



ARDEX Butynol®

Installation Guide

For the installation of ARDEX Butynol® Waterproofing Membrane System within the Australian Construction Market.



ARDEX Australia Pty Ltd

20 Powers Road
Seven Hills NSW 2147
1300 788 780
technicalservices@ardexaustralia.com
www.ardexaustralia.com

ARDEX New Zealand Ltd

15 Alfred Street
Onehunga, Auckland 1061
0800 227 339
info@ardexnz.com
www.ardex.co.nz

ARDEX Butynol®

ARDEX Butynol® ACCESSORIES

ARDEX WA 98 ADHESIVE

ARDEX WA 98 Adhesive is a high performance membrane contact adhesive. It has been specially developed for ARDEX sheet applied membranes and adheres to a variety of substrates. ARDEX WA 98 Adhesive can be brush, rolled, or spray applied, and combined with its extended tack life, makes it an ideal membrane contact adhesive for large external areas.

ARDEX WA 98 SOLVENT

ARDEX WA 98 Solvent is specially formulated for thinning of ARDEX WA 98 Adhesive where required and clean up use with ARDEX WA 98 Adhesive.

ARDEX WPM 299 SEAM PRIMER

ARDEX WPM 299 is a rubber polymer based seam primer designed to improve adhesion of ARDEX Seam Tape. ARDEX WPM 299 Seam Primer is specifically for use as a primer prior to adhering ARDEX Seam Tape to Butynol for improved adhesive strength.

ARDEX SEAM TAPE

ARDEX Seam Tape is a pressure-sensitive adhesive tape for bonding laps and seams of ARDEX Butynol® membranes. ARDEX Seam Tape possesses initial high strength, and provides a quick grab onto membranes. Used in conjunction with ARDEX WPM 299 Seam Primer, ARDEX Seam Tape is used in all Butynol® laps.

ARDEX DETAIL TAPE (uncured)

A malleable exterior tape for patching and detailing ARDEX Butynol® around pipes and penetrations, and flashing exterior corners etc.

ARDEX 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 ARDEX Butynol® or ARDEX Detail Tape must be applied over flashing tape to finish.

ARDEX CA 20P

ARDEX CA20P is a one component, silane modified polymer adhesive and neutral curing sealant which hardens in reaction with moisture. ARDEX CA20P is extremely flexible, with a high initial tack and good bond strength, making it suitable for a wide range of applications.

ARDEX RA 040

ARDEX RA 040 is a one-component, polyurethane based joint sealant. It has excellent bond strength to most porous and non-porous substrates without the use of a primer. ARDEX RA 040 is non-sag and may be applied on vertical and horizontal surfaces

ARDEX Butynol®

SUBSTRATE PREPARATION

SURFACE PREPARATION (Concrete)

By way of mechanical method and vacuum cleaning as necessary, remove all dirt, dust, curing compounds, oils, grease, surface sealers, and any other contaminants prior to membrane installation. Prepare surface to leave sound, clean, dry, free from loose or other materials which may cause potential adhesion issues or damage the membrane.

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 WPM 300 (HydrEpoxy), please consult ARDEX Technical Department for details. Old concrete must be prepared accordingly prior to application.

All control joints and junctions shall have 25mm wide Bondbreaker Tape applied before application of ARDEX Butynol®.

For further substrate types please consult ARDEX Technical Department.

SUBSTRATE SPECIFICATION (Plywood)

To conform with Acceptable Solution E2/AS1 plywood shall be a minimum of 19mm thick complying with AS/NZS 2269, at least CD Structural Grade plywood with the sanded C face upwards.

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 wide Bondbreaker Tape applied before application of ARDEX Butynol®.

The plywood and the timber substructure shall have a maximum moisture content of 20% when ARDEX Butynol® is adhered.

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.

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

DRAINAGE SYSTEM

The ARDEX Butynol® membrane shall be installed to the stormwater drainage system via a turn down of the membrane into the inlet of the system. The ARDEX Flashing Tape is to be installed into the drainage system prior to the installation of the ARDEX Butynol® membrane.

