

Viking
Epiclad

Viking
Bituclad

Applicator handbook

Introduction

This handbook is issued as one part of the Viking Roofspec Licensing Programme. Installation of Viking Roofspec membrane products must only be undertaken by trained, licensed installers. Further product and specification information is available from Viking Roofspec.

www.vikingroofspec.co.nz or www.vikingroofspec.co.nz/cadresources

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A note about safety

All work should be undertaken in line with current occupational safety and health legislation.

You are responsible for your personal safety and the safety of those around you. Viking Roofspec urge you to take the time to understand your obligations and to plan and undertake your work safely.

Working at Heights

"Roof work should only be undertaken by persons who have the knowledge, experience and resources necessary for the work to be completed safely."

From Guidelines for the provision of facilities and general safety in the Construction Industry to meet the requirements of the HEALTH AND SAFETY IN EMPLOYMENT ACT 1992 & REGULATIONS 1995

Hazardous Materials

Some materials used with this system are flammable or toxic. Safety information regarding these can be found at www.vikingroofspec.co.nz/details-documents/membrane-roofing/epiclad-rubber/. Correct personal protective equipment should be used where applicable.

For more information regarding WorkSafe requirements, please contact the Department of Labour. Information online is available at worksafe.govt.nz

Substrate preparation

Do not proceed with the application of this membrane system until you have confirmed the substrate meets the minimum requirements outlined in the latest Viking Roofspec Masterspec specification and Viking Roofspec Substrate Checklist.

All constructions should comply with New Zealand Building Code.

- Please note that all membranes have a propensity to show movement over plywood sheet joins. This is exhibited as “tenting” – a peak in the membrane above the plywood joints. If the roof is to be a visual feature, please contact Viking for an alternative specification for Plywood substrate installation.

Notes regarding substrates:

- Correct substrate installation is critical for durability and performance of the membrane. Failure to strictly comply with substrate specification may affect the product warranty. Refer to Viking Butylclad/Epiclاد Warranty for further details.

Substrate checklist: plywood

- ☐ Framing supports at 400mm centres (in one direction). All plywood edges must also be supported. Do not use tongue and groove plywood. Viking Roofspec can accept the maximum support spacing provided in Table 15C of CCH Ecoply Specification Guide
- ☐ Minimum thickness 17mm, F8, CCA H3.2 treated, structural plywood (not LOSP treated)
- ☐ Minimum CD grade with the sanded C face upwards
- ☐ Plywood laid with face grain at right angles to supports
- ☐ Plywood is to be laid with staggered joints in a brick-bond pattern with a 3mm expansion gap between sheet edges. 25mm Bond break required over all plywood sheet joints prior to membrane application
- ☐ Plywood screw-fixed with 10g x 50mm S/S counter-sunk screws at 150mm centres at all sheet edges and 200mm centres through the body of the sheet. All screws to be counter sunk 1-2mm
- ☐ Angle Fillets at the base of all upstands min. 20mm
- ☐ Chamfer all external edges with a minimum radius of 5mm
- ☐ Plywood is to be kept dry at all times during construction. Blow/torch drying the plywood surface prior to membrane application does not comply. Plywood and framing supports should be **20% moisture content**
- ☐ For roofs and roof decks over living spaces, all insulated cavities must be ventilated in accordance with E2/AS1 8.5.2. No cavity ventilation is required for a Viking WarmRoof system that meets or exceeds the minimum R-value requirements of the climate zone
- ☐ All outlets and overflows are membrane compatible
- ☐ Ensure compliant falls. E2/AS1 8.5.1. limitations state 2° for roofs (1:30 or 34mm/mt), 1.5°* for decks (1:40 or 25mm/mt) and 1:100 (10mm/mt) for internal gutters
** a minimum of 2° is required in Auckland*
- ☐ Please ensure you have ordered the correct membrane, colour and thickness for your project

NOTES:

- Cover the substrate to keep it dry, ensuring the waterproofing membrane can be installed when needed. Communicate early with your Viking Approved Applicator on the project scheduling to ensure weather exposure is kept to a minimum
- Correct substrate installation is critical to durability and performance of the membrane
- Failure to strictly comply with substrate specification may affect product warranty
- All constructions should comply with the New Zealand Building Code. Contact your local council for further advice
- Communication between the Applicator and Construction Company will assist to ensure specification is met
- Information regarding our products, specifications and warranties is available at **www.vikingroofspect.co.nz** If you have a query regarding this substrate specification please call Viking on **0800 729 799**

Substrate checklist: concrete

- ☐ Ensure concrete substrate has been allowed to fully cure – at least 28 days from pour
- ☐ If the concrete is less than 28 days old and a concrete surface sealer has been used or a rapid curing compound, you must identify the product and verify correct curing has taken place prior to laying
- ☐ Relative humidity of concrete substrates must be 75% or less before application. (This can be verified with the use of hygrometer). Viking Roofspec recommends the use of two coats of Viking Surface Sealer to control moisture within the substrate prior to the waterproofing membrane installation
- ☐ Fill hollows or holes with a cement plaster, or FLC
- ☐ Surface to be smooth, clean, dry and free of debris or release agents
- ☐ Venting installed as required. Contact Viking Roofspec if a venting specification has not been provided
- ☐ Use minimum 50mm bond-breaker tapes over expansion joints
- ☐ Minimum 20mm triangular fillets required at the base of upstands for Butylclad and Epiclاد. Not required for Enviroclad
- ☐ All drains and outlets are membrane compatible. Confirm with Viking Roofspec if required
- ☐ Ensure minimum required falls are met. E2/AS1 2011 states 2°* for roofs (1:30 or 34mm/mt), 1.5°* for decks (1:40 or 25mm/mt) and 1:100 (10mm/mt) for internal gutters
** a minimum of 2° is required in Auckland*
- ☐ Please ensure you have ordered the correct membrane, colour and thickness for your project

NOTES:

- Cover the substrate to keep it dry, ensuring the waterproofing membrane can be installed when needed. Communicate early with your Viking Approved Applicator on the project scheduling to ensure weather exposure is kept to a minimum. Consider the use of the Viking Surface Sealer for shower protection
- Correct substrate installation is critical to durability and performance of the membrane. Failure to strictly comply with substrate specification may affect product warranty
- All constructions should comply with the New Zealand Building Code. Contact your local council for further advice
- Communication between the Applicator and Construction Company will assist to ensure specification is met
- Information regarding our products, specifications and warranties is available at **www.vikingroofspect.co.nz** If you have a query regarding this substrate specification please call Viking on **0800 729 799**

Do's and Dont's

Do's

- Check substrates using Substrate Checklist
- Prime all Substrates 1:1 mix of Adhesive and SES225 Solvent
- Use 25 mm polyethylene release tape over all ply joins and junctions before application of the membrane
- Use lap-tapes for all sheet Laps, terminations (drip-edges) and under-flashings EG External Corners
- Clean, prime, pressure roll all lap seams and details
- Follow all of Viking typical details and specifications
- Use 1.5mm thickness under traffic-able floating decks and internal gutters 1mt + wide.

