panels and sufficient membrane for proper membrane terminations.

2.08.1 MEMBRANE SEAMING

A. Position and Fold Back the Lap Edge:

Position the membrane at the seam area by overlapping membrane 4" (102 mm) for 3" (76 mm) EverGuard EPDM Seam Tape and 8" (203 mm) for 7" (178 mm) EverGuard EPDM Seam Tape. Once the membrane is in place, mark the bottom membrane 1/2" (12.7 mm) to 3/4" (19 mm) from the edge of the top membrane every 4' (1.2 m) to 6' (1.8 m). Tack the membrane back with EverGuard EPDM Primer as necessary to hold back the membrane at the splicing area.

<p style="text-align: center;">20-YEAR SYSTEM REQUIREMENTS:</p> <p style="text-align: center;">7" (178 mm) EVERGUARD EPDM SEAM TAPE OR 3" (76 mm) EVERGUARD EPDM SEAM TAPE WITH THE APPLICATION OF EVERGUARD EPDM FLASHING TAPE OVER THE ENTIRE SEAM LENGTH.</p> <p style="text-align: center;">REFER TO 20-YEAR EVERGUARD EPDM DETAILS FOR SPECIFIC REQUIREMENTS.</p>

B. Apply EverGuard EPDM Primer to Seam Area:

Remove excess amounts of dusting agent on the membrane and at factory splices using a stiff push broom. Stir EverGuard EPDM Primer thoroughly before and during use. Dip the EverGuard EPDM Scrub pad or Stand-Up Tool into the bucket of EverGuard EPDM Primer, keeping the pad flat. Apply the EverGuard EPDM Primer using long back and forth type strokes with pressure along the length of the splicing area until surfaces become a dark gray in color. Apply EverGuard EPDM Primer to both surfaces at the same time. Change the scrub pad every 200 feet (61 m) of seam or when the pad will no longer hold the proper amount of EverGuard EPDM Primer. Additional scrubbing is required at all factory seams and at areas that may have become contaminated or have excess amounts of dusting agent.

C. Apply the EverGuard EPDM Seam Tape:

After allowing the EverGuard EPDM Primer to dry properly using the Touch-Push test, apply the EverGuard EPDM Seam Tape to the bottom membrane, aligning the edge of the release paper with the markings. Immediately roll the splice tape with a 3" to 4" (76 mm to 102 mm) wide silicone hand roller, a short nap 3" (76 mm) paint roller, or a clean EverGuard EPDM Scrub pad or EverGuard EPDM Scrub Stand-Up Tool pad and handle.

D. Check the Splice Tape Alignment:

When the EverGuard EPDM Seam Tape has been installed for the entire seam length, position the top membrane to rest on top of the tape's paper backing. Trim the top panel as necessary to assure that 1/8" to 1/2" (3.1 mm to 12.7 mm) of the EverGuard EPDM Seam Tape will be exposed on the finished seam.

E. Remove Paper Backing:

To remove the paper backing from the tape, roll back the EPDM membrane and peel the paper backing off the EverGuard EPDM Seam Tape by pulling against the weight of the bottom panel at approximately a 45° angle to the tape and parallel with the roof surface. Allow the top membrane to fall freely onto the exposed EverGuard EPDM Seam Tape. Broom the entire length of the seam at a 45° angle as the release paper is being removed.

F. Roll the Seam:

Roll the seam using a 1-1/2" to 2" (38 mm to 51 mm) wide silicone hand roller, first across the seam and then along the entire length of the seam.

G. Special Considerations (End Laps, "T" Joints, etc.):

1. End Laps:

When the seam is greater in length than the tape, the adjoining EverGuard® EPDM Seam Tape must be overlapped a minimum of 1" (25.4 mm).

2. Trim EverGuard EPDM Seam Tape at "T" Joints:

Trim EverGuard EPDM Seam Tape so that the edge of EverGuard EPDM Seam Tape and the edge of the membrane are flush beneath the "T" Joint area.

