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# ARDEX Butynol®

## Installation Instructions

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For installation of ARDEX Butynol® and Butyseal

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# ARDEX Butynol®

## Accessories

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### ARDEX RELEASE TAPE

ARDEX Release tape is used on all joints and junctions of sheet substrates. It has a silicone top surface to create an unbonded joint.

### WA98 ADHESIVE

ARDEX WA 98 is a high performance roofing contact adhesive. It has been specially developed for bonding butyl rubber sheeting to roofing substrates. Its convenient and economical spraying, combined with its long tack life, makes it ideal for bonding large areas.

### WPM 290 SOLVENT

WPM 290 Solvent is specially formulated for clean up use with WA 98 Adhesive.

### SEAM PRIMER

Seam Primer is specially formulated for use with Seam Tape. Applied with scrubber pads. Available in 4 and 1 litre cans.

### SEAM TAPE

Used in conjunction with Seam Primer, Seam tape is used in all Butynol® laps.

Supplied by ARDEX in 50mm x 30.5m rolls (6 to a carton).

### DETAIL TAPE (uncured)

A malleable exterior tape for flashing exterior corners etc. 150mm x 30.5m rolls.

### FLASHING TAPE

A malleable tape for moulding in gussets, pipe flashings and awkward situations. Supplied in 100mm x 5m rolls. Flashing tape must not be left exposed. A cover strip of Butynol® or detail tape must be applied over flashing tape to finish.

### BUTYNOL® SEALANT

Available in tubes for caulking guns.

# ARDEX Butynol®

## Substrates

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### SUBSTRATE SPECIFICATION (Plywood)

To conform with Acceptable Solution E2/AS1 plywood shall be:

A minimum of 17mm complying with AS/NZS 2269, at least CD Structural Grade plywood with the sanded C face upwards, and H3.2 with Waterborne CCA treatment and kiln dried after treatment.

Substrates must be dry when Butynol® is applied. The plywood and the timber substructure shall have a maximum moisture content of 20% when Butynol is adhered.

Plywood panels shall be laid with staggered joints (brick bond), the edge of sheets shall be supported with dwangs or framing. The maximum recommended span in E2/AS1 is 400mm. However specific design may allow 17.5mm plywood or greater to be laid on 400mm purlins with nogs or dwangs at 600mm or even 1200mm centres. Plywood shall be laid with the face grain at right angles to the supports. A 20mm triangular fillet shall be used at the base of any 90° upstand. External edges shall be chamfered with a minimum radius of 5mm.

Plywood shall be fixed with 10 gauge x 50mm stainless steel countersunk head screws with 3mm gaps between all sheets, at 150mm centres on edges, and 200mm in the body of the sheets.

All joints in the plywood and junctions of plywood with other materials shall have 25mm ARDEX Release tape applied before application of Butynol®.

### PLYWOOD QUALITY

Plywood to be installed in accordance with the plywood manufacturer's recommendation to provide a suitable surface for membrane.

Problems with plywood quality may effect long term membrane performance.

Please check with your plywood supplier.

We have duplicated the position of one supplier below.

- Face checks in plywood do not affect the structural integrity of the panel as they are confined to the surface veneer and are strictly aesthetic in nature.
- As face checking occurs naturally Carter Holt Harvey Wood products does not consider them to be a manufacturing or product fault.

### Source: Specifications and Installation Guide Carter Holt Harvey.

Laying on plywood with face checking as above should be avoided and surface corrected if possible.

**NOTE: The use of LOSP (Light Organic Solvent Preservative) treated plywood must NOT be used under Butynol® in any circumstances or conditions.**

### SUBSTRATE SPECIFICATION (Strandsarking)

Strandsarking sheets are 3.60m x 800mm x 16.3mm.

Strandsarking sheets shall be laid with staggered joints.(brick bond) The edges of all sheets shall be supported with dwangs or framing. The maximum allowable spacing for supporting roof framing is 400mm.