Dont's

- Don't ever cut Rubber Membrane to the base of the fillet.
- Don't ever rely on glued laps
- Don't ever trim membrane without having a hard-surface between layers.
- Don't ever mix different suppliers adhesives, primers, tapes or accessories.

Rubber membrane components



Respiratory protection required, unless there is adequate ventilation (refer to MSDS)



Appropriate gloves required (refer to MSDS)



Flammable Material



Product Code	Description	Size
SBA000	BMA Adhesive is a contact adhesive for the application of <u>Butylclad</u> . Coverage is 2m ² per litre.	20L



Product Code	Description	Size
SES225	BMA Solvent is used for cleaning membrane laps. To prime substrate mix BMA Solvent 50/50 with correct adhesive for <u>Butylclad</u> or <u>Epiclاد</u> .	20L



Notes:

You must use the correct adhesive for the membrane being applied. These products are not interchangeable.



Product Code	Description	Size
SEA200	Epiclاد adhesive is a contact adhesive for the adhesion of EPDM rubber coverage 2m ² per litre.	20L



Product Code	Description	Colour
SES012A	Viking roofing sealant is a mastic sealant for use on rubber lap edges. Coverage: 7lm at 6/8mm bead per cartridge.	300m



Product Code	Description	Colour
SEC034	HP250 Lap Seam Primer for priming the rubber surface before applying lap type. Coverage ± 25lm of lap tape per litre.	4L or 900ml



Notes:

The products on this page are suitable for use with either Butylclad or Epiclاد.



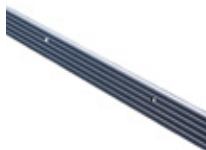
Product Code	Description	Size
MCD030	Toluene for cleaning membrane materials.	4L



Product Code	Description	Size
SMT076V	Viking Lap Tape is a pressure sensitive self adhesive tape system used to join membranes sheets	76mm x 30.4m



Product Code	Description	Size
SET153	Viking self-adhesive flash tape is a semi-cured tape system used for flashing of external detail areas.	150mm x 30.4 (Sold by Lineal metre)



Product Code	Description	Size
SDF110	Anodized – Edge fastener and drip edge.	2400mm x 25mm x 5mm
SDF115	Beige – Edge fastener and drip edge.	

Notes:

The products on this page are suitable for use with either Butylclad or Epiclاد.

Application

Clean

Sand, sweep and/or vacuum the substrate to provide a clean smooth surface. The substrate must meet all the requirements laid out in the substrate checklist. Epiclad and Butylclad come in a maximum thickness of 1.5mm, and will closely follow the surface they are laid upon. The cleanliness of the substrate will be immediately apparent after laying.

Prime

Use a 50/50 mix of BMA solvent, and the correct adhesive (Butylclad or Epiclad) to prime the entire substrate.

Bond-Break Tape

Use 25 mm polyethylene release tape over all ply joins and junctions before application of the membrane

Relax

Unroll the membrane alongside the area to be laid, and allow it 20 minutes to relax. This is vital to the workability, and will reduce the chance of creasing. Membrane must also be allowed to relax before cutting to required length.

Position

Align the membrane where it is to be laid. Allow 75mm for laps where adjoining a previous sheet.

Butterfly

Fold back half the sheet to be adhered (gluing half and half is usual- but on larger or trickier areas, sheets can also be glued in smaller sections as required). Ensure a clean, straight edge at the fold, without creases.

Adhere

Using BMA adhesive for Butylclad or Epiclad adhesive for Epiclad, use a brush or medium nap roller to apply adhesive to the substrate surface and to the underside of the folded membrane. Do not thin the adhesive.

Take care to apply the adhesive evenly, globules can dry to be visible once the membrane is laid. A straight edge at the fold is important to ensure no gaps are left when you come to gluing the next section of membrane. Allow the adhesive to tack off. The adhesive is ready when it is tacky without transfer to a dry finger. Note that weather conditions- ambient temperature, moisture fog, rain etc will all affect the tack time of the adhesive. Adhesive needs good temperatures and airflow to allow proper solvent evaporation.

Use of high powered fans are especially useful in tented situations and cooler climates. If dew forms on the adhesive it is too cold to work. There is risk of poor adhesion and vapour bubbles forming.

Application – Laps joints

Lap joints

Clean the area to be lapped using BMA solvent and a soft scouring pad or rag (75mm on the underside of the top sheet, and 75mm of the lower sheet. The lower sheet edge should be fully adhered to the substrate).

Use SEC034 WeatherBOND Multipurpose Lap Primer with a soft scouring pad to prime both surfaces of the lap. Primer is ready to install Lap-tape when tacky without transfer to a dry finger. If primer is dry, re-apply.

Position Lap-tape carefully without creases, allowing approximately 1-2mm of Lap-tape to the outside edge of the seam.

Apply the 76mm Viking Lap-tape to the bottom, primed sheet. Leave the protective plastic strip on top of the tape in place so that the upper sheet doesn't prematurely bond to it.

Now Pressure Roll the Lap-tape to the primed lower sheet.

Finishing the Lap

Lower the top sheet into place over the Lap-tape, and pull out the plastic cover as you smooth the upper sheet to the Lap-tape with your hand to ensure no creases or bubbles.

Pressure Roll the lap closed.

- ensure you roll from side to side (across the lap direction to minimise bubbles)
- roll with even pressure
- covering the entire lap surface

Notes:

Lap-tape is pressure activated.

Failure to roll the entire lap evenly can result in Lap-tape not bonding correctly.

All membrane joins, details and terminations regardless of roof pitch require Lap-tape.