Please refer to AS4654.2 for further information.

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.

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.

Closed-in construction spaces under ARDEX Butynol® roofs and decks shall have adequate ventilation to prevent the accumulation of moisture under ARDEX 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 ARDEX 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 installer must be an ARDEX Approved Applicator. 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 ARDEX Butynol® is to be adhered shall be clean, smooth, dry and free from dust, 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 ARDEX Butynol®.

It is the responsibility of the Applicator to ensure that the surface to be covered by the ARDEX 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 ARDEX Butynol®

The installation of ARDEX Butynol® should be carried out by an ARDEX Approved Applicator.

To ensure the correct shedding of water, the membrane must be installed from the lowest point of the area and work towards the highest point, in the direction of the slope.

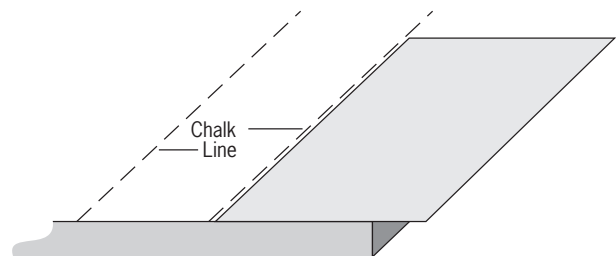
Before applying the ARDEX Butynol®, it shall be unrolled for twenty minutes to relieve stresses induced by manufacture and storage. The ARDEX Butynol® sheet shall be set out in the exact position in which it will be finally required and while it is held in place, it shall be folded back lengthwise to expose half the underside. To the now exposed underside and the area of roof also left exposed, apply an even coat of ARDEX 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. All turn ups and downs shall be neatly formed and cut to a straight line if required.

ARDEX Butynol® shall not be laid under tension in any circumstance.

ARDEX Butynol® LAYING METHOD

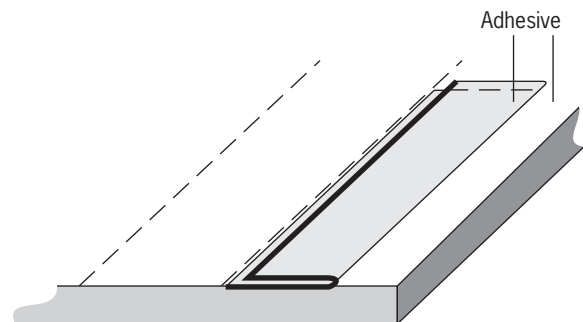
STEP 1

Accurately place sheet. Mark spacing with chalk line.



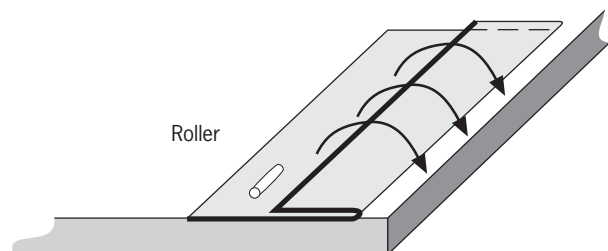
STEP 2

Fold back half sheet. Apply ARDEX WA 98 Adhesive to both faces.



STEP 3

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



STEP 4

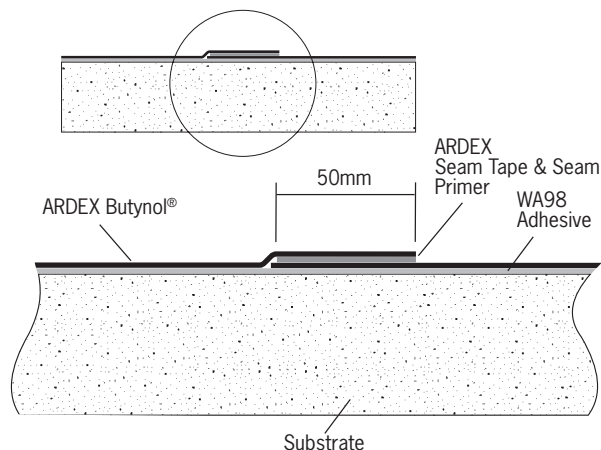
Treat 2nd half of ARDEX Butynol® similarly.