When a roof has a pitch below 2 degrees it is recommended to use Strandfloor H3.1.

Strandsarking sheets may be butt jointed with an Ardex release tape used over the join.

Fixings.

Shall be 50mm x 4.8mm diameter stainless steel screws fixed at 150mm centres.

If fixings are bought into 100mm centres on the intermediate supports this will allow use in wind zones very high and extra high without any further treatment. Fixings must be positioned no closer than 10mm from the sheet edges.

### SUBSTRATE SPECIFICATION (Concrete)

#### New concrete

Must be cured for a minimum of 28 days and all curing compounds removed prior to application.

A reduction in cure time can be achieved by utilising the ARDEX HydrEpoxy System (consult ARDEX Technical Department for details).

#### Old concrete

Must be clean from any contaminants prior to application.

For further substrate types please consult ARDEX Technical Department.

### ROOF VENTILATION

The most important precaution to observe with low slope roofs is that no construction moisture is enclosed. Low slope or flat roof structures are generally slow drying because of their impermeable cladding. All timbers should be below 20% moisture before being enclosed.

No amount of ventilation will cope with moisture problems created by drying timbers.

If there is a reason to believe that there is moisture trapped in the roof structure ARDEX can provide our standard one way substrate ventilators or our lo rise one way ventilators to provide a better visual appearance.

Soffit ventilation is the most effective way to provide effective roof cavity ventilation. Careful placement of the soffit ventilation to avoid gutters etc, will provide a natural airflow as well as cooling to a low slope membrane clad roof.

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Closed-in construction spaces under Butynol® roofs and decks shall have adequate ventilation to prevent the accumulation of moisture under Butynol®. There should be a minimum gap of 20mm between the underside of the substrate and any insulation.

### **SUBSTRATE VENTILATION**

Substrate ventilation should be used to release moisture trapped under the Butynol® on concrete surfaces.

Substrate ventilators are used in conjunction with vent tapes. Tapes should be laid in a grid pattern spaced at 600mm venting to the roof perimeter.

On plywood substrates ventilators are used at the junction of the ply. Ventilators are not required in most applications.

One way substrate ventilators prevent moisture vapour build up and if required can be installed every 90 square metres. Not designed to ventilate roof cavities.

For cavity ventilation - seek advice from an ARDEX Representative.

# ARDEX Butynol®

## Installation

### LAYING SPECIFICATION

The Sub contractor for the work called for in this trade will be a Company or Person approved by ARDEX.

The approved Applicator (hereafter called the Applicator) shall examine all drawings and provide for the flashing, caulking and sealing of all vents, stacks and pipes penetrating the roofing membrane. Also all flashings at walls, parapets, verges, gutters etc., unless otherwise instructed in the specifications.

The surface to which Butynol® is to be fixed shall be clean, smooth, dry and free from sawdust, grit or sharp objects. Membrane laying shall not start until defects have been corrected.

To avoid staining care should be taken to avoid water runoff from copper downpipes or guttering on to light coloured Butynol®.

When CCA plywood is used in conjunction with a light coloured membrane it is advisable to prime any plywood that will not be covered the same day.

It is the responsibility of the Applicator to ensure that the surface to be covered by the Butynol® is in fit and proper condition, suitable in all respects for the laying of the material.

On completion the Applicator will provide the owner with a Workmanship Warranty and obtain from ARDEX a Materials Warranty.

Failure to comply with the above specifications will result in all warranties being null and void.

### LAYING THE BUTYNOL®

Before applying the Butynol®, it shall be unrolled for twenty minutes to relieve stresses induced by manufacture and storage. The Butynol® sheet shall be set out in the exact position in which it will be finally required and while it is held in place, it shall be folded back lengthwise to expose half the underside. To the now exposed underside and the area of roof also left exposed, apply an even coat of WA 98 Adhesive. When the adhesive has become touch dry, work the sheet back into its original position avoiding wrinkles and the inclusion of air bubbles.

