



Rely on it.

RENOLIT ALKORPLAN L

Loose laid & ballasted system



EXCELLENCE
IN ROOFING

Loose laid & ballasted system

PRODUCT INFORMATION

RENOLIT ALKORPLAN L₃₅₁₇₇

Flexible PVC with glass fleece reinforcement, conforms to UEAtc guidelines.

Certificates available on our website
www.renolit.com/roofing
 0749-CPD
 BC2-320-0295-0100-02 (EN 13956)

Application

As waterproofing membrane within loose laid ballasted systems.

Product data	Method	Requirements according to UEAtc	RENOLIT ALKORPLAN L ₃₅₁₇₇ 1.5 mm	RENOLIT ALKORPLAN L ₃₅₁₇₇ 1.2 mm	Units
Tensile strength	EN 12311-2 (B)	L ≥ 8	10,8	10,7	N/mm ²
	-	T ≥ 8	10,3	10,3	N/mm ²
Elongation at break	EN 12311-2 (B)	L ≥ 150	246	237	%
	-	T ≥ 150	236	234	%
Dimensional stability (6h at 80 °C)	EN 1107-2	L	-0.01	-0.01	%
	-	T	0.02	0.02	%
Cold crack temperature	EN 495-5	-20	-25	-25	°C
Tear strength	EN 12310-1	L ≥ 150	446	361	N
	-	T ≥ 150	447	356	N
Lamination strength	EN 12316-2	≥ 80	160	142	N/50 mm
Vapour diffusion resistance (μ)	EN 1931	-	20 000 (calc. val.)	20 000 (calc. val.)	-
Resistance to static perforation	EN 12730	-	20	20	kg
Root resistance	EN 13948	-	Passed	-	-

Size/Weight	Thickness	Width	Weight	Roll length	Roll weight
RENOLIT ALKORPLAN L ₃₅₁₇₇	1.2 mm	2.05 m	1.57 kg/m ²	20 lm	ca. 64 kg
RENOLIT ALKORPLAN L ₃₅₁₇₇	1.5 mm	2.05 m	1.96 kg/m ²	20 lm	ca. 80 kg

Storage

Store dry. Rolls to be parallel and in original packing where possible, do not stack in cross form or under pressure.

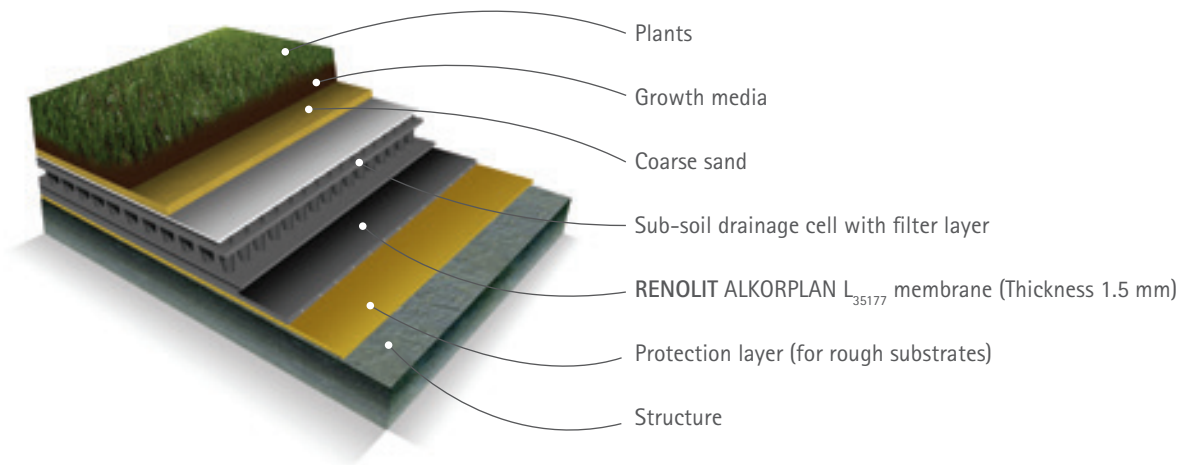


Roof garden Stafe Santa Fe (Mexico)