ARDEX Butynol®

INSTALLATION (Continued)

BONDING THE LAPS

ARDEX Seam Tape and ARDEX WPM 299 Seam Primer must be used for all ARDEX Butynol® joints.



When applying the next sheet, it shall be lapped over the first sheet by 50mm. When the whole area has been covered or as work progresses, the applicator must seal all laps. Overlaps shall be sealed using the ARDEX Seam Tape & ARDEX WPM 299 Seam Primer system.

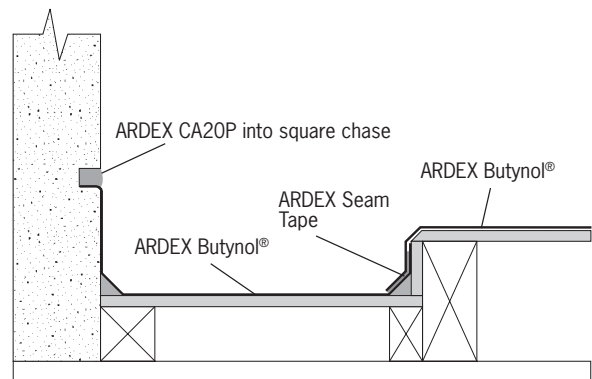
The top lap is positioned and the bottom sheet marked to indicate the edge of the top sheet. The top sheet is folded back.

The ARDEX WPM 299 Seam Primer is then applied to the ARDEX Butynol® in the area marked on the bottom sheet and 50mm in from the edge on the top sheet. The ARDEX WPM 299 Seam Primer is applied to the mating surfaces using a synthetic scrubbing pad. Scrubbing pads should be replaced as they become dirty. Allow the ARDEX WPM 299 Seam Primer to become 'touch dry'.

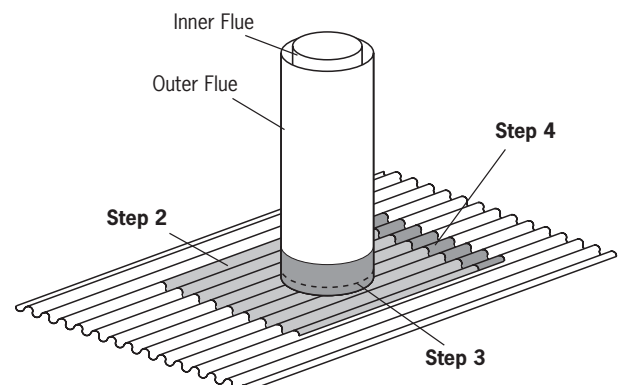
Position and unroll the 50mm ARDEX Seam Tape along the seam. The edge of the seam tape should be aligned to the mark on the bottom membrane sheet. The see-through backing film makes this very simple. Roll the length of the seam with backing film still in place. Remove the backing film from the ARDEX 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. Fold into place the primed edge of the top sheet. 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 ARDEX Butynol® over any specified substrate.



FLUE FLASHING



Step 1

Measure ARDEX 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 ARDEX Butynol® Flashing onto roofing with ARDEX WA 98 Adhesive ensuring membrane is relaxed into roofing profile.

Step 3

Apply collar of ARDEX Detail Tape sealed with ARDEX WPM 299 Seam Primer onto 20mm ARDEX Butynol® upstand.

Step 4

Apply flashing strip of ARDEX Detail Tape sealed with ARDEX WPM 299 Seam Primer onto ARDEX Butynol® top edge and roofing ensuring feather edge is on the upside.

