RENOLIT ALKORPLAN (PVC-P) – NEW ZEALAND APPLICATION GUIDE

Archityne Limited

Introduction

This guide is issued by Archityne Limited as the New Zealand distributor for RENOLIT ALKORPLAN PVC-P membrane systems to be supplied under a CodeMark compliance route.

For detailing and system-specific layouts, refer to the RENOLIT ALKORPLAN NZ Technical Drawings (to be issued by Archityne).

About RENOLIT and ALKORPLAN

- RENOLIT has manufactured single-ply roofing membranes for over 45 years.
- RENOLIT ALKORPLAN membranes are used internationally on new build and refurbishment projects.

About ARCHITYNE

- Archityne Limited is New Zealand's premium system provider, specialising in providing the very best in European waterproofing, roofing and cladding systems which have been tried and tested for many years.
- Archityne only partners with systems manufacturers of the highest quality materials and products, many of which having points of difference, making them unique within the New Zealand Construction Industry.
- Archityne draws on vast experience of both the European and New Zealand Construction Sectors, which gives them the ability to provide the very best products and systems to ensure compliance, superior quality and buildability for the New Zealand market.

Electronic Leak Detection (ELD)

- If ELD is specified, a conductive layer beneath the membrane is required.
- Where there is no conductive layer present (e.g., plywood or some concrete decks), conductive mesh may be installed prior to the membrane.
- If foil-faced insulation provides conductivity, additional mesh may not be required.

Minimum falls (NZ)

Area	Minimum fall	Equivalent
Roofs	2°	1:30 (or 34mm/m)
Decks	1.5°	1:40 (or 25mm/m)
Internal Gutters	0.6°	1:100 (or 10mm/m)

Note- it is always prudent to increase falls wherever possible and Archityne recommends this to be the case in order to avoid ponding caused by construction tolerances, deflection or settlement.

System Components Note

Only vapour barriers, insulation, insulation fixings and components provided by or advised by Archityne are to be used within RENOLIT ALKORPLAN systems.

Plywood substrate checklist

Project / Site		Date started	
Approved Applicator Company		Licensed Installer (name)	
Project name & address		Main contractor	
Timber moisture % reading(s)		Test method / device	

Checklist item (tick when compliant)	Comments / remedial action / evidence
☐ Structural plywood to AS/NZS 2269.	
☐ Evidence that plywood was kept dry during construction to be provided.	
☐ H3.2 CCA treatment only (or untreated). No LOSP.	
☐ 17mm roofs / 21mm decks.	
☐ Plywood supported at 400mm centered rafters and nogs (unless otherwise specified).	
☐ Plywood sheets laid staggered in brick-bond pattern.	
☐ Plywood minimum CD grade with sanded face upwards.	
☐ 3mm expansion gaps between plywood sheets.	
☐ 5mm clearance to abutments.	
☐ Minimum 10g x 50mm (or as specified) Stainless Steel countersunk screws.	
☐ Edges chamfered to 5mm radius.	
☐ Substrate dry (≤18% moisture content).	
☐ Test bond completed to ensure adhesion strength (if adhering).	
☐ Confirm all outlets and overflows are membrane compatible.	
☐ Falls achieved.	

Installer signature		Date	
Main contractor signature		Date	

Strandsarking substrate checklist

Project / Site		Date started	
Approved Applicator Company		Licensed Installer (name)	
Project name & address		Main contractor	
Timber moisture % reading(s)		Test method / device	

Checklist item (tick when compliant)	Comments / remedial action / evidence
☐ Strandsarking, 3.600 x .800mt x 16.3mm, square edge H3.1 treated substrate.	
☐ Evidence that Strandsarking was kept dry during construction to be provided.	
☐ Not to be used for Alkorplan F.	
☐ Confirm falls exceed 2 degrees for this product.	
☐ Confirm no use for trafficable decks.	
☐ Strandsarking supported at 400mm centers maximum in one direction with all edges supported also.	
☐ Strandsarking sheets laid staggered in brick-bond pattern.	
☐ 3mm expansion gaps between strandsarking sheets.	
☐ 5mm clearance to abutments.	
☐ Minimum 10g x 50mm (or as specified) Stainless Steel countersunk screws, edge distance no closer than 10mm to sheet edges (refer to Strandsarking BRANZ appraisal for further info).	
☐ Edges chamfered to 5mm radius.	
☐ Substrate dry (≤18% moisture content).	
☐ Test bond completed to ensure adhesion strength (no mechanical fixing allowed with this substrate).	
☐ Confirm all outlets and overflows are membrane compatible.	

Installer signature		Date	
Main contractor signature		Date	

Concrete substrate checklist

Project / Site		Date started	
Approved Applicator Company		Licensed Installer (name)	
Project name & address		Main contractor	
Concrete RH% reading(s)		Test method / device	

Checklist item (tick when compliant)	Comments / remedial action / evidence
☐ ≥28 days cured.	
☐ ≤75% RH.	
☐ Surface smooth, clean, dry (≤ 6% moisture content for adhering) and free of release agents.	
☐ Confirm concrete/ screed topping falls correctly as per design.	
☐ Confirm all outlets and overflows are membrane compatible and rebates within the concrete are formed for these to be installed into.	
☐ Ensure any plinths or pads are formed prior to any membrane system installation starting.	
☐ Ensure any construction joints are formed to design prior to any membrane system works commencing.	
☐ Test bond completed to ensure adhesion strength (if adhering).	
☐ Falls achieved.	