3. "T" Joints:

Apply a section of EverGuard EPDM Flashing Tape or EverGuard EPDM Joint Cover over the "T" joint area.

4. Using EverGuard EPDM Seam Tape With Cured EPDM As Flashing:

If cured EPDM is used as flashing, apply an 8" (203 mm) long section of EverGuard EPDM Flashing Tape or a EverGuard EPDM Joint Cover over the intersection of the flashing and field seams.

2.09.1 ADDITIONAL MEMBRANE SECUREMENT AND BASE TIE-IN FLASHING

Provide Membrane Securement

Secure the membrane (base tie-in) at all locations where the membrane goes through an angle change greater than 1" (25.4 mm) in 12" (305 mm) (i.e., roof edges, curbs, interior walls, etc.)

OPTION 1: EverGuard EPDM Reinforced Tape Strip (RTS)

Attach the EverGuard EPDM RTS to the penetration, parapet wall or deck using EverGuard 2" (51 mm) Seam Plates or EverGuard EPDM Batten Bars fastened a maximum of 12" (305 mm) o.c. Roll the membrane into place and then fold back, exposing the underside of the membrane and the RTS. When using batten bars, apply EverGuard EPDM All Purpose Sealant over each fastener head, assuring that the fastener head is completely covered.

Apply EverGuard EPDM Primer to the membrane where it will mate with the EverGuard EPDM Seam Tape and allow to dry. Apply EverGuard EPDM Bonding Adhesive to the back half of the RTS, to the membrane that is to be bonded to the penetration or wall, and to the penetration or wall itself.

After the surfaces have dried properly as determined by using the Touch-Push test, remove the release paper from the EverGuard EPDM Reinforced Tape Strip and roll the membrane into place, assuring a tight fit into the transition between the horizontal and vertical surfaces. Continue to roll the membrane up the wall and broom in place with a stiff push broom. Roll the membrane over the EverGuard EPDM Seam Tape with a 1-1/2" to 2" (38 mm to 51 mm) wide silicone roller across the tape and then along its length.

Complete vertical lap seams as described in the lap splice section of this specification. Install a T-Joint Cover over any vertical lap splices that go through an angle change (refer to EverGuard EPDM Details).

NOTE: EVERGUARD EPDM REINFORCED TAPE STRIP IS REQUIRED FOR 20-YEAR GUARANTEED SYSTEMS.

OPTION 2: EverGuard EPDM Batten Bar (Refer to 20-Year Details to determine the applicability of this type of detail)

Install the EverGuard EPDM Membrane per EverGuard EPDM details and attach to the vertical substrate using EverGuard EPDM Batten Bars at a maximum of 12" (305 mm) o.c. (Polymer Battens may only be used over wood or metal substrates). Apply EverGuard EPDM All Purpose Sealant over each fastener head, assuring that the fastener head is completely covered.

Cut a piece of flashing from EverGuard EPDM Membrane large enough to completely cover the substrate and extend onto the roof membrane a minimum of 3" (76 mm) [Note: must be 7" (178 mm) for 20-Year guaranteed systems]. Complete the splice between flashing and the roof membrane using EverGuard EPDM Seam Tape before adhering flashing to the vertical surface. Provide lap seams in accordance with EverGuard EPDM Details.

Apply EverGuard EPDM Bonding Adhesive at about the same time to both the flashing and the surface to which it is being bonded so as to allow approximately the same flash-off time. Apply Bonding Adhesive evenly to avoid globs.

After the Bonding Adhesive has dried properly as determined by the Touch-Push Test, roll the flashing into the adhesive evenly and carefully so as to minimize wrinkles. Broom the flashing to the substrate with a stiff push broom to assure proper contact.