Repeat the process with the other half of the sheet and when completed, roll the whole sheet with hand press rollers or the like.

When applying the next sheet, it shall be lapped over the first sheet by 50mm. All turn ups and downs shall be neatly formed and cut to a straight line if required.

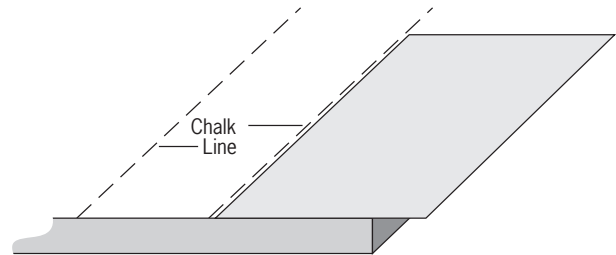
Butynol® shall not be laid under tension.

When the whole area has been covered or as work progresses, the applicator has to seal the laps.

### BUTYNOL® LAYING METHOD

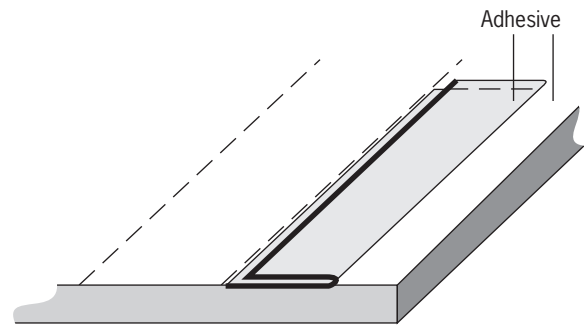
#### STEP 1

Accurately place sheet. Mark spacing with chalk line.



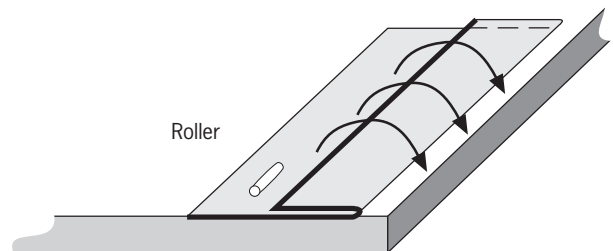
#### STEP 2

Fold back half sheet. Apply adhesive to both faces.



#### STEP 3

After flash off, fold membrane into place. Roll thoroughly.



#### STEP 4

Treat 2nd half of Butynol® similarly.

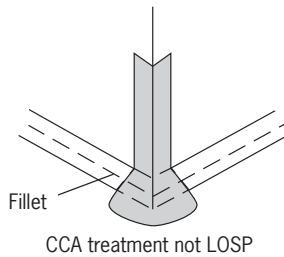
# ARDEX Butynol®

## Installation

### EXTERNAL CORNERS

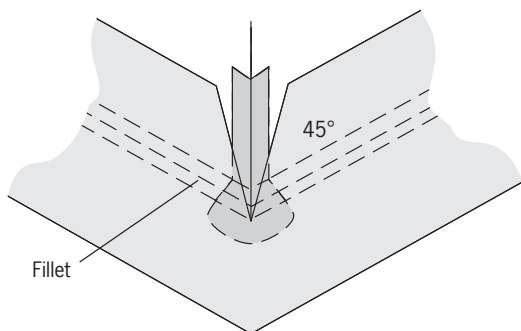
#### STEP 1

Bond 100mm flashing to corner as shown.



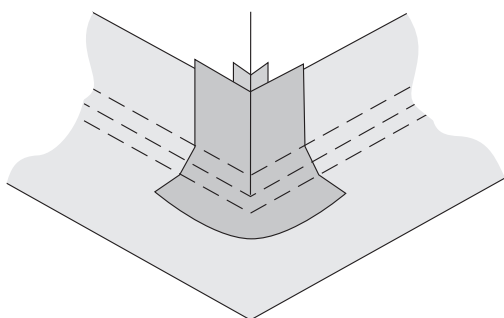
#### STEP 2

Bond Butynol® to deck and up wall 150mm minimum. Cut sheet from corner at 45° as shown.