Installer signature		Date	
Main contractor signature		Date	

Metal tray checklist

Project / Site		Date started	
Approved Applicator Company		Licensed Installer (name)	
Project name & address		Main contractor	

Checklist item (tick when compliant)	Comments / remedial action / evidence
☐ Ensure deck is fixed as per supplier's technical literature with the fixing pattern to suit the wind loads and site conditions and that is complies with NZ 2728.	
☐ Ensure the correct fixings have been used for the location, minimum Class 4 or as per the specification.	
☐ Ensure all sheet edges/ perimeters are flashed accordingly.	
☐ Ensure all fixings are in the pan so as to not cause damage to vapour barriers.	
☐ Ensure deck is fully supported with steel/ timber at all edges.	
☐ Ensure purlin centres are suitable for the profile chosen for the deck.	
☐ No direct lay to metal deck.	
☐ Falls achieved.	

Installer signature		Date	
Main contractor signature		Date	

Insulation checklist

Project / Site		Date started	
Approved Applicator Company		Licensed Installer (name)	
Project name & address		Main contractor	

Checklist item (tick when compliant)	Comments / remedial action / evidence
☐ Confirm the specific deck has been inspected and signed off on the relevant checklist prior to commencing the warm roof system.	
☐ Confirm the insulant meets the requirements NZBC Clause H1 with R-values appropriate for the specific Climate Zone.	
☐ Ensure specified vapour barrier is installed correctly, with laps, primer and perimeter detailing as per Renolit Alkorplan typical details or project design. No insulation can be installed prior to QA sign off of the vapour barrier by the contractor, with evidence provided to Archityne.	
☐ Only use Archityne approved adhesive for the insulation if Renolit Alkorplan A.	
☐ Only use Archityne approved fixings and washers for the insulation if Renolit Alkorplan F.	
☐ Ensure insulation is installed brick-bond pattern with no voids. Any gaps to that are unavoidable must be filled with an Archityne approved fire rated expanding foam with any overspill cut off to ensure a smooth, level surface.	
☐ Ensure any penetrations are detailed as per the Renolit Alkorplan typical details or project design.	
☐ If no vapour barrier is specified onto the deck, ensure the project design details are followed to ensure the metal deck acts as a vapour barrier.	
☐ Falls achieved.	

Installer signature		Date	
Main contractor signature		Date	

Metal Faced Insulated (Cold Store/ Freezer) Panel checklist

Project / Site		Date started	
Approved Applicator Company		Licensed Installer (name)	
Project name & address		Main contractor	

Checklist item (tick when compliant)	Comments / remedial action / evidence
☐ Ensure insulated panel substrate is installed as per project details, panel manufacturer's typical details and any CodeMark details (as applicable)	
☐ Ensure all panel side laps and butt joints are appropriately flashed or sealed as per the panel manufacturer's requirements and the project details.	
☐ Ensure all abutments between the vertical and horizontal planes are flashed or sealed as per the panel manufacturer's requirements and the project details.	
☐ Ensure all panel fixings and suitably rebated with the appropriate spreader washers as per the panel manufacturer's requirements and the project details with any sealing tapes installed prior to the membrane installation commencement.	
☐ Ensure the panel substrate is fully supported with steel/ timber at all edges.	
☐ Ensure purlin centres are suitable for the spans of the chosen insulated panel.	
☐ Ensure all panel detailing allows for a full thermal substrate with all air-tight detailing as per the panel manufacturer's requirements and the project details.	
☐ Falls achieved.	

Installer signature		Date	
Main contractor signature		Date	

RENOLIT ALKORPLAN – Installation Guide

Material Storage & Handling

- Store membrane rolls dry and protected from dampness wherever possible.
- Keep labels for roll and batch traceability. All accessories must have the labels recorded also. This is a warranty requirement.
- If rolls are palletised or crated, offload and move using a fork hoist or lifting device with pallet forks.

Substrate Preparation

- Substrate must be smooth, clean and dry.
- Remove debris, oil and protrusions.

Separation Layers & Compatibility

- Do not lay directly onto bituminous substrates.
- Install polyester or glass fleece separation layer where required (as per the table below), note that in many instances the fleece-backing on A membrane types will act as the separation layer. Refer to your Archityne representative for further information.

Substrate	Separation / protection layer
Extruded and expanded polystyrene insulation (EPS/XPS)	ALKORPLUS 81001 glass fleece, 120 g/m²
Unfaced polyurethane and polyisocyanurate insulation (PUR/PIR)	ALKORPLUS 81001 glass fleece, 120 g/m²
Bituminous substrates (incl. bitumen laminated insulation, old bituminous roofing membrane, etc.)	ALKORPLUS 81005 polyester fleece, 300 g/m²
Rough surfaces (e.g. concrete)	ALKORPLUS 81005 polyester fleece, 300 g/m²

Application Systems

- Loose laid systems where ballast/pavers specified. This is Renolit Alkorplan ‘L’.
- Mechanically fixed systems are subject to wind uplift design. This is Renolit Alkorplan ‘F’.
- Fully adhered systems with the Renolit Alkorplan approved adhesives. This is Renolit Alkorplan ‘A’.
- Refer to the NZ typical drawings for full detailing.

Renolit Alkorplan A:-

- RENOLIT ALKORPLAN A roofing membrane is for fully bonded installations. It is a polyester reinforced roofing membrane with a 300 g/m² polyester fleece backing. This membrane is adhered to its substrate using RENOLIT ALKORPLUS (81068/81168) polyurethane adhesive (PUR) or RENOLIT ALKORPLUS (81065) universal adhesive (RENOLIT DUALFIX). RENOLIT ALKORPLAN A roofing membranes may be applied directly to old bituminous roofs for refurbishment.
- Refer to the relevant substrate checklist and typical details prior to commencement.
- The end laps of RENOLIT ALKORPLAN A roofing membrane are butt jointed (Figure A). The joint should be covered with a 50 mm wide aluminium foil tape to maintain an un-welded area. A 200 mm wide cover strip of RENOLIT ALKORPLAN D or RENOLIT ALKORPLAN F is then welded across the joint. (Figure B).