2.10.1 FLASHING INSTALLATION AND SEAMING USING EVERGUARD EPDM SPLICE ADHESIVE

When Option #2 above is used, seams are typically completed using EverGuard EPDM Seam Tape. Where splice adhesive is allowed by EverGuard EPDM details, use the following procedure for completing the flashing:

- A. Attach membrane at the curb in accordance with EverGuard EPDM Details.
- B. Cut a section of membrane equal in length to the perimeter of the curb plus 3" (76 mm) (example: A 4' x 4' (1.2 m x 1.2 m) curb would require a 16'-3" (4.98 m) length of membrane). Note: The additional 3" (76 mm) of material is not required if the flashing is butted at the final corner in lieu of a 3" (76 mm) lap seam.
- C. Cut the width of the membrane equal to the height of the curb plus a base lap of 3" (76 mm) and 2" (51 mm) to go over the top of the curb.
- D. Place the membrane on a flat surface in close proximity to the curb.
- E. Clean the flashing and roof membrane area to be seamed using EverGuard EPDM Scrub pad or Stand-Up Tool with EverGuard EPDM Primer to remove all dusting agent, dirt, and other contaminants that will affect the finished seam and allow to dry. Additional cleaning may be required to assure that the membrane is completely cleaned. Additional cleaning at factory seams is required to remove accumulations of dusting agent. EverGuard EPDM Scrub pads must be discarded every 200 lineal feet of use and replaced with clean ones to assure proper cleaning. Proper cleaning has been achieved when membrane surface is dark gray in color and no streaking is evident. EverGuard EPDM Uncured Flashing does not require cleaning unless it has been contaminated.

- F. Apply EverGuard® EPDM Bonding Adhesive (or LVOC Water-Based Bonding Adhesive) to the curb and to the flashing membrane. Do not apply bonding adhesive to the area of the flashing that has been cleaned in Step #E. While the bonding adhesive is drying, apply EverGuard EPDM Splice Adhesive to the flashing membrane and roof membrane. Thoroughly stir EverGuard EPDM Splice Adhesive before and during use. Apply the Splice Adhesive using an EverGuard Splice Adhesive Brush or a 3" to 4" (76 mm to 101 mm) wide by 1/2" (12.7 mm) thick, solvent-resistant paint brush in a smooth, even coat with long brush strokes, such that brush marks bleed out, yielding a smooth, glossy adhesive surface. Apply Splice Adhesive to both mating surfaces at about the same time.

DO NOT USE CIRCULAR MOTIONS FOR APPLYING SPLICE ADHESIVE. DO NOT USE PAINT ROLLERS, SPRAY EQUIPMENT, OR MECHANICAL EQUIPMENT FOR THE APPLICATION OF SPLICE ADHESIVE. DO NOT USE LONG HANDLES ON SPLICE ADHESIVE BRUSHES TO APPLY SPLICE ADHESIVE

- G. Test the bonding adhesive and splice adhesive for readiness by using the Touch-Push test. Touch the adhesive surface in the thickest area with a clean dry finger to be certain that the adhesive does not stick or string. As you are touching the adhesive, push forward on the adhesive at an angle to assure that the adhesive is ready throughout its thickness. If either motion exposes wet or stringy adhesive when the finger is lifted, the adhesive is not ready for mating. Flash-off time will vary depending on ambient conditions.
- H. After the bonding and splice adhesives have dried properly, mate the flashing to the curb (use 2-3 people depending on the size of the curb involved). This is accomplished by folding the splice area back on itself, picking up the flashing, and wrapping the entire curb leaving the seam area folded upwards. The flashing membrane is now bonded to the curb only.
- I. To complete the splice between the flashing and roof membrane, cut the flashing membrane down to each corner of the curb. Work the flashing membrane into the angle change as tightly as possible, then allow the remainder of the flashing membrane to fall into place.
- J. Roll the splice with a 1-1/2" (38 mm) silicone coated steel hand roller in both directions along the splice edge. Broom the membrane over the curb to assure proper mating of the bonding adhesive.
- K. Apply 9" (228 mm) EverGuard EPDM Corner Flashing or 9" (228 mm) EverGuard EPDM Flashing Tape at all corners per EverGuard EPDM current requirements, including Seam Edge Treatment.
- L. Wait a minimum of 4 hours after the completion of a seam to apply Seam Edge Treatment (Splice Adhesive and Lap Sealant) unless weather is threatening. If weather is threatening, apply Seam Edge Treatment before leaving the project. When weather is not threatening, apply Seam Edge Treatment applied no later than the end of the next day following completion of the seam.