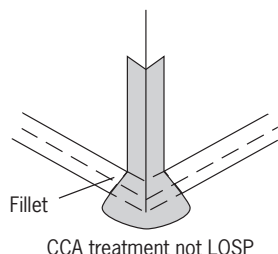
ARDEX Butynol®

INSTALLATION (Continued)

EXTERNAL CORNERS

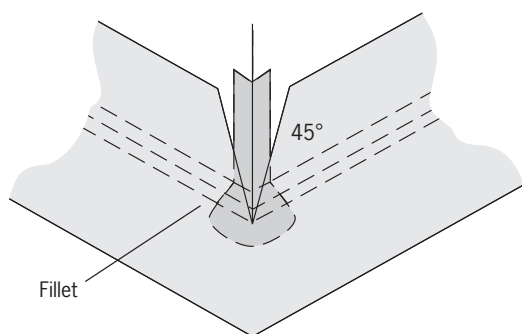
STEP 1

Bond 100mm flashing to corner as shown.



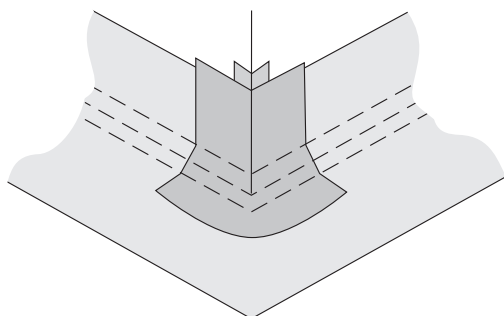
STEP 2

Bond ARDEX 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.

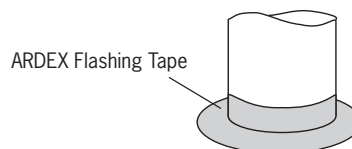


NOTE: Fillets must be used on all internal corners.

FLASHING - EXISTING PIPE

STEP 1

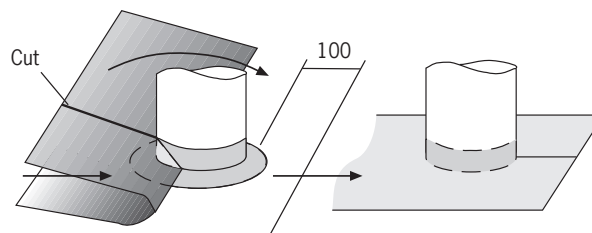
Under flash pipe with 100mm ARDEX Flashing Tape.



STEP 2

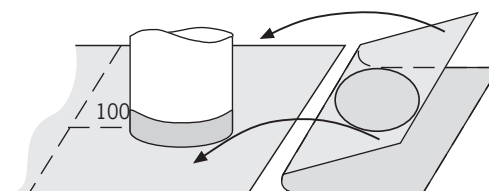
Bond ARDEX Butynol® to 100mm past pipe.

NOTE: When flashing Black Butynol® use ARDEX Butynol® or ARDEX Detail Tape.



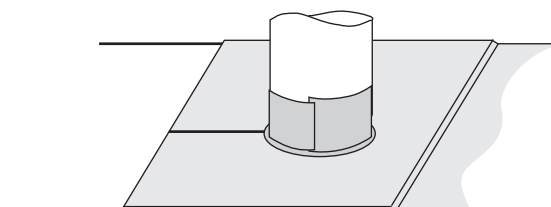
STEP 3

Bond continuation of ARDEX 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 ARDEX Butynol® cover strip. DO NOT STRETCH STRIP.



NOTE: ARDEX Flashing Tape MUST NOT be left exposed. Cover strip must be ARDEX Butynol®. When detail tape is used a cover strip of ARDEX Butynol® is not required.