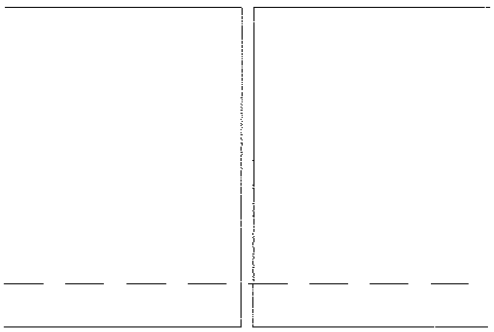


FIGURE (A) ABOVE

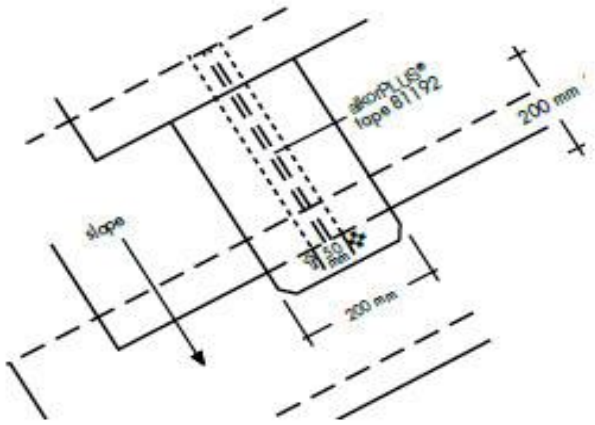


FIGURE (B) ABOVE

- The RENOLIT ALKORPLUS 81068/81168 PU adhesive may only be applied during dry weather and at a minimum outdoor and or deck temperature of 5 °C. RENOLIT ALKORPLAN A roofing membrane is to be rolled out with a 80 mm overlap. The membrane is then rolled back up again halfway or folded back and the adhesive is applied either by hand or by using an applicator trolley. The adhesive must be spread evenly with a plastic blade or 300 mm roller. Concentrations/pooling of adhesive must be avoided! RENOLIT ALKORPLAN A roofing membrane is rolled and pressed onto fresh adhesive once it has become tacky with the fleece backing on the underside. Adhesive is applied for the other half of the roll in the same way.
- A 200 mm area free of glue must be provided along end lap joints and at expansion or contraction gaps in the substrate.
- The quantity of adhesive and its spread will be determined by the nature of the substrate. RENOLIT ALKORPLAN A is fully bonded. Bond quality depends on even distribution of the adhesive across the surface of the insulation rather than on its thickness. Typical quantity 300g/m².



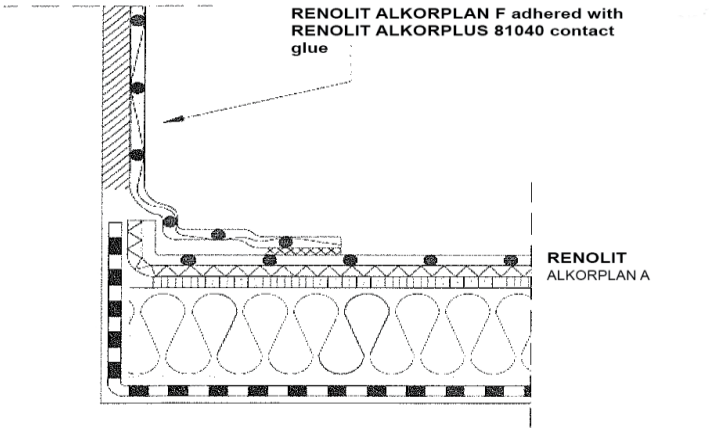
- The RENOLIT ALKORPLUS 81065 universal adhesive (DUALFIX) is a one component moisture curing polyurethane glue especially created for bonding fleece-backed synthetic roofing membranes to insulation, metal faced insulated panel substrates or other substrates as

noted in the substrate checklists. It can also be used for bonding insulation to either the roof surface or to insulation. For advice, please contact your Archityne representative. ***Note- Archityne provides other adhesives for bonding insulation also- please refer to the relevant installation guide for those products.***

- Bonding membrane: The surface should be clean of standing water, dust, grease and other contaminants. Rolls of roofing membrane may be laid out adjacent and rolled back in half or pulled back longitudinal, subsequent to positioning. The adhesive is atomized on the roof surface or insulation (consumption between 130 and 160 g/m², depending on the surface) by means of a spray gun and compressor. Within 4 to 9 minutes when the adhesive is touch dry the fleece-backed roofing membrane is rolled onto the adhesive. Any air trapped under the membrane may be removed by pressure of a broom. The roofing membrane should be pressed or rolled onto the adhesive until sufficient initial curing has taken place. Overall curing time for the adhesive is between 20 to 45 minutes depending on humidity.