20-YEAR SYSTEM REQUIREMENTS:

**7" (178 mm) EVERGUARD EPDM SEAM TAPE
OR
3" (76 mm) EVERGUARD EPDM SEAM TAPE WITH THE
APPLICATION OF EVERGUARD EPDM FLASHING TAPE
OVER THE ENTIRE SEAM LENGTH.**

REFER TO 20-YEAR EVERGUARD EPDM DETAILS FOR SPECIFIC REQUIREMENTS.

**2.11.1 SEAM EDGE TREATMENT
(REQUIRED WHEN USING SPLICE ADHESIVE, AS SHOWN ON EVERGUARD® EPDM
DETAILS AND AT CUT EDGES OF EVERGUARD EPDM REINFORCED MEMBRANE)**

- 1. Apply Splice Adhesive To Seam Edge:**
Using a Splice Adhesive brush, apply EverGuard EPDM Splice Adhesive a minimum of 1" (25.4 mm) on either side of the seam edge. Allow the Splice Adhesive to dry. If the seam edge has become contaminated, clean the edge with EverGuard EPDM Primer prior to applying the adhesive.
- 2. Apply Lap Sealant To Seam Edge:**
Apply a continuous bead of Lap Sealant, approximately 3/8" x 1/4" (9.5 mm x 6.35 mm), 20 to 22 lineal feet (6 m to 6.7 m) per 10 oz. (295 cc) tube centered over the seam edge using a standard caulking nozzle. Using the Lap Sealant tool, feather the Lap Sealant immediately, taking care to leave a mound of sealant directly over the seam edge (refer to lap splice details). Alternately, Lap Sealant may be applied using the plastic nozzle applicator assuring the applicator is centered at the seam edge.

2.12.1 FLASHING - PENETRATIONS

- A. General:**
 1. Remove all loose existing flashing (i.e., lead, bituminous materials, mastic, etc.)
 2. Flash all penetrations passing through the membrane.
 3. The flashing seal must be made directly to the penetration.
- B. Pipes, Round Supports, Structural Steel tubing, etc.:**
 1. Flash penetrations with EverGuard EPDM Universal Pipe Boots wherever possible. Do not cut or patch EverGuard EPDM Universal Pipe Boots to assist in their installation except when cutting for initial collar size.
 2. Flash penetrations using EverGuard EPDM Uncured Flashing when the use of EverGuard EPDM Universal Pipe Boots is not possible.
 3. Refer to EverGuard EPDM Technical Information Sheet for minimum and maximum pipe diameters that can be successfully flashed with EverGuard EPDM Universal Pipe Boots.
 4. Structural Steel Tubing: Use a field-fabricated pipe flashing detail when the corner radius is greater than 1/4" (6.35 mm) and the longest side of the tube does not exceed 12" (305 mm). When the tube exceeds 12" (305 mm), use a standard curb detail including base tie-in and suitable termination.
- C. Roof Drains:**

These specifications apply for installation of cast iron drains only. For all other drain types, contact EverGuard Contractor Services.

 1. Remove existing clamping ring. Remove any broken clamping hardware and replace.
 2. Remove all existing flashing (including lead flashing), roofing materials and cement from the existing drain in preparation for membrane and Water Block.
 3. Provide a clean even finish on the mating surfaces between the clamping ring and the drain bowl.
 4. Install tapered insulation with suitable bonding surfaces around the drain to provide a smooth transition from the roof surface to the drain. Slope into drain cannot be greater than 1" in 12" (25.4 mm in 305 mm).
 5. Position the membrane and cut a hole for the roof drain allowing a 1/2" to 3/4" (12.7 mm to 19.1 mm) width of membrane inside the clamping ring.
 6. Make round holes in the membrane to align with clamping bolts (a paper punch may be used). Do not cut the membrane back to the bolt holes.
 7. Install EverGuard Water Block on the clamping ring seat flange below the membrane. Use a minimum of one-half of a 10 oz. (295 cc) tube for a 10" (254 mm) drain.
 8. Install the roof drain clamping ring and all clamping bolts. Tighten the clamping bolts to achieve constant compression.