Application – Repairs, ventilation & protection

Repairs

Repairs to Butyl or EPDM membrane can be undertaken using a standard lap process (as on the previous page). Prior to undertaking repairs, the membrane condition should be assessed to ensure waterproofing integrity can be created or maintained. When undertaking a repair, care should be taken to clean all surfaces prior to adhering or applying primer and laptape. Joints in all cases should be aligned to promote watershed.

Cavity Ventilation

Closed-in construction spaces under membrane roofs and decks require adequate ventilation to prevent the accumulation of moisture under the membrane. Maintain a minimum gap of 20mm between the underside of the substrate and any insulation, and for membrane roofs greater than 40m², refer to manufacturer's details for roof cavity vents and/or substrate vent requirements. Viking recommends one vent per 50m².

Ensure ventilation is evenly spaced, and air can move throughout the cavity to access vents. This is best done with the builder installing 20mm Cavity battens directly below the ply substrate. This will require 75mm Screws for ply to supports.

If cavity battens have't been installed you could suggest builder drill 20mm holes at top of rafters / joists / nogs to allow airflow between sections.

Protection

During and after installation, the membrane should always be protected from damage from all other trades. Having the area signed off by yourself and the builder will clarify damage was not caused by your workmanship.

Rubber Membranes are designed for irregular foot traffic only. For roofs the Viking TPO Walkway Rolls can be Lap-taped to Butylclad or Epiclاد for maintenance traffic.

Protection of decks, all Rubber Membranes should have a floating traffic-able deck supported by Buzon pedestals.

Membrane Thickness

1mm membrane is suitable for roofs and areas with minimal traffic.

1.5mm membrane must be used under deck areas or internal gutters wider than 1mt where foot traffic is envisaged.

Epiclاد or Butylclad waterproofed decks must have a supported floating traffic-able deck system, see above.

Frequently Ask Questions

What do I do if the builder won't fix the ply to Viking substrate requirements?

Contact Viking Roofspec on 0800 729-799 to speak with your Territory Rep.

Incorrectly installed ply can affect the clients product warranty.

Are angular-grooved nails as good as screws for fixing ply?

No never. Plywood must always be screw-fixed. Refer substrate checklist.

Does the builder have to glue the ply to the timber supports?

Not required, but always helps for a better job. Just makes it harder to replace ply if it is found to was found to delaminate.

Do I need to use Bond-Break (release tape) over ply joins?

Yes, always for Rubber Membranes.

This is because ply seasonly moves at the joins and it can stretch the rubber, opening it up for UV attack causing splitting or deterioration. Same reason its important to have external corners and edges with a 5mm radius min. The 25mm Bond-Break (or release tape) allows movement over a much wider area.

Do you need corner fillets with Epiclad / Butylclad?

Yes, always.

Do I need a fillet profile into a scupper?

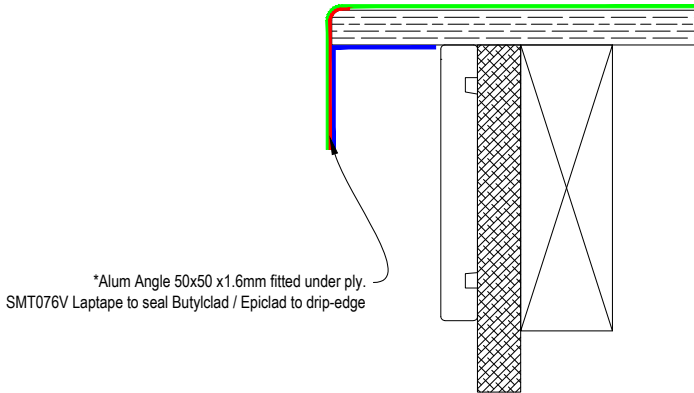
Definitely. The scupper you are detailing into should already have the fillet profile included.

How do I repair holes in the membrane?

Always solvent clean, prime and pressure roll a Lap-taped round section of rubber.

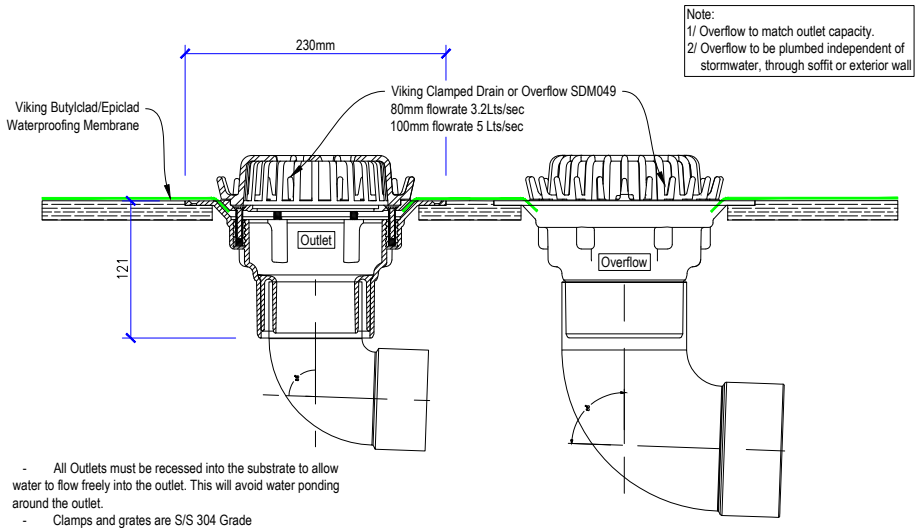
Standard details

BE01 Drip-edge Detail



* Refer NZBC Clause E2 Table 21
for Metal Angle compatibility with CCA treated timber.
If required use separation layer between materials