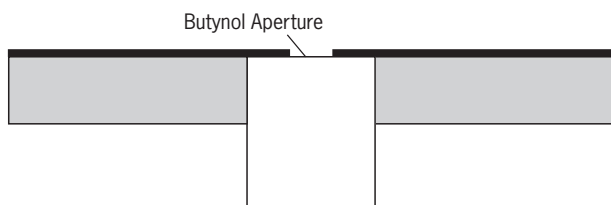
ARDEX Butynol®

INSTALLATION (Continued)

FLASHING - NEW PIPE

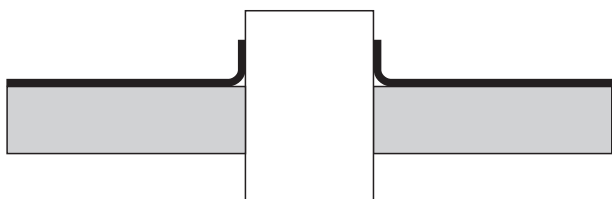
STEP 1

Cut smaller diameter hole than pipe.



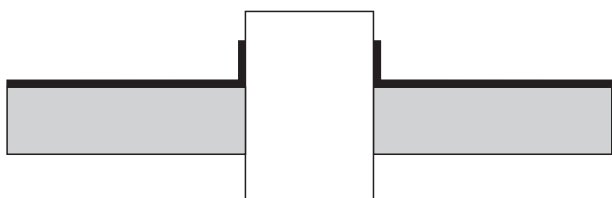
STEP 2

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



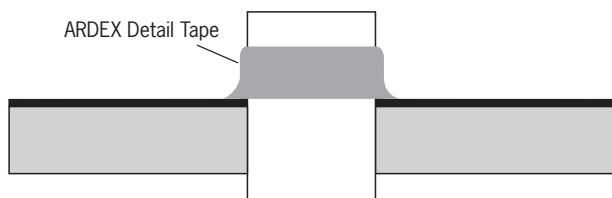
STEP 3

Pull pipe down to eliminate void.



STEP 4

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



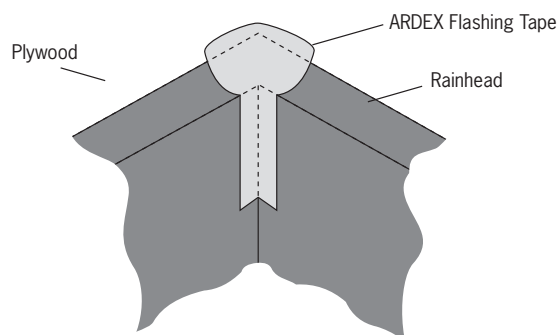
NOTE: If ARDEX Flashing Tape is installed, a cover strip of ARDEX Butynol® must be applied over the ARDEX Flashing Tape to finish.

INTERNAL CORNERS FOR RAINHEADS

(or when the 'pig's ear' detail cannot be used.)

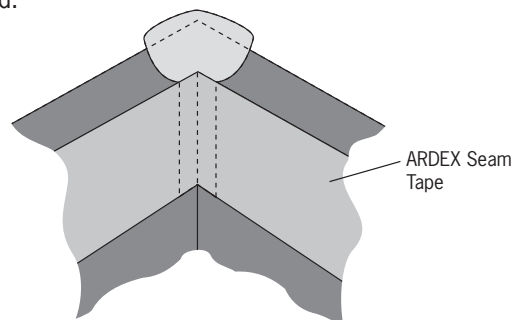
STEP 1

Apply ARDEX Flashing Tape over Rainhead and Plywood.



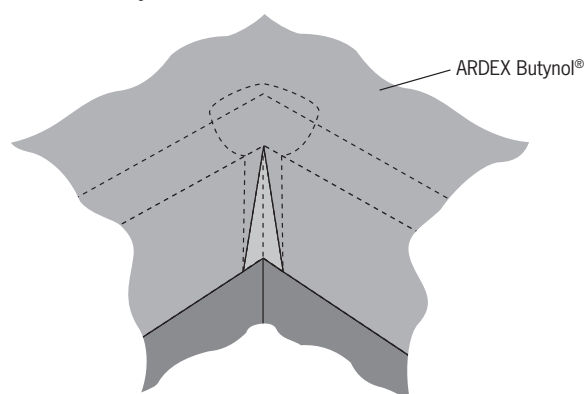
STEP 2

Run ARDEX Seam Tape along all four vertical sides of Rainhead.