- D. Pipe Clusters and Unusual Shaped Penetrations:**
1. Fabricate penetration pockets to allow a minimum clearance of 1" (25.4 mm) between the penetration(s) and all sides.
 2. Secure penetration pockets and flash per EverGuard® EPDM Details.
 3. Fill penetration pockets with EverGuard EPDM Pourable Sealer and mound to shed water. Pourable Sealer must be a minimum of 2" (51 mm) deep and 1" (25.4 mm) thick around the penetrations.
- E. Hot Pipes:**
Protect the EverGuard EPDM components from direct contact with steam or heat sources when the in-service temperature is in excess of 140 °F (60 °C). In all such cases, flash to an intermediate "cool" sleeve.
- F. Flexible Penetrations**
Provide a weathertight gooseneck set in Water Block and secured to the deck. Flash in accordance with EverGuard EPDM Details.
- G. Scuppers:**
1. Provide and install a new welded watertight sleeve.
 2. Set welded watertight scupper in Water Block and secure scupper to the structure.
 3. Flash in accordance with EverGuard EPDM Details.
- H. Expansion Joints:**
Install where specified by the project designer in accordance with EverGuard EPDM details.

NOTE: WHEN INSTALLING A SYSTEM FOR A 20-YEAR GUARANTEE, REFER TO THE 20-YEAR SYSTEM DETAILS, WHICH ARE PART OF THIS MANUAL.

2.13.1 FLASHING - WALLS, PARAPETS, MECHANICAL EQUIPMENT CURBS, SKYLIGHTS, ETC.

- A. General:**
Using the largest pieces of EverGuard EPDM membrane or EverGuard EPDM Flashing Tape practical, flash all walls, parapets, curbs, etc., to the height as specified by the project designer.
- B. Evaluate Substrate:**
See chart in the System Design Guide section of this Manual.
- C. Install Additional Membrane Securement at curbs, penetrations, walls, etc.:**
Refer to Section 2.09.1 of this specification.
- D. Provide Termination:**
Provide termination directly to the vertical substrate as shown in EverGuard EPDM Details.
- E. Provide Intermediate Attachment:**
Intermediate attachment of membrane is required at 36" (914 mm) intervals in accordance with EverGuard EPDM Details unless:
1. The wall surface is smooth without noticeable high spots or depressions (i.e., plywood, poured or precast concrete, or hollow core block or masonry walls where joints are flush with masonry surface),
- AND**
2. The termination is either a Termination Bar or membrane has been installed underneath a coping to the outside edge of the wall.

2.14.1 FLASHING - GRAVEL STOPS OR ROOF EDGE METALS

- A. Flash gravel stops or roof edge metals using EverGuard EPDM Flashing Tape:**
1. **Clean the Membrane and Metal Edge:**
Remove excess amounts of dusting agent by brooming. Apply EverGuard EPDM Primer to the metal edging and membrane. Allow the EverGuard EPDM Primer to flash-off.