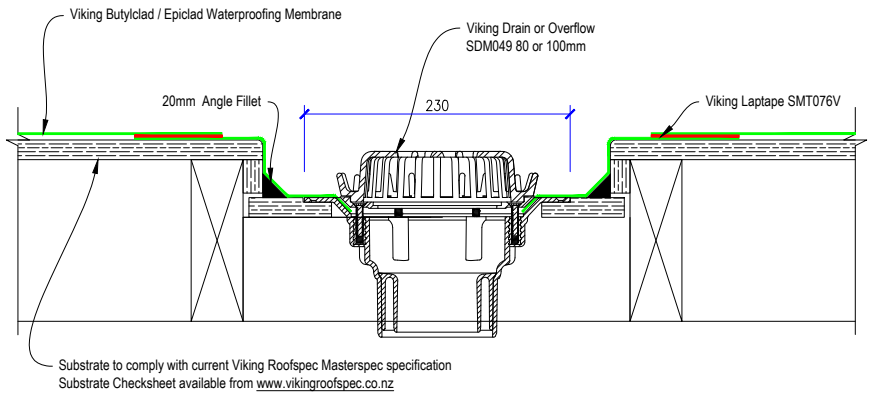
BE02 Outlet / Overflow Detail



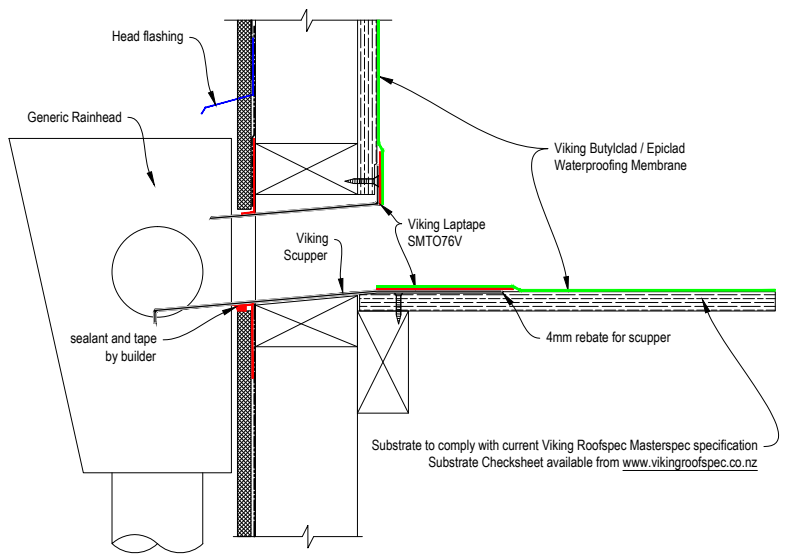
BE03 Internal Gutter Detail

It is Viking Roofspec's view that Internal Gutters may not actually be required in many cases.
By creating valleys to single points you can minimise roof heights or increase roof falls, all while reducing risk and unnecessary detail.
To find out more about best low pitched roof design contact Viking Roofspec Technical 0800 729-799