#### STEP 3

Cover corner point with layer of detail tape.

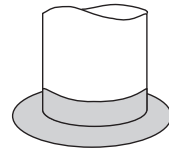


NOTE: Fillets must be used on all internal corners.

### FLASHING - EXISTING PIPE

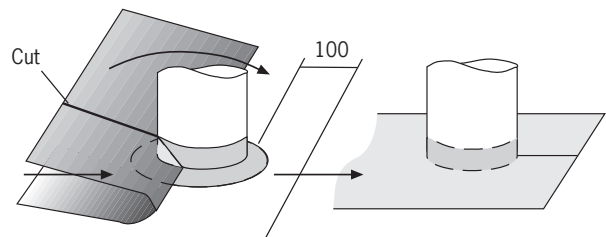
#### STEP 1

Under flash pipe with 100mm Butynol® flashing tape.



#### STEP 2

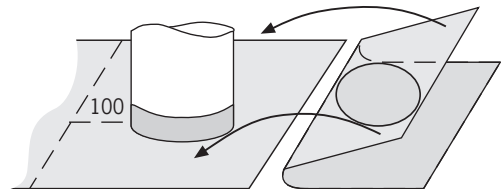
Bond Butynol® to 100mm past pipe. N.B. When flashing black Butynol® use Butynol® or detail tape.



#### STEP 3

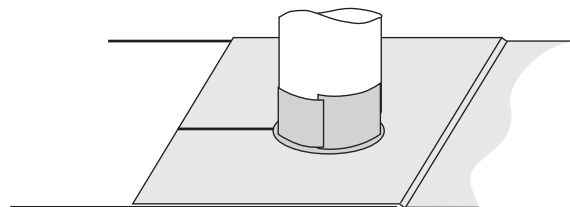
Bond continuation of Butynol® to overlap base sheet and beyond pipe 100mm.

Cut a smooth round hole 20mm smaller than diameter of penetration.



#### STEP 4

Apply collar of detail tape or Butynol® cover strip. DO NOT STRETCH STRIP.



**N.B. Flashing tape MUST NOT be left exposed. Cover strip must be Butynol®. When detail tape is used a cover strip of Butynol® is not required.**

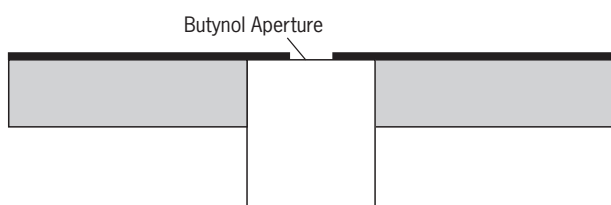
# ARDEX Butynol®

## Installation

### FLASHING - NEW PIPE

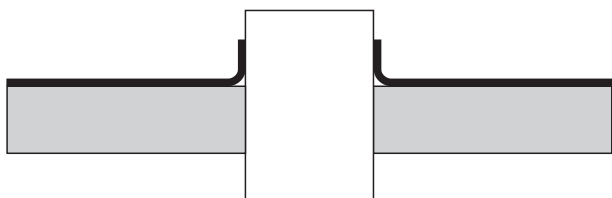
#### STEP 1

Cut smaller diameter hole than pipe.



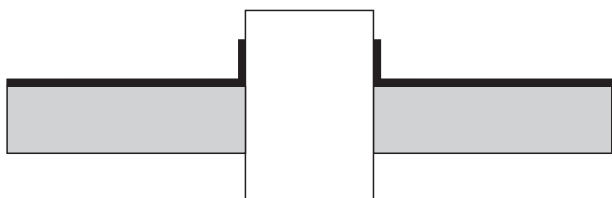
#### STEP 2

Pipe is raised through smaller diameter hole in Butynol®, forcing edge upwards to create upstand.