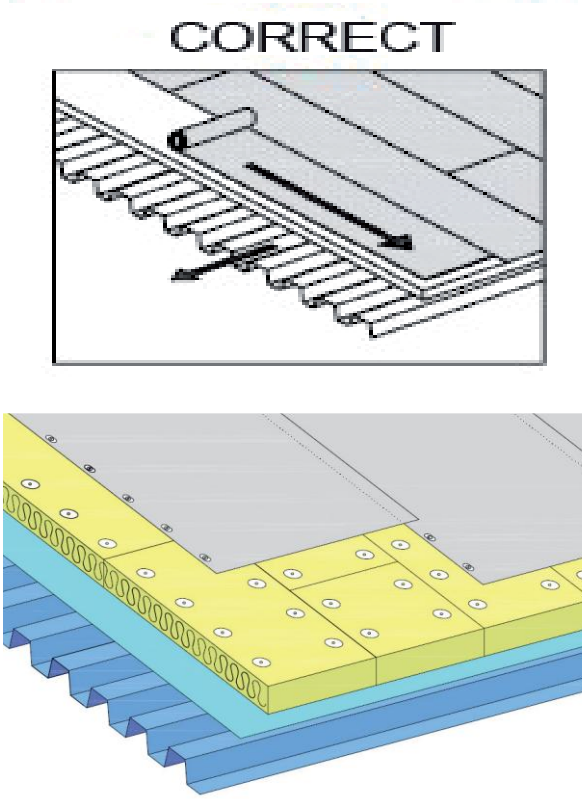
- Bonding Insulation:-The surface should be clean of standing water, dust, grease and other contaminants. The distance between beads should be 150 mm in the corners and perimeter and 300 mm in the centre depending on wind load (width of bead 20 to 25 mm). The adhesive is dispensed by means of a spray nozzle. The strands of adhesive are installed in a longitudinal fashion; the insulation boards are subsequently laid long dimension perpendicular to the strands. The insulation boards should be placed within 3 minutes of dispensing the adhesive and should be pressed onto the adhesive until sufficient initial curing has taken place. Curing time is between 20 to 45 minutes depending on humidity.
- Before commencement, a small bonding test should be carried out to verify if the adhesive is suitable for the application. A minimum bond of 1 N/mm is necessary.
- Edge Restraint:- Fixing RENOLIT ALKORPLAN A roofing membrane at its edge, for example, at the base of upstands and around protrusions is always required.
- Fully bonded RENOLIT ALKORPLAN A roofing membrane may be applied to both the field, side and top of upstands. Alternatively, RENOLIT ALKORPLAN A may be fully bonded on the field and RENOLIT ALKORPLAN F contact adhered or mechanically fixed to the wall (see Figure on page 13 showing contact adhered method).

- If this is the case, then no mechanical fastening of the Renolit Alkorplan A membrane is required at the edge as the fully bonded contact adhered Alkorplan F (if this method is chosen) or the fully bonded Renolit Alkorplan A to the upstands (if this method is chosen), will be providing the mechanical restraint of the membrane.
- For further information on perimeter fixing options, refer to the section on page 19.

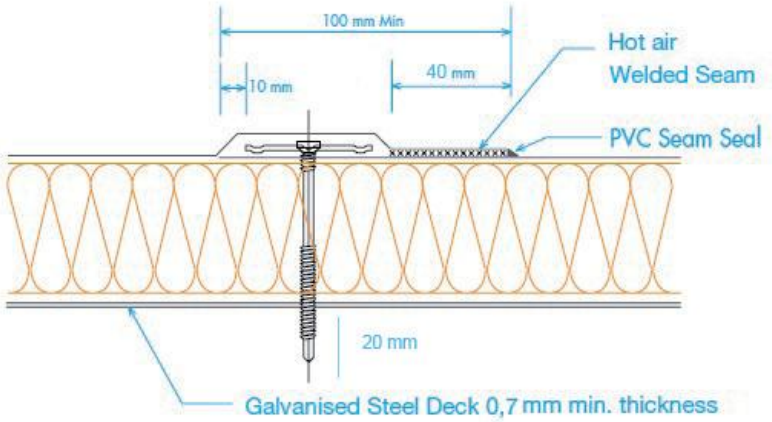


Renolit Alkorplan F:-

- RENOLIT ALKORPLAN F roofing membrane are used for mechanically fastened systems. This roofing membrane features polyester reinforcement as standard. RENOLIT ALKORPLAN F roofing membrane is mechanically fastened to the supporting structure using fasteners and washer tubes or plates
  - Refer to the relevant substrate checklist and typical details prior to commencement.
  - RENOLIT ALKORPLAN F roofing membranes must be installed perpendicular to the corrugated steel or aluminium deck.



- Screws and pressure plates are installed on the side lap. A marker line has been applied for this purpose.
- The type and length of the fasteners will be determined by: the type of substrate & the thickness of insulation. Regardless of the wind calculation a minimum of 2 fasteners per square metre must be respected at all times. The minimum spacing between fasteners is 150 mm. Only approved fasteners shall be used. If in doubt, contact your Archityne representative. When installing the pressure plates ensure that they are not overtightened. These pressure plates work in a different way from those used to fix the insulation board. A fastener that is overtightened becomes ineffective and places greater strain on the adjacent fixings. Overtightened fasteners must be replaced.
    - Mechanically fixed membrane is installed with a minimum overlap of 100 mm and a 40 mm weld. Overlaps should be hot-air welded.
    - There must always be a minimum of 10 mm between the edge of the pressure plate and the edge of the roofing membrane.
    - Fixing RENOLIT ALKORPLAN F roofing membrane at its edge, for example, at the base of upstands and around protrusions is always required



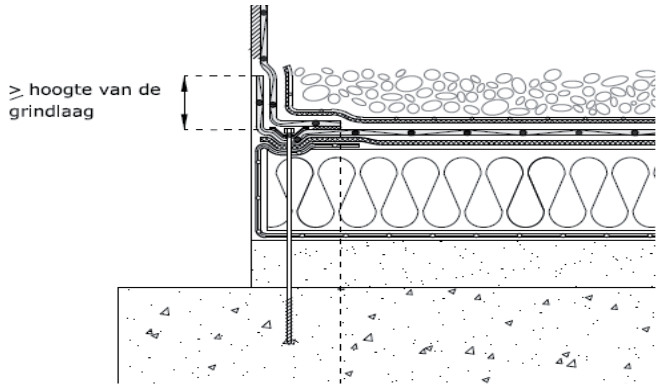
• Renolit Alkorplan F membrane can be used for mechanically fixed or fully bonded application (with contact adhesive Renolit Alkorplus 81040 or 81140) to gutters, including insulated (freezer and coldstore) formed panel gutters. Refer to the NZ typical drawings for full detailing.