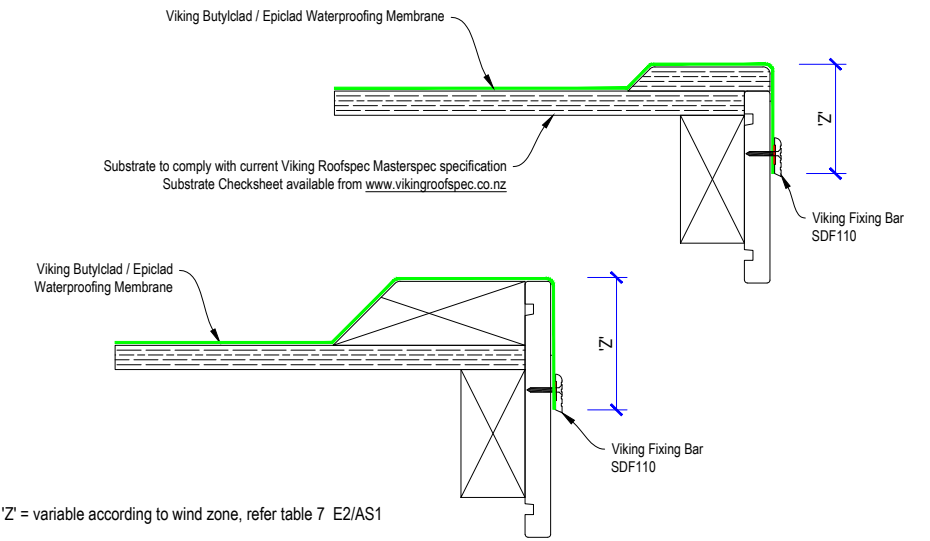
*E2/AS1 Min. falls for gutters = 1:100



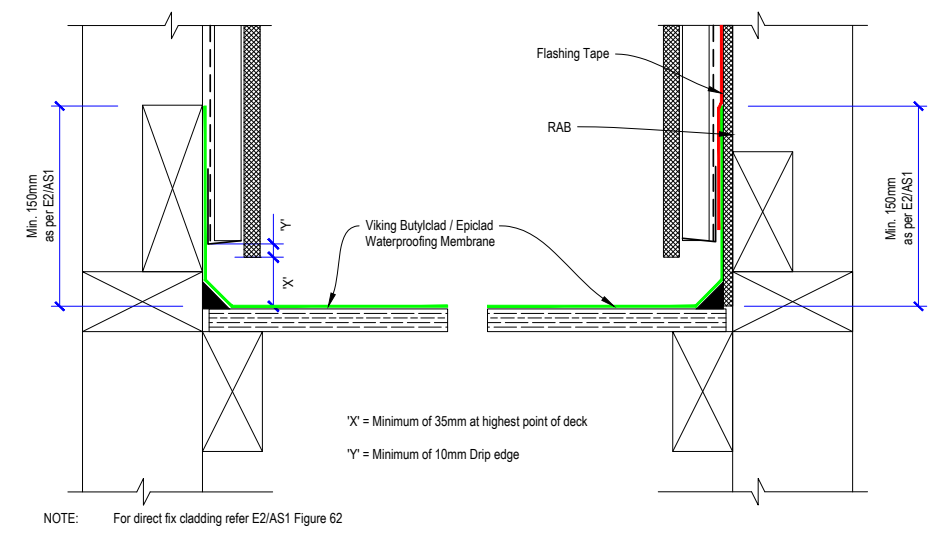
BE04 Scupper Detail



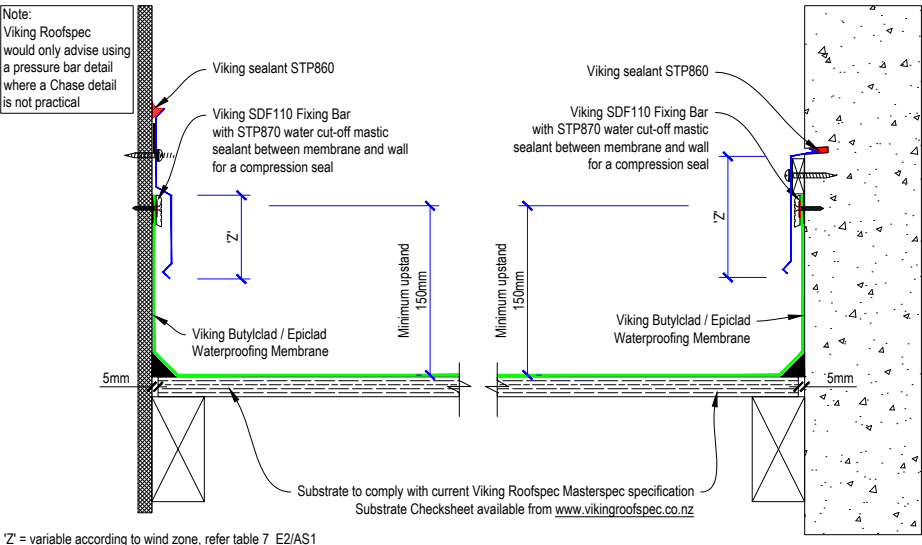
BE08 Barge Edge



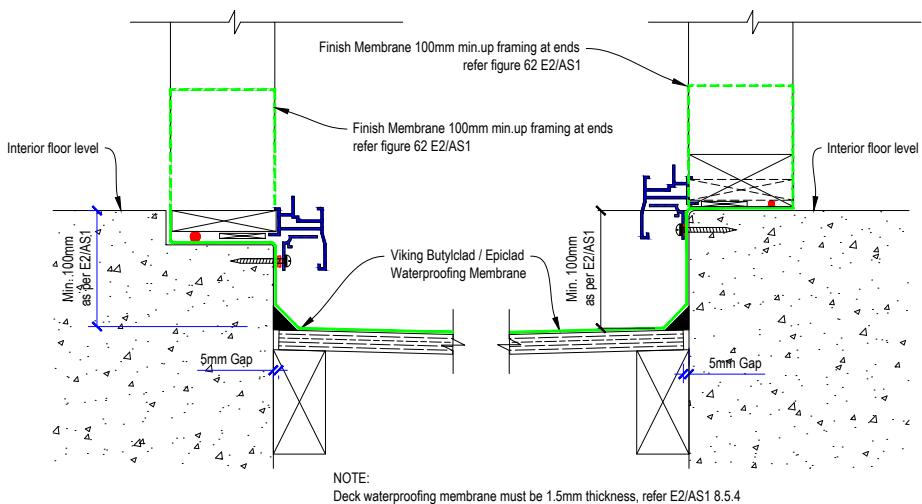
BE09 Wall Upstands behind Cladding



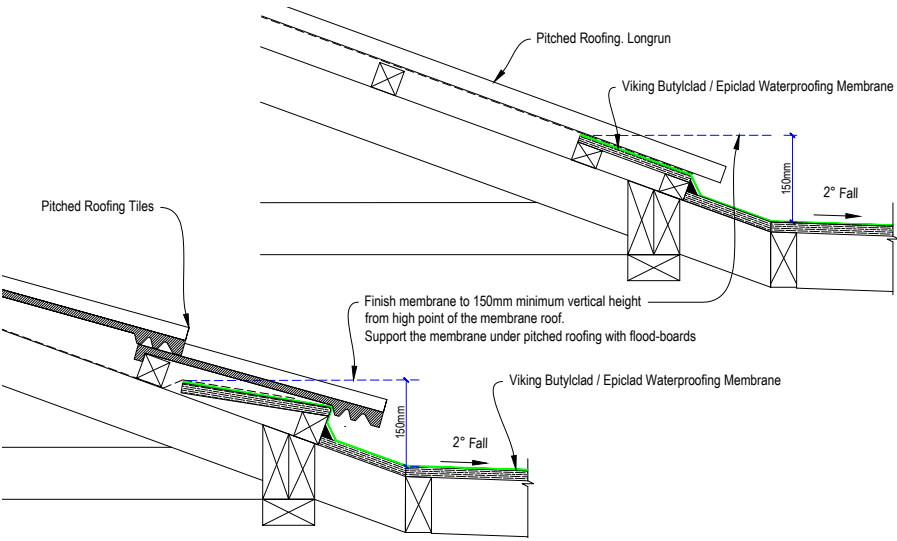
BE10 Chase or Face Fix Detail



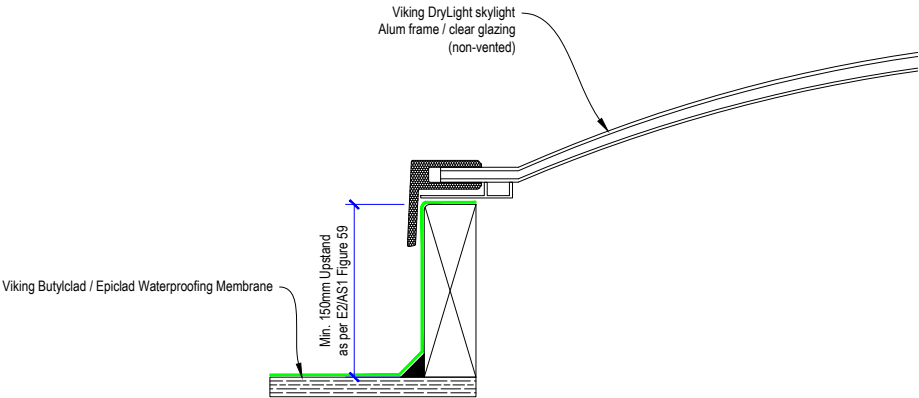
BE11 Door or Window Threshold



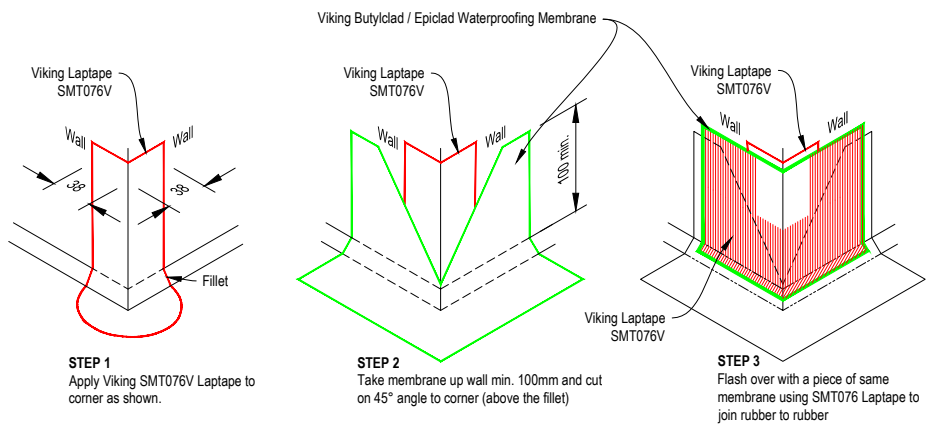
BE13 Dormer Roof Transition