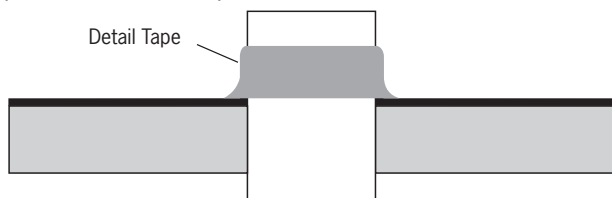
#### STEP 3

Pull pipe down to eliminate void.



#### STEP 4

After pulling pipe down approximately 1cm to sharpen corner, tape upstanding Butynol® to pipe using seam primer and detail tape.



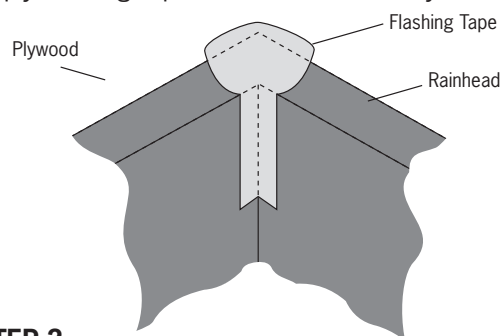
**N.B. If flashing tape is used it MUST NOT be left exposed. A cover strip of Butynol® must be applied over the flashing tape to finish.**

### INTERNAL CORNERS FOR RAINHEADS

and areas where a pig's ear cannot be used.

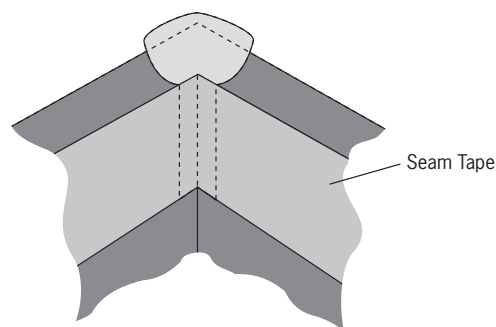
#### STEP 1

Apply Flashing Tape over Rainhead and Plywood.



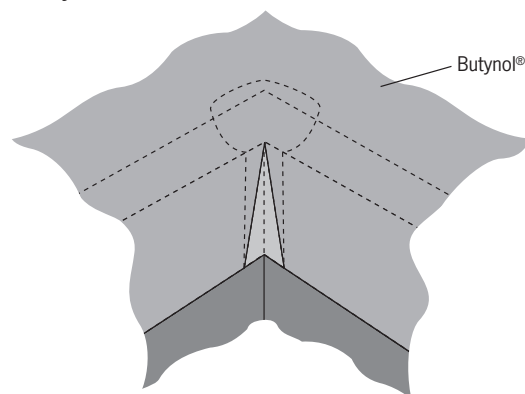
#### STEP 2

Run Seam Tape along all four vertical sides of Rainhead.



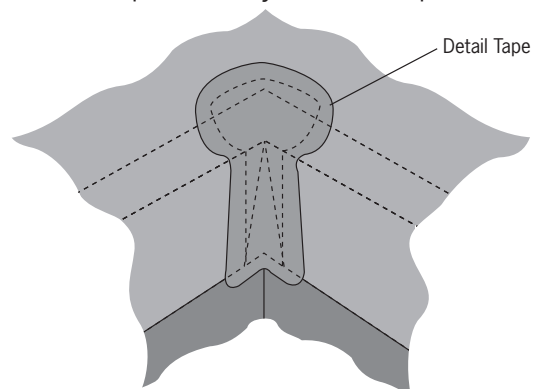
#### STEP 3

Cut Butynol® sheet to fit into corners.



#### STEP 4

Cover corner point with layer of detail tape.