• However, if Renolit Alkorplan F is used for this process, then all fasteners must be recessed, all washers flush with the substrate and all sharp edges of flashings etc, must be removed/ chamfered. Crush folds can be used to remove sharp edges on metal flashings.

• If fasteners cannot be recessed fully or all sharp edges removed, then Renolit Alkorplan A membrane must be used in lieu of Renolit Alkorplan F membrane and this Renolit Alkorplan A membrane would be fully bonded with Renolit Alkorplus 81065, 81068 or 81168 PU adhesive.

Renolit Alkorplan L:-

- RENOLIT ALKORPLAN L glass scrim reinforced roofing membrane is for ballasted installations. Its dedicated chemistry and manufacture allows RENOLIT ALKORPLAN L roofing membrane to be eminently suitable for loose laid ballasted systems.
- Refer to the relevant substrate checklist and typical details prior to commencement.
- RENOLIT ALKORPLAN L roofing membrane must be mechanically fixed at the edge, for example: at the base of upstands and around protrusions.



- If the edge detail is to be covered (e.g. with a parapet cladding sheet or flashings) RENOLIT ALKORPLAN L roofing membrane is to be used, adhered with RENOLIT ALKORPLUS 81040/81140 contact adhesive over the full face. ***(Please note this membrane must not be installed in a position which leaves it exposed to direct sunlight).***
- If the edge detail is not to be covered, RENOLIT ALKORPLAN F or A roofing membrane is to be used (Refer to RENOLIT ALKORPLAN F or A systems). In this situation, the RENOLIT ALKORPLAN L roofing membrane on the flat surface must be turned up by a minimum of 10 mm against the wall or to the height of the ballast/ deck layer.
- A loose laid protective layer of RENOLIT ALKORPLAN 35121 must be installed on top of the waterproofing. This product is side lap welded.
- The ballast layer should be applied immediately after the RENOLIT ALKORPLAN L roofing membrane and its protection layer in order to offset wind forces.

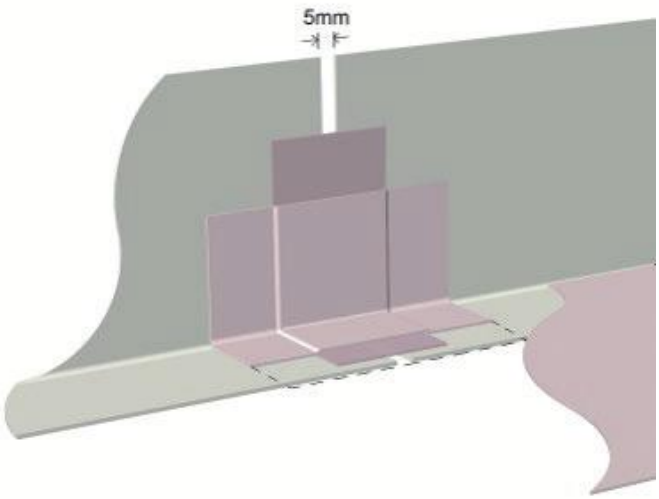
Green Roofs:-

- RENOLIT ALKORPLAN LA glass scrim reinforced and polyester fleece backed as waterproofing membrane within green roof systems.
- Refer to the relevant substrate checklist and typical details prior to commencement.
- The RENOLIT ALKORPLAN LA roofing membrane is installed as described for the RENOLIT ALKORPLAN A system.

Perimeter Fixing Options:-

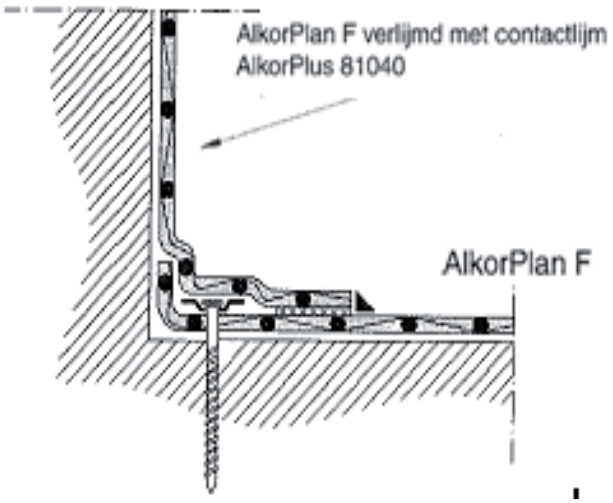
RENOLIT ALKORMETAL OPTION

- At the perimeter of the roof, RENOLIT ALKORPLAN metal profiles are used to terminate the RENOLIT ALKORPLAN roofing membrane. They are prefabricated to the required profile for each job and are cut and bent to fit the edge detail of the roof. Between sections RENOLIT ALKORPLAN metal profiles are fixed with a waterproof joint before the installation of the main RENOLIT ALKORPLAN field sheet. Unless otherwise advised, the metal profile is fixed through to the deck with self-drill/ tapping fasteners at 250 mm centres; with the first screw 50 mm from the end of the profile. The metal profiles are fixed leaving a minimum 5 mm gap between each section. The gap is covered with a 50 mm wide Aluminium tape. This gives a 50 mm wide unwelded gap between sections which allows a sufficient area of membrane for expansion and contraction movement in the joint. A 200 mm wide strap of RENOLIT ALKORPLAN is then welded over the joint to form a waterproof edge detail for the termination of the RENOLIT ALKORPLAN field sheet.