BE14 Skylight Detail

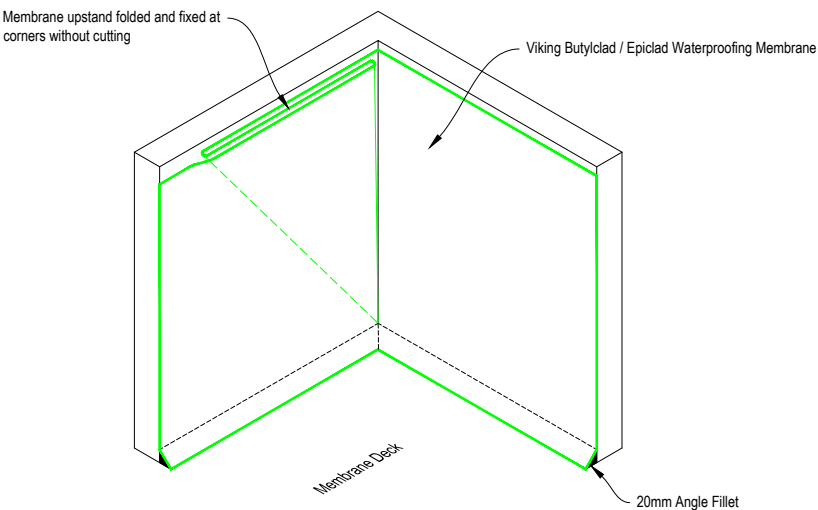


BE15 External Corner



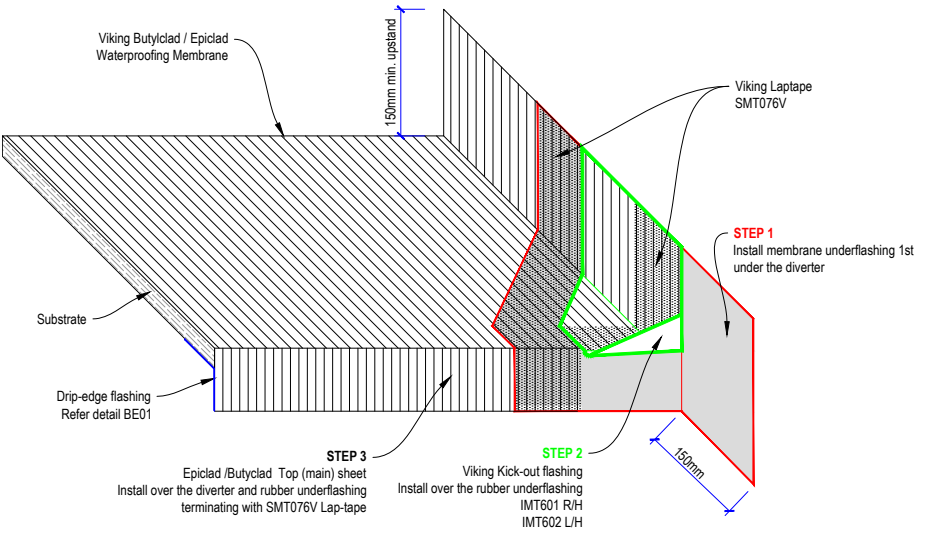
NOTE:
As per E2/AS1 Figure 57

BE16 Internal Corner



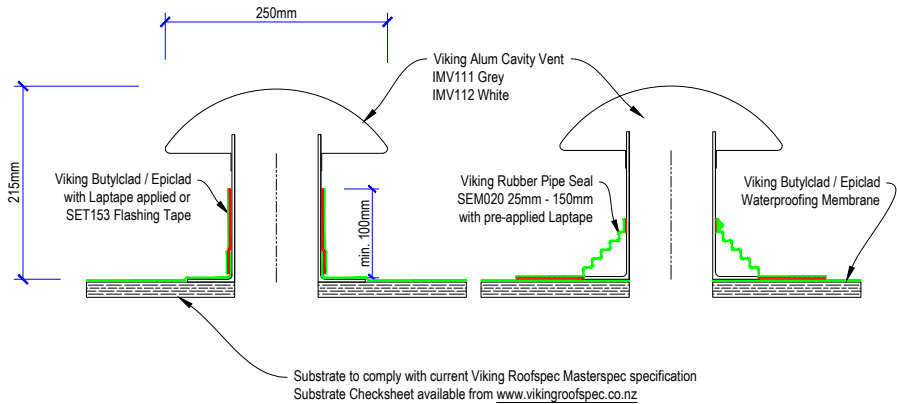
NOTE:
As per E2/AS1 Figure 58

BE17 Kickout Diverter

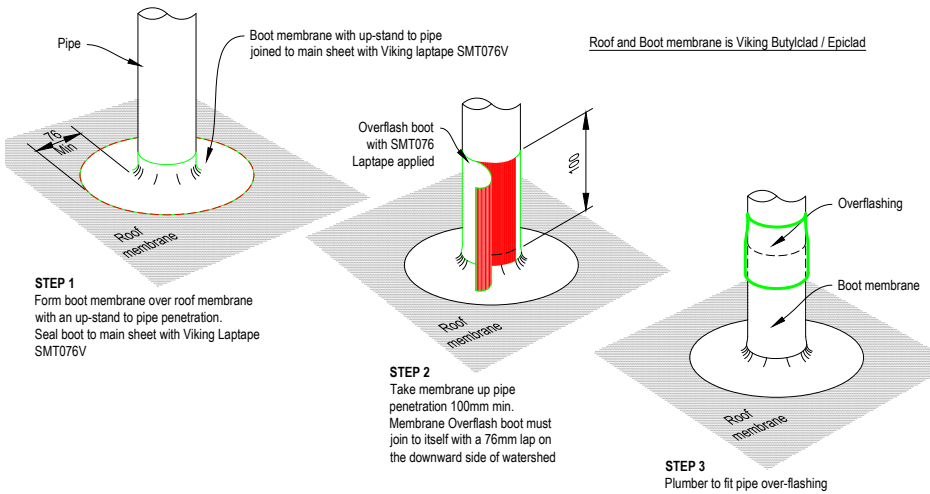


BE19 Vent

How many vents?
 Viking recommends 1 vent within the 1st 40m2 area
 then 1 additional vent per 50m2 thereafter
 Note: No vents required if specifying Viking Warmroof system