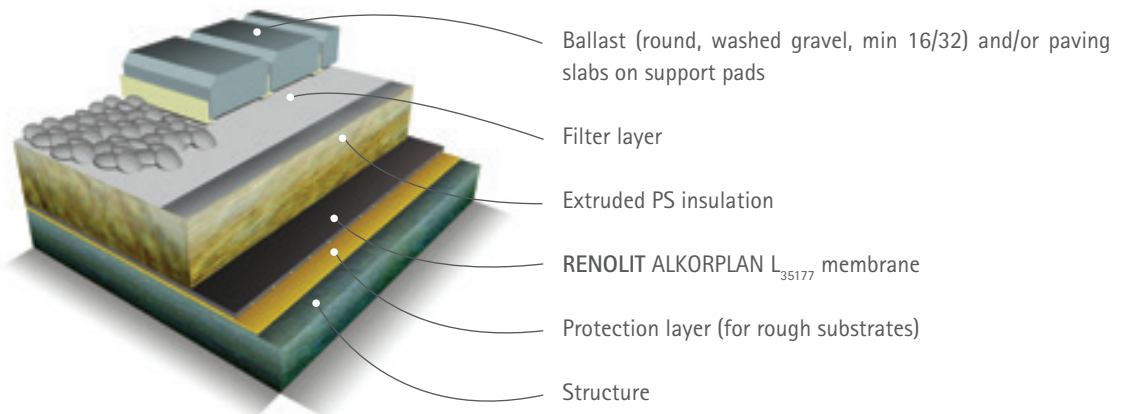
Loose laid & ballasted system

Application instructions for RENOLIT ALKORPLAN membrane, loose laid with ballast.

Landscape roof and planter



Inverted roof



Roof construction

Structure

Before the waterproofing membrane is installed, the roof deck has to be free of irregularities, water, frost, ice and debris such as screws, metal off-cuts, etc.

• Timber structure

The minimum thickness of the supporting structure will be:

- wood: 25 mm (tongued and grooved)
- plywood (exterior quality): 19 mm (preferably 22 mm) this must conform to the relevant requirements of national legislation (or in absence of this of European standard EN 636 and British standard BS 5268).
- OSB 3: 18 mm according to national legislation (or in absence of this of European standard EN 300).

Any treatment should be compatible with the components and the chosen method of attachment of the insulation or single ply membrane. The supporting elements are installed and fixed to obtain a closed deck surface where all vertical movement is excluded. Height or thickness tolerances between panels must not exceed 3 mm. The installation of the supporting timber structure must comply with the local building regulations.

• Concrete roof deck

A concrete supporting structure should comply with the minimum quality according national legislation (or in absence of this according to British Standard BS 8110 part I 1985 and I.S.326:1995). The surface is to be smooth without protrusions or irregularities over 2 mm (ideally power floated).



HDB Sengkang (Singapore)

Landscape roof and planter

Protection layer

In case of rough substrates, a RENOLIT approved protective layer is used to ensure that no damage occurs to the RENOLIT ALKORPLAN membrane. Protective layers are loose laid with a 50 mm overlap.

RENOLIT ALKORPLAN membrane (Thickness 1.5 mm)

The RENOLIT ALKORPLAN membrane is rolled out, free of tension. The adjoining sheet is aligned to the first one with an overlap of 50 mm. A line is printed on one side of the membrane to facilitate this. A test weld must be carried out prior to welding the roofing sheet, to confirm adequate weld strength and performance. The RENOLIT ALKORPLAN membrane is welded by hot air. The welded area must be continuous and extend a minimum of 30 mm from the membrane edge. End laps must be staggered by 250 mm, thus preventing a situation where 4 roll ends coincide.

Where 3 membranes overlap, the centre sheet must be chamfered. After completion of the welding, weld security is verified by pulling a metal probe along the joint in a firm but non destructive way. Finally, liquid RENOLIT ALKORPLAN₈₁₀₃₈ seam sealer is applied to the edges of all welded seams. To ensure satisfactory adhesion of the liquid RENOLIT ALKORPLAN₈₁₀₃₈ this operation must be carried out as work progresses.