PEELSTOP FIXING OPTION

- Alternatively, RENOLIT ALKORPLAN may be terminated in the perimeter corner with a peel stop bar RENOLIT ALKORPLUS 81103 and fixed at 250 mm centres.



- The roof edge and upstand must be finished in a wind-tight manner. A windproof finish may be achieved by either bonding the RENOLIT ALKORPLAN F roofing membrane over the full surface using RENOLIT ALKORPLUS 81040/81140 contact adhesive (adhesive consumption 2 x 150 g/m²) or through the use of expanding foam tape, RENOLIT ALKORPLUS 81058 on a mechanically fixed upstand and roof edge.
- On upstands 500 mm and above in height, RENOLIT ALKORPLAN F may be either side lap fixed or welded to 50 mm deep RENOLIT ALKORPLAN Metal strips, screw fixed at 200 mm centres. Alternatively, it may be adhered with contact adhesive.
- When using RENOLIT ALKORPLAN A roofing membrane a windproof finish may be achieved by bonding the membrane over the full surface using RENOLIT ALKORPLUS 81068/81168/81065 adhesive.
- Note that when the field membrane is fully bonded (Renolit Alkorplan A application), fully bonding the perimeter upstand with either Renolit Alkorplan A or Renolit Alkorplan F membranes, there will be no requirement for a mechanical termination of the field membrane as the upstand membrane is full bonded and heat welded onto the field membrane.

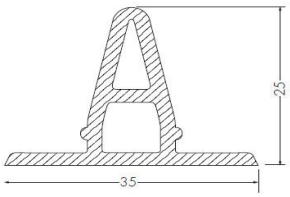
Corners:-

- Corners are formed by miter cutting and folding sections RENOLIT ALKORPLAN angle to the point of the corner and welding a prefabricated internal or external corner over the apex once the field sheet is in place. Care must be taken when installing corners to ensure that the membrane is welded into the point of the corner. Once the molded unit is spot welded into position the corner points are welded first, then the three curved sections.

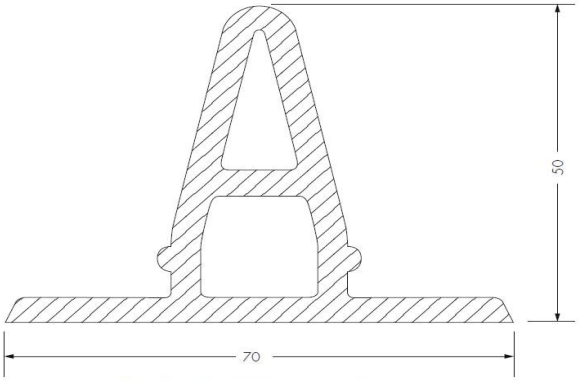
- Hot air weld with a 20 mm nozzle in combination with a penny roller.

Design Profiles:-

- There are two types of RENOLIT ALKORPLAN Design profiles available to imitate a standing seam: large profile and X-large profile.



RENOLIT ALKORDESIGN profile Large

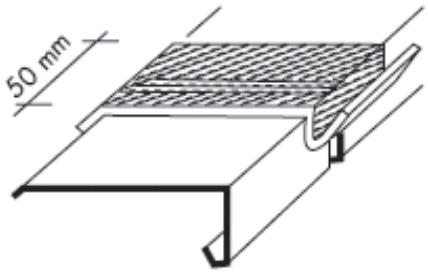


RENOLIT ALKORDESIGN profile X-Large

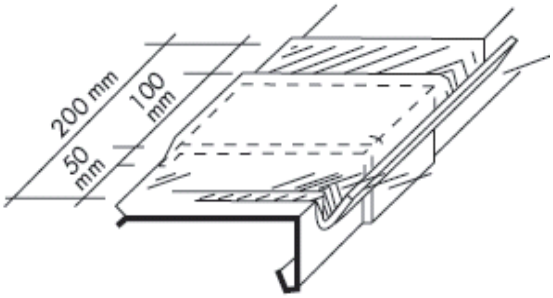
COLOUR CHOICE ABOVE

RENOLIT ALKORMETAL DETAILING:-

- Fabricated lengths of RENOLIT ALKORPLAN Metal sheet are fixed mechanically, the selection of fastener type will depend on the roof buildup and substrate. Fasteners at the joint of the metal sheet should be positioned at around 50 mm in from the edge. The maximum spacing between fasteners fixed vertically is 250 mm. They are installed in a staggered pattern for optimum security.
- A gap of 5mm must be left free between lengths of metal trim to allow for thermal expansion.
- The joint is covered with 50 mm wide aluminium foil tap. Contact Archityne for assistance with sourcing this tape.



- Followed by a 200 mm wide junction strip of RENOLIT ALKORPLAN D (unreinforced) or ALKORPLAN F reinforced membrane welded to the metal strips with a 35 mm effective weld width. Important: an area approx. 100 mm over the joint remains un-welded.



Maintenance/ Accessibility (Rules for the Protection of Roof Membrane):-

RENOLIT ALKORPLAN roofing membranes, provided they are installed in accordance with RENOLIT guidelines, require little maintenance and need no additional protection against the elements.