2. **Apply EverGuard EPDM Flashing Tape:**
Place the roll of EverGuard EPDM Flashing Tape on the roof a few feet ahead of the application starting point, positioned so that it unrolls from the top of the roll (release paper will be on top). Remove approximately 2' to 3' (.6 m to .9 m) of release paper and apply to the metal flange and EverGuard EPDM Membrane. Lap adjacent rolls of EverGuard EPDM Flashing Tape a minimum of 1" (25.4 mm).
3. **Roll the EverGuard EPDM Flashing Tape:**
With a 1-1/2" to 2" (38 mm to 51 mm) wide silicone hand roller, roll the EverGuard EPDM Flashing Tape to assure proper adhesion. Additional attention must be given to factory seam intersections and to any change in plane.
4. **Special Considerations (End Laps, "T" Joints, etc.):**
 - a. Apply a 6" (152.4 mm) length of EverGuard EPDM Flashing Tape, an EverGuard EPDM Joint Cover or 6" x 6" (152.4 mm x 152.4 mm) EverGuard EPDM Uncured Flashing to the inside edge of the EverGuard EPDM Flashing Tape at all overlaps (refer to details).
 - b. Apply 6" (152.4 mm) length of EverGuard EPDM Flashing Tape, an EverGuard EPDM Joint Cover or 6" x 6" (152.4 mm x 152.4 mm) EverGuard EPDM Uncured Flashing at all intersections between the EverGuard EPDM Flashing Tape and field-fabricated seams (refer to details).
 - c. If the roof edge includes a gravel stop and sealant is not applied between the laps in the metal edging, an additional piece of EverGuard EPDM Flashing Tape must be applied over the metal lap to the top of the gravel stop, after the initial application of EverGuard EPDM Flashing Tape. Seam Edge Treatment shall be applied at the intersections of the two flashing sections.

B. Optimal Application:

1. The optimal use of EverGuard EPDM Flashing Tape is where a 3" (76 mm) metal flange is being used. This will provide the minimum 2" (51 mm) seam to the EverGuard EPDM Membrane, with the remaining 3" (76 mm) of the material completely covering the metal flange.
2. If a flange wider than 3" (76 mm) is used, the joints of the sheet metal edge must be flashed using EverGuard EPDM Flashing Tape and EverGuard EPDM Primer. In addition, place 3" (76 mm) EverGuard EPDM Seam Tape in the sheet metal laps to help seal the metal edge.

C. Special Considerations for Copper Edging:

Copper may be weathered or coated with an anti-tarnish lacquer which makes adhesion difficult. Therefore, the copper surface must be cleaned to receive the EverGuard EPDM Flashing Tape. GAFMC requires that the copper be scrubbed with acetone or lacquer thinner, using clean cotton cloths. Cleaning before installation of the metal is recommended. However, cleaning can take place after metal is attached if care is taken not to allow the solvents to come into contact with the membrane. After the cleaner dries, apply EverGuard EPDM Primer and EverGuard EPDM Flashing Tape per EverGuard EPDM Specifications.

NOTE: WHEN INSTALLING A SYSTEM FOR A 20-YEAR GUARANTEE, REFER TO THE 20-YEAR SYSTEM DETAILS WHICH ARE PART OF THIS MANUAL.

2.15.1 MEMBRANE REPAIR

A. Repair Cuts/Punctures in the Membrane or Wrinkles Within 18" (458 mm) of a Seam:

1. A wrinkle running toward a seam or within 18" (458 mm) of a seam must be repaired. The wrinkle must be cut out so that the membrane lays flat and patched with a piece of EPDM membrane having no factory seams that extends a minimum of 3" (76 mm) beyond the boundaries of the cut in all directions. If the wrinkle occurs through EverGuard EPDM Flashing Tape or EverGuard EPDM Uncured Flashing, like material must be used for repair. EverGuard EPDM Flashing Tape or EverGuard EPDM Uncured Flashing may not extend onto the roof surface more than 6" (152 mm). EVERGUARD EPDM FLASHING TAPE OR EVERGUARD EPDM UNCURED FLASHING CANNOT BE USED TO REPAIR CURED MEMBRANE. If repairing of the same wrinkle must continue, then

EPDM membrane must be used. Install the EPDM repair membrane first, and round all corners of the repair piece.

2. Repair a cut or puncture in the EPDM membrane with EPDM membrane. The repair must extend a minimum of 3" (76 mm) beyond the boundary of the affected area in all directions. (Example: a pinhole will require a minimum 6" x 6" (152 mm x 152 mm) EPDM patch.)

B. Clean the Membrane:

When repairing membrane which has been in service, it is necessary to remove accumulated dirt. Scrub the membrane with a scrub brush and warm soapy water, rinse with clear water and dry with clean cotton cloths. Clean the area using EverGuard EPDM Scrub pad with EverGuard EPDM Primer. Additional cleaning using EverGuard EPDM Primer is often necessary.