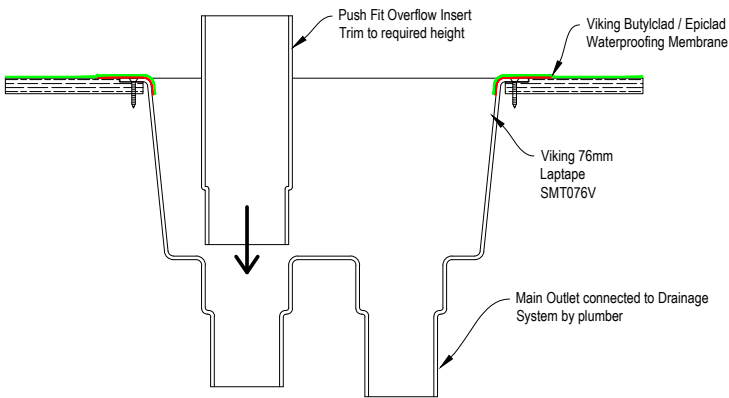
BE20 Pipe Penetration



Refer E2/AS1 Figure 60

BE23 Sump Detail

To install Overflow outlet, cut out the blind base and plumb independent of main storm-water. Overflow should high-light blockage of the outlet.



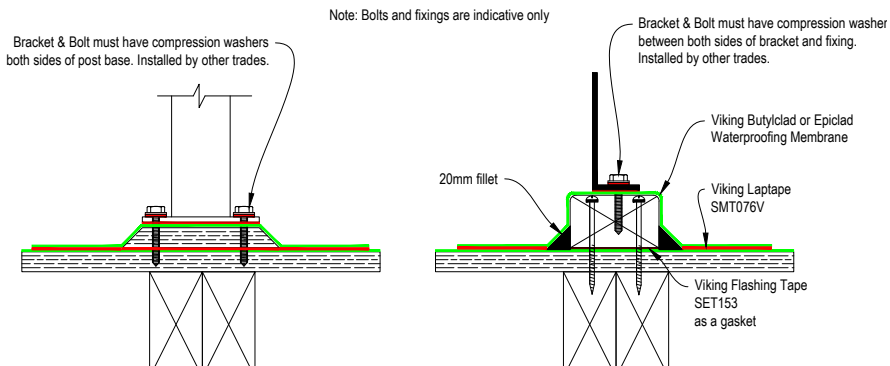
BE24 Plinth Detail

Although Viking Roofspec do not recommend fixing posts or plant through the top of Membrane roofs or decks if this is required then use of a plinth detail provides that fixings by other trades are kept off the main deck area.

Viking Roofspec recommend that any fixing of plant is kept independent of the membrane roof ideally through vertical surfaces such as parapets. All fixings should be shrouded.

Note: Viking Roofspec or Viking Approved Applicators do not warranty fixings installed by other trades.

Contact Viking Technical to discuss options Ph.0800 729-799



Step by step detailing

Following are step by step guides to each of the details you completed in Stage 1.

The most critical points for every laptape detail to remember are:

Clean

Always clean any material to be lapped or joined, using SES225 BMA Solvent or Toluene Cleaning Agent before the addition of Lap-tape.

Prime

Areas to be Lap-taped must be primed using SEC034 WeatherBOND Multipurpose primer (never use glue).

Primer must be tacky without transfer to a dry finger cure before applying the laptape.

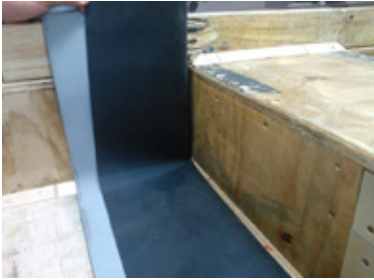
Roll

Laptape is pressure activated- it must be pressure rolled, evenly, across it's entire surface in order to provide an adequate bond.

Laptape

Regardless of the roof pitch, all membrane laps, or details requiring cuts, must have laptape between the two surfaces. Glued laps or joins are not permitted.

Step by step application



Internal corners

1. Position the membrane, and measure the upstand.



2. Form a "pigs ear". Ensure there is enough upstand to go onto the horizontal surface- about 75mm minimum. Cut a line straight along the backmost piece of membrane, following the top edge of the upstand.



3. Cut a line straight along the backmost piece of membrane, following the top edge of the upstand.



4. Fold the cut strip along the back of the parapet.



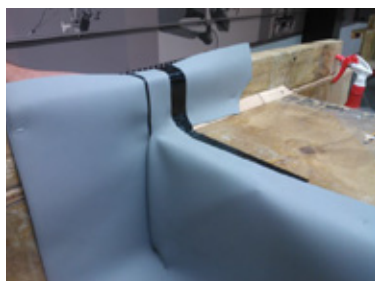
5. Mark the strip on the back of the pigs ear. Cut a straight line almost to the fold of the pigs ear- in line with the gutter edge.



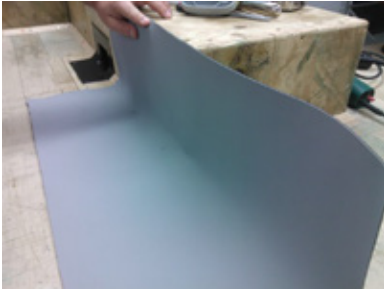
6. Your second cut should form an overlapping strip which goes straight up onto the parapet, overlapping the first strip. The internal corner should fold neatly behind.