RENOLIT ALKORPLAN roofing systems must not come into contact with bitumen, oils or tar.

RENOLIT roofing systems must be protected against mechanical damage. Sharp and rough materials, (metal swarf, screws, nails, etc.) can damage the roofing membrane and must be removed immediately or during annual roof inspections.

Should the use of ladders or other tools be required then they will need to be placed on a pressure distribution layer (timber boards without nails or sharp edges), in order to prevent damage to the membrane.

Roofs requiring routine access for maintenance and access to plant are to be provided with suitable dedicated walkways. Please refer to RENOLIT WALKWAY membranes.

New waterproofing installations, subsequent alterations or the installation of penetrations etc. are to be planned and carried out by an approved roofing contractor only.

When carrying out inspections and routine maintenance work, such as cleaning pipe outlets and gutters, all foreign material must be removed from the roof.

Ensure inspections are undertaken as per the warranty requirements (or more often as required) in order to maintain the warranty to ensure its validity.

Tools for manual welding

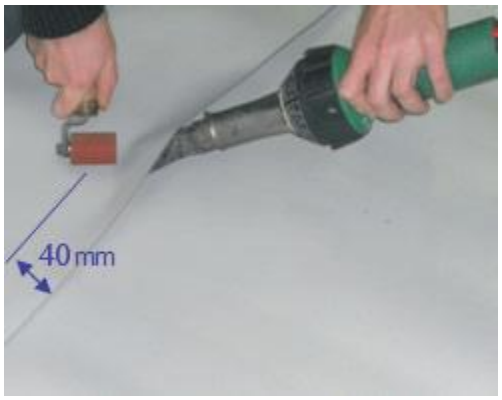
The following tools are required for welding RENOLIT ALKORPLAN roofing membranes manually:

- Hot air welding gun (e.g. Leister Triac S or PID)
- 20 mm wide nozzle for detailing.
- 40 mm wide nozzle for seam welding.
- 40 mm silicone roller for most welding.
- 6 mm brass “penny” roller to weld awkward details.
- Weld testing probe.
- Brushes
- Screwdrivers
- Grips
- Mall (2 inch) soft brush for welding gun filter maintenance.

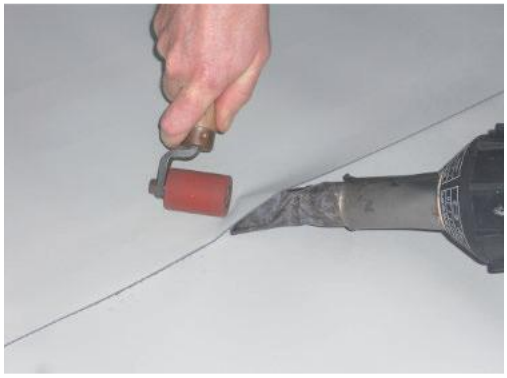
- Wire brush for nozzle cleaning.
- Tools for measuring, marking and cutting.
- Tape measure.
- Scissors.
- Retractable bladed craft knife.
- Marker pen.
- String line.
- Tin snips for cutting RENOLIT ALKORPLAN Metal.

Hot Air Welding

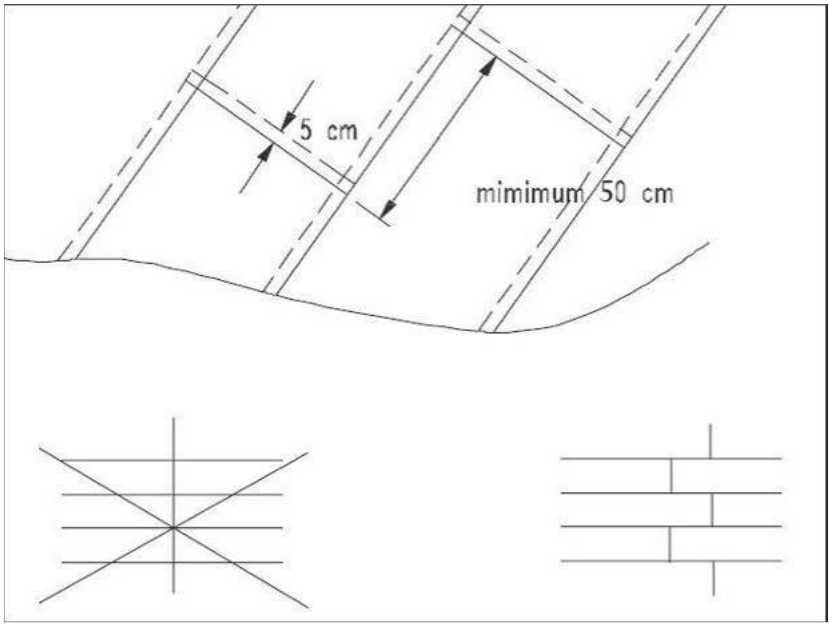
- Minimum overlap: 50mm loose laid; 80mm bonded; 100mm mechanically fixed.
- Manual welding with 20mm nozzle for detailing and 40mm for seams.
- Carry out test welds daily.
- Do not weld below 0°C ambient temperature.
- Digital setting 460-480 degrees Celsius or dial setting 6.5-8.
- Position the lap.
- Pre-weld the overlap zone furthest back from the lap edge leaving a 40mm opening.



- Final weld- The welding nozzle is to be positioned at an angle of 45° to the joint overlap. The outer edge of the welding nozzle should be approx. 2 mm outside the overlap. The membrane is to be pressed down using the silicone roller. Roll the weld with the silicone roller held about 10 mm from the nozzle of the gun, moving it back and forth, parallel to the nozzle and angled toward the seam.