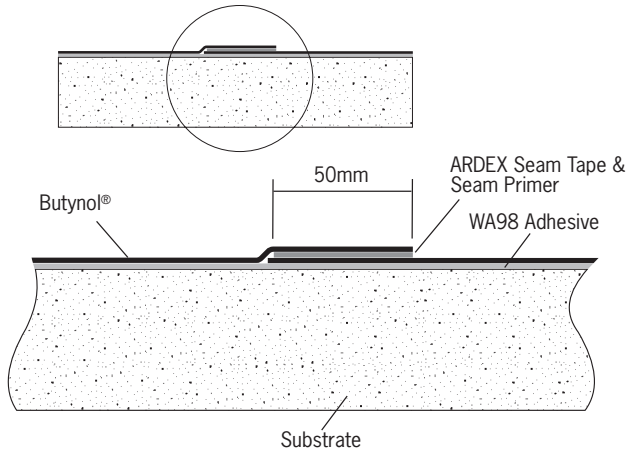


# ARDEX Butynol®

## Installation

### BONDING THE LAPS

Seam tape and seam primer must be used for all Butynol® joints.

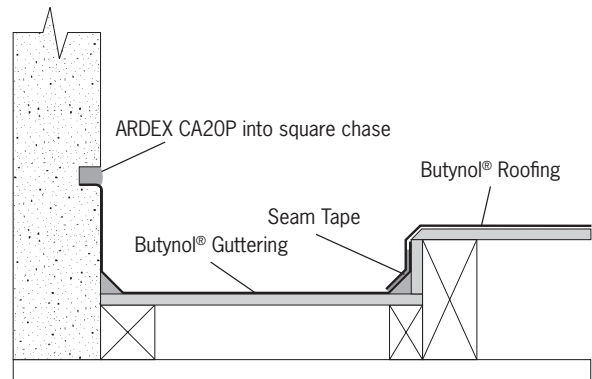


1. The top lap is positioned and the bottom sheet marked to indicate the edge of the top sheet.
2. The top sheet is folded back.
3. The ARDEX Seam Primer is then applied to the Butynol® in the area marked on the bottom sheet and 50mm in from the edge on the top sheet. The ARDEX Seam Primer is applied to the mating surfaces using a synthetic scrubbing pad. Scrubbing pads should be replaced as they become dirty. Allow the primer to become 'touch dry'.
4. Position and unroll the 50mm ARDEX Seam Tape along the seam. The edge of the seam tape should be aligned to the mark on the bottom membrane sheet. The see-through backing film makes this very simple.
5. Roll the length of the seam with backing film still in place.
6. Remove the backing film from the ARDEX Seam Tape by pulling at a 45° angle away from the seam. Keep the backing film low to the roof surface as it is removed.
7. Fold into place the primed edge of the top sheet.
8. Roll the completed seam.

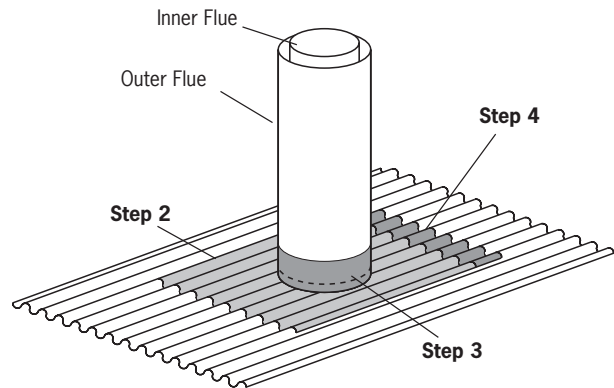
### FORMING LAPS FOR GUTTERS

Laps are most important in gutter work and should be formed using ARDEX seam tape and seam primer.

All internal boxed gutters can be easily formed to any shape or size using Butynol® over any specified substrate.



### FLUE FLASHING



#### Step 1

Measure Butynol® to suit size of pipe. Cut a smooth round hole at least 20mm smaller than diameter at flue penetration. Refer to table 21 of E2/AS1.

#### Step 2

Fix Butynol® Flashing onto roofing with WA 98 adhesive ensuring membrane is relaxed into roofing profile.