C. Install Repair Material:

Repairs must be made with EverGuard EPDM Splice Adhesive. Refer to the Flashing Seam Details of this manual for application requirements of Splice Adhesive.

NOTE: WHEN INSTALLING A 20-YEAR BALLASTED SYSTEM AND MEMBRANE REPAIR IS NECESSARY, A SECOND LAYER OF MEMBRANE IS REQUIRED OVER THE INITIAL REPAIR PIECE SPLICED A MINIMUM OF 3" (76mm) ONTO THE FIELD MEMBRANE USING SPLICE ADHESIVE, FOLLOWED BY THE APPLICATION OF SEAM EDGE TREATMENT.

2.16.1 BALLAST INSTALLATION

A. Spread Ballast:

Spread the ballast over the completed EverGuard EPDM membrane at the rate specified by the project designer but never less than 10 lb (4.5 kg) /sq. ft. using ASTM #4 river washed stone. Refer to the System Design Guide in this Manual for ballast type and size requirements. Ballast must be spread over the membrane using soft rubber-tired ballast buggies. Spread ballast around penetrations by hand.

B. Protect Membrane and Insulation at Ballast Loading Areas:

At areas where ballast is loaded, protect the membrane and underlying insulation using insulation and/or plywood over an additional layer of membrane. Replace all materials that may have been damaged during the ballasting operation.

C. Distribute Ballast Around Walkway Pads:

Distribute any ballast displaced by a walkway around the pad to maintain the specified average ballast rate.

2.17.1 TEMPORARY CLOSURE (NOT WARRANTED BY GAFMC)

Temporary closures to assure that moisture does not damage any completed section of the new roofing system are the responsibility of the licensed applicator. Installation of flashings, terminations and temporary closures must be completed as required to provide a watertight condition.

2.18.1 TOPCOAT® COATING

Topcoat Coating can be applied to the EverGuard Flashings to offer a reflective surface, and add service life to the EverGuard Roofing System. In addition, the Topcoat product can be applied to existing EverGuard EPDM roof flashings. Should the coating of existing roof flashings be considered, the flashings should first be inspected by a GAF EverGuard Approved contractor to assure that the system itself is not in need of repair prior to applying the Topcoat Coating.

Refer to the Product Sheets, Application Specifications, and Material Safety Data Sheets for Topcoat Coatings for additional information on application, storage and safety.

2.19.1 ROOF WALKWAYS

A. Lay Out EverGuard EPDM Walkway Pads:

1. Install walkway pads in locations as specified by the project designer and in accordance with the System Design Guide Section of this Manual. Lay out EverGuard EPDM Walkway Pads so that the flat surface is over the completed EverGuard EPDM Membrane, spacing each pad a minimum of 1" (25.4 mm) and a maximum of 3" (76 mm) from each other to allow for drainage.
2. If EverGuard EPDM Walkway Pads must be installed over field-fabricated seams or within 6" (152 mm) of a seam edge, install EverGuard EPDM Flashing Tape over the seam edge. The EverGuard EPDM Flashing Tape must extend beyond the walkway pad a minimum of 6" (152 mm) on either side.

B. Attach EverGuard EPDM Walkway Pads to the Membrane:

1. **Clean the Membrane:**
Clean the membrane using EverGuard EPDM Primer where the EverGuard EPDM Seam Tape will contact the membrane.
2. **Place Walkpad:**
Remove the release paper from the EverGuard EPDM Seam Tape. Turn the walkpad over and place it in the EverGuard EPDM Primer.
3. **Apply Pressure:**
Walk on the pad to press in place assuring proper adhesion.

2.20.1 SHEET METAL WORK

- A. For specific installation instructions for EverGuard EPDM Sheet Metal, refer to the System Design Guide and Technical Information Section of this manual.
- B. For sheet metal work not supplied by EverGuard EPDM, refer to fabrication and installation requirements specified by the project designer as well as industry standards.

END OF SECTION