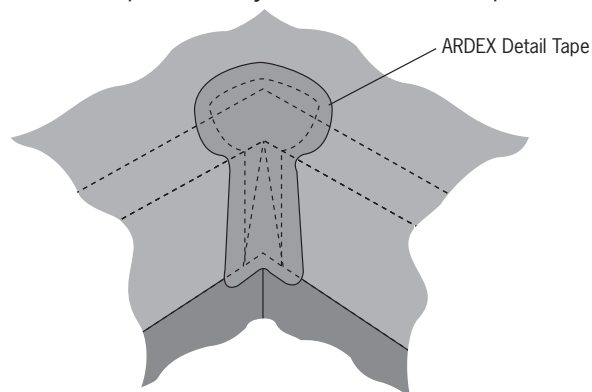
STEP 3

Cut ARDEX Butynol® sheet to fit into corners.



STEP 4

Cover corner point with layer of ARDEX Detail Tape.



ARDEX Butynol®

INSTALLATION (Continued)

LOOSE LAID APPLICATION

Materials used shall be as previously specified. When the surface is suitably prepared a large fully vulcanised ARDEX 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.

The ARDEX 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.

ARDEX WA 98 Adhesive may be applied to the substrate and the corresponding area of ARDEX 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.

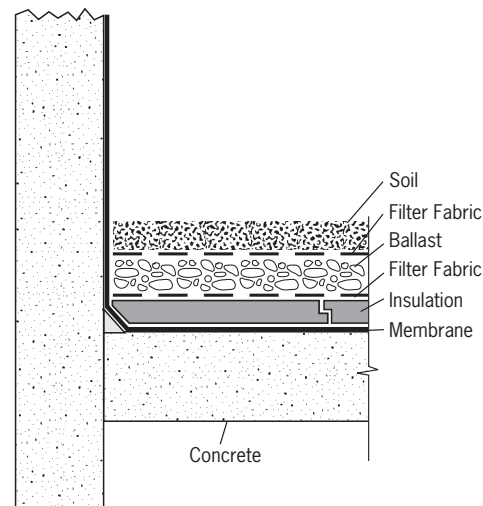
Upon completion of the detail work, parapets, drains and rainheads etc a layer of rounded gravel 30mm - 40mm should be applied up to 50mm deep, over a layer of ARDEX DRS 1 GT (Geotextile Fabric) for protection of the ARDEX Butynol® membrane.

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 rooftop plant equipment (i.e. air-conditioning equipment).

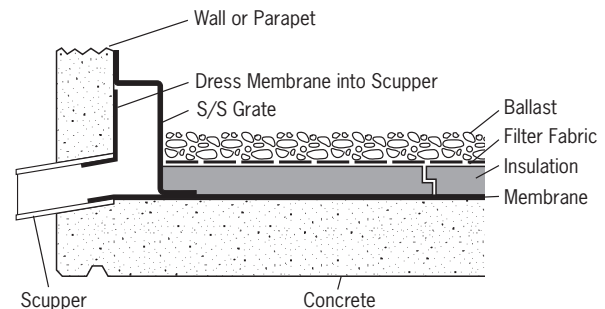
Effects on the membrane in areas of high wind can be eliminated by stabilising the ballast with cement. Dry cement should be broadcast over the 30mm - 40mm gravel with a broad mouth shovel and left to hydrate or lightly sprayed with water to set off.

A 24 hour flood test of the area should be carried out prior to the application of ballast.

TYPICAL BALLASTED/GARDEN ROOF DETAIL



SCUPPER ROOF OUTLET



SCUPPER ROOF OUTLET & GRAVEL RETAINER