7. Clean and prime the area, then apply a strip of laptape from the top of the parapet to the end of the pigs ear. Overlap the edge of the gutter slightly.



8. Clean, and prime the areas to contact the laptape. Glue the pigs ear shut, and glue it into place (Laptape it if you wish). Glue the remaining strip folding over the gutter edge, and the substrate where it does not contact the laptape. Position and pressure roll the membrane to finish.

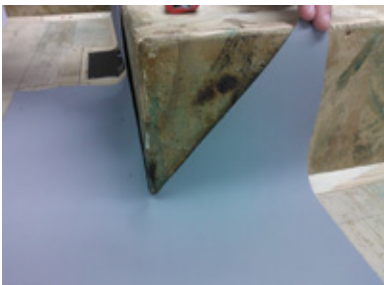


External corners

1. Position the membrane, and measure the upstand.



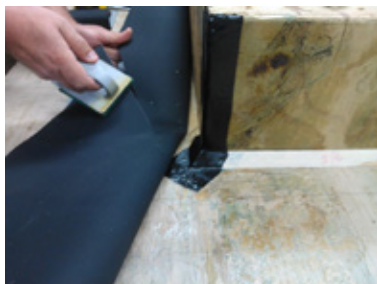
2. Mark a 45° line on the membrane, from the top of the corner fillet, to the top of the upstand.



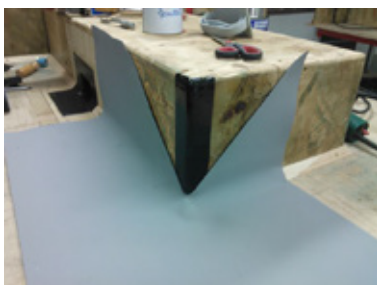
3. Cut the 45, and drop the membrane around the corner.



4. Fold back the membrane and apply laptape to the corner, after priming the corner. Laptape should run from the very top of the corner, down, over the fillet and onto the horizontal plane. The laptape needs to be rolled well.



5. Prime the area which will contact the laptape, and glue the remainder of the membrane and substrate.



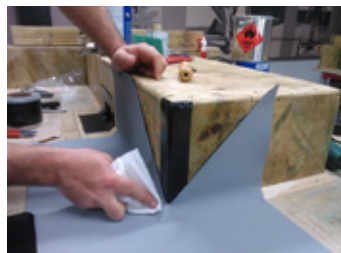
6. Position the glued membrane and roll down.



7. Cut the corner patch to the correct size.



8. Clean the corner patch, prime it, and apply laptape.

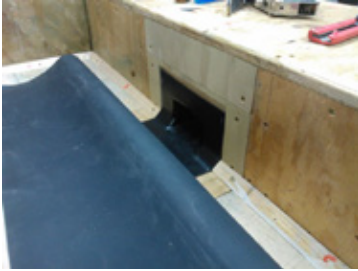


9. Clean and prime the area which will contact the laptape. Glue the back of the patch and the substrate.



10. Position the corner patch and roll down.





Scupper

Note: the scupper must have a fillet profile.

1. Position the membrane.



2. Clean and prime the scupper. Prime the ply either side of the scupper face by 50mm Prime inside the scupper mouth at lower face by 100mm. Your Lap-tape and membrane will dress into it here.



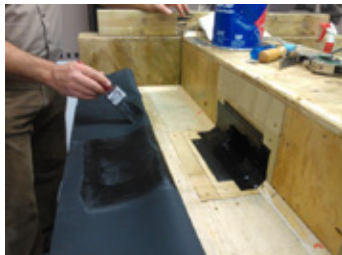
3. Position the first piece of Lap-tape going beyond the scupper face to the ply by 50mm either side. Ensure the Lap-tape starts flat on the horizontal, and extends up the scupper face about 50mm. Pressure roll it in lace firmly.



4. Place further pieces of Lap-tape above and below the first, overlapping each piece at least 10mm. You may need 5 pieces in total to cover the entire scupper face.

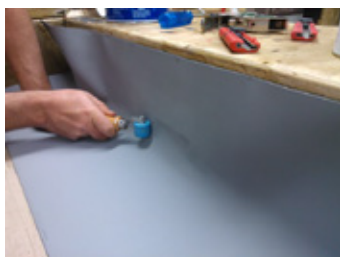


5. Clean the membrane. Prime the area which will contact the scupper face. Glue the remaining membrane and substrate.





6. Carefully roll the glued and primed membrane into place, ensuring it remains relaxed (not stretched).



7. Pressure roll the membrane, paying particular attention to the Lap-taped areas around the scupper mouth.



8. With a clean sharp knife edge Cut horizontally through the membrane and Lap-tape along the top edge of the scupper mouth. Cut straight down either side, stopping short by approx 10mm to create lower flap that will pressure roll into the already primed Scupper mouth.



9. Pressure Roll the membrane into the scupper. Add a bead of Black Rubber Sealant SES012A against the cut edges as precaution to finish.

[illegible]

[illegible]

Stage 1 :

Rubber Assessment

1. Why is it necessary to prime substrates prior to application of adhesive?

2. What is the mix ratio of adhesive and solvent to make a substrate primer mix?

3. Where should you use lap tape?

4. What must you do with a lap join prior to priming?

5. Why is it important to pressure roll the lap tape at both stages of its installation?

6. What advantage does pressure sensitive lap tape have over glued joints?

7. What primer is used with lap tape?

8. What roll widths is Epiclad available in?

m; m

9. Give two points of difference between Butylclad and Epiclad?

10. What is the minimum sheet membrane thickness for;

a roof? _____ mm a deck? _____ mm

11. According to the E2/AS1 what is the minimum fall for

a roof? _____
a deck? _____ a gutter? _____

12. Plywood must be a minimum thickness of?

_____ mm

13. Why is it important to use bond breaker tape over joins of the plywood?

14. How should plywood grain be laid in relation to the supporting timbers?

15. What type of fixings must be used to fasten the plywood?

16. Why should plywood edges be rounded off?

17. Complete the two blanks in this sentence from E2/AS1:

“Closed-in construction spaces under membrane roofs and decks require adequate _____ to prevent the accumulation of moisture...”
... and for membrane roofs greater than _____ m2 refer to manufacturer’s details for roof cavity vents”

18. As well as the Viking Approved Applicator (company), who should also be identified on a workmanship warranty?

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Taking care of detail

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