#### Step 3

Apply collar of Detail Tape sealed with Seam Primer onto 20mm Butynol® upstand.

#### Step 4

Apply flashing strip of Detail Tape sealed with Seam Primer onto Butynol® top edge and roofing ensuring feather edge is on the upside.



# ARDEX Butynol®

## Installation

### LOOSE LAID APPLICATION OF BUTYNOL® ROOFING

Materials used shall be as previously specified. When the surface is suitably prepared a large fully vulcanised Butynol® sheet or sheets can be unrolled and spread over the prepared area and allowed to remain in this position for approximately one hour to relieve stresses induced by manufacture and storage. If necessary for ease of handling, these sheets can be supplied in varying sizes and vulcanised on site using an ARDEX vulcanising machine or using seam tape with seam primer.

The Butynol® sheet shall be set out in the exact position in which it will be finally required and whilst it is held firmly in place it shall be folded back at least one metre from the roof's surrounding parapet or wall to allow the application of adhesive to that area of the exposed substrate.

WA 98 adhesive may be applied to the substrate and the corresponding area of Butynol® sheeting which may then, when the adhesive is touch dry, be worked back into its required position avoiding wrinkles and the inclusion of air bubbles.

Upon completion of the detail work, parapets, drains and rainheads etc a layer of rounded gravel 30-40mm should be applied up to 50mm deep, over a layer of Geo Textile Fabric for protection of the Butynol® sheet.

Care must be taken at outlets to ensure the ballast cannot enter or cause a blockage that prevents rainwater from leaving the roof area. Maintenance paths should be created to air-conditioning or roof plant with concrete tiles.

Effects on the membrane in areas of high wind can be eliminated by stabilising the ballast with cement. Dry cement should be broadcast over the 30-40mm gravel with a broad mouth shovel and left to hydrate or lightly sprayed with water to set off.

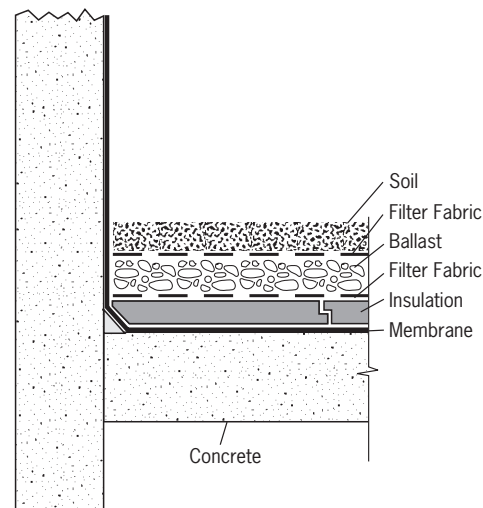
If possible a water test should be carried out prior to the application of ballast.

Note: Minimum pitch 2.0° to comply.

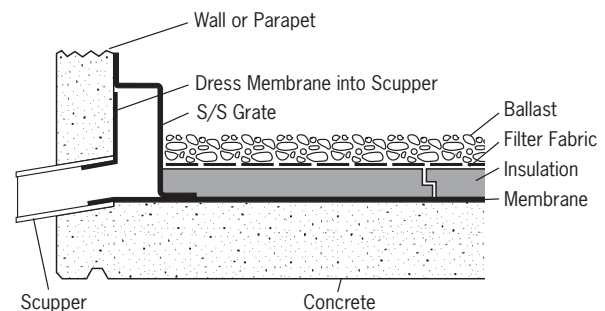
Refer NZBC Clause E2/AS1 External Moisture 8.5.1 (a).

Butynol® can be laid with zero pitch if compliance can be obtained. Lap may be welded in factory or on site if required.

### TYPICAL BALLASTED/GARDEN ROOF DETAIL



### SCUPPER ROOF OUTLET



### SCUPPER ROOF OUTLET & GRAVEL RETAINER