- A T-weld is created when 3 layers meet. The edge of the middle strip should be chamfered. This can be done using the manual welding gun and a silicone roller. After this the waterproofing membrane can be welded over the chamfered area.
- Transverse overlaps should be staggered in order to avoid cross seams.



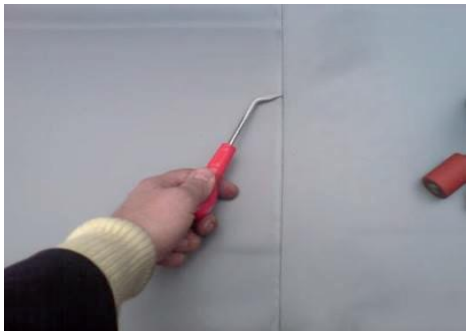
- End laps from the end of the roll of RENOLIT ALKORPLAN roofing membrane must be cleaned to remove any tape or adhesive used in the rolling of the membrane and then must be overlapped by 50 mm and welded in the normal way. The end joints across the roof must be staggered to give a minimum of 500 mm between each joint.

Automatic Welding

- Check before commencing that the welding unit nozzle is even and open across its entire width. Any PVC particles must be cleaned from the nozzle constantly.
- The air supply filter must be clear and free from dust. Accumulated dust and dirt are to be removed using a brush or compressed air.
- The basic settings for the automatic welding machine must be checked by performing a test weld. The tool settings are to be adjusted if necessary.
- Carry out a test weld every time before commencing work or after a long interruption.

Weld Testing

- Always carry out a test weld at the beginning of every working day and after every long interruption. Ensure the test weld seam has cooled down completely. A tensile force is to be applied to a 20 mm wide strip in order to test the weld. The joint must not come apart as a result of this. Any tears must be located outside the welded joint, or in the area of the reinforcement



Liquid PVC Seam Sealer

- Apply after final weld and inspection.
- Ensure that the membrane is clean and dry before using seam sealer.
- Mandatory where standing water expected (e.g., gutters) or difficult detailing. Contact your Archityne representative for each project to be advised on where the seam sealer should be used.

Membrane Finish

- Exposed corners of RENOLIT ALKORPLAN roofing membrane must be rounded. Ensure that the diameter of this rounded effect on the corner is same over the whole roof. This will give the roof a neat appearance.

Upstands & Detailing

- Upstands to consented design height.
- Reinforce internal and external corners.

Penetrations

- Flash all penetrations with compatible components.

Rainwater Outlets/ Sumps/ Overflows

- Use RENOLIT prefabricated outlets or those from an Archityne partner, as specified.
- Detail sumps, scuppers, outlets and overflows as per the Renolit Alkorplan NZ typical details or as per the specific project design. Should you have any queries please contact your Archityne representative.

Expansion Joints

- Install per project design; do not bridge without a specific detailed design. Ensure compatibility between Seismic/ movement joints and the Renolit Alkorplan PVC-P material. Refer to your Archityne representative with any queries.

Walkways / Protection Layers

- Install Renolit Alkorplan walkway membrane where routine access required.
- Should another walkway system be required, refer to your Archityne representative for information on detailing.

Cleaning Procedures

- Use RENOLIT approved cleaner; allow to evaporate before welding. **DO NOT USE ANY OTHER CLEANER.**

Post Installation Inspection

- Visually inspect and probe seams.

Electronic Testing

- Install conductive mesh under the membrane as required where no conductivity is present. Refer to your Archityne representative for details.

Temporary Weathering

- Provide temporary seals where incomplete.

QA, Records and Warranty

- Installing contractor to retain QA records and provide to Archityne on request. For warm roofs it is mandatory to record QA for all layers and furnish to Archityne upon request.
- Archityne will accept an app-based QA system or a documented based one, provided it captures the information required. It is advisable to discuss this with an Archityne representative prior to commencement of the project.
- Record roll / batch numbers for warranty submission for each project, so that all parties are aware of what is needed.
- Archityne will submit to RENOLIT on the installer's behalf.
- The installer must ensure the building owner has the roof inspected at least twice a year. With maintenance at least once per year.
- Ensure the original roofing contractor undertakes these works wherever possible. If that is not possible, another approved installer should be sought out for this inspection. Refer to Archityne for assistance.

- Should the installer be unsure of any issues they have witnessed during a roof inspection, they are to advise an Archityne representative, so that they may attend to inspect further. Please note that there may be a charge for this inspection subject to location etc.
- In order to adhere to the conditions of the warranty, the owner must have either a Renolit or Archityne representative inspect the roof 3 months prior to the 10th year of the Archityne invoice and same again 3 months prior to the 15th year of the Archityne invoice for the project.

<u>General maintenance required by the owner includes the following:-</u>

- Removal of leaves, dirt, encrustation, sedimentation, sludge, (organic) debris, pollutants, algae growth, moss, etc.;
- Cleaning of roof outlets, sumps, scuppers and overflows;
- Gentle cleaning of the RENOLIT-roof membranes, ease of detecting damage, (superficial) cracks, etc.; **DO NOT USE A WATER BLASTER. SWEEP CLEAN THEN USE A HOSE AND BROOM TO WASH THE ROOF ONLY.**
- Verification of the good flow of the rainwater and the presence of standing water (max 5 % of the affected area in the affected zone area and max 5 mm depth);
- Verification of airtightness of details;
- General inspection including all visible equipment on the roof;

- Consult the roof traffic register to make sure that no damage occurred during access;
- Normal repair, for instance welding a new piece of RENOLIT-roof membrane on a damaged spot (using approved installers approved by Archityne only).