Sub-soil drainage cell with filter layer

This layer is in two parts. The filter layer limits particles from the substrate layer migrating into the sub-soil drainage layer ensures a steady removal of redundant water.

Inverted roof

Protection layer

In case of rough substrates, a RENOLIT approved protective layer is used to ensure that no damage occurs to the RENOLIT ALKORPLAN membrane. Protective layers are loose laid with a 50 mm overlap.

RENOLIT ALKORPLAN membrane

The RENOLIT ALKORPLAN membrane is rolled out, free of tension on top of the protection layer. The adjoining sheet is aligned to the first one with an overlap of 50 mm. A line is printed on one side of the membrane to facilitate this. A test weld must be carried out prior to welding the roofing sheet, to confirm adequate weld strength and performance. The RENOLIT ALKORPLAN membrane is welded by hot air. The welded area must be continuous and extend a minimum of 30 mm from the membrane edge. End laps must be staggered by 250 mm, thus preventing a situation where 4 roll ends coincide. Where 3 membranes overlap, the centre sheet must be chamfered. After completion of the welding, weld security is verified by drawing a metal probe along the joint in a firm but non destructive way.

Thermal insulation

XPS insulation boards must have a national approval and must be CE approved by the respective manufacturer. The insulation is installed in accordance with the manufacturers' guidelines.

Ballast and filter layer

After the installation of the insulation boards, a filter layer is installed, prior to the ballast being installed:

- rounded, washed gravel (min. 16/32 mm Ø)
- paving slabs on support pads.

The required ballast load must be defined in accordance with the technical approval of the insulation boards and national wind load standards (or in absence of this calculation according to British standards BS 6399-2 or German standard DIN 1055-4), with a minimum of 50 mm aggregate.

Detail work

Details and connections

Water outlets must be suitable for the applied system and must remain accessible for regular maintenance. Around larger outlets and parapets a 500 mm wide ballast layer is required. The roof perimeter must be wind tight. To protect the RENOLIT ALKORPLAN membrane against mechanical damage during or after construction work, it is advisable to cover the RENOLIT ALKORPLAN membrane at the parapets with either RENOLIT ALKORPLAN_{81170/81171} metal sheet, timber or concrete slabs. See drawings in Installation Manual.

When the parapet is not covered (e.g. RENOLIT ALKORPLAN metal sheet, timber or concrete slabs) and the parapet height exceeds 50 mm, the parapets should be realized in RENOLIT ALKORPLAN F membrane.

Edge restraint is installed along the perimeter of the roof and around all penetrations. Special attention is paid to the wind-tight installation of parapets. See also Installation Manual.

Edge restraint

RENOLIT ALKORPLAN₈₁₁₇₀ or ₈₁₁₇₁ metal sheet is preformed to obtain a minimum width of 70 x 70 mm for an L-shaped profile. These profiles are pre-fixed to the supporting deck. The maximum distance between fixings is 250 mm with fixings on one face only of the RENOLIT ALKORPLAN metal sheet and in zig-zag formation to resist a continual tensile load of 2.7 kN/m. If RENOLIT ALKORPLAN metal profiles are fixed in the vertical leg, fasteners will be at 200 mm distance.



Edge restraint with RENOLIT ALKORPLAN₈₁₁₇₀ metalsheet

Should the roof have valleys which have angles less than 174°, it will be necessary to include RENOLIT ALKORPLAN metal sections of 140 mm width, fixed at 250 mm centres.

Windtight installation to parapets details

- With an RENOLIT ALKORPLUS₈₁₀₅₈ compressive foam strip underneath the RENOLIT ALKORPLAN metal sheet trim, the parapet top is sealed against wind pressure. The RENOLIT ALKORPLAN membrane is protected from an abrasive up-stand surface by a RENOLIT approved protection layer. Where the parapet height exceeds 500 mm, intermediate support with a continuous RENOLIT ALKORPLAN metal sheet (50 mm wide) is required.
- Parapets can also be adhered to obtain a wind-tight finish. Here, a RENOLIT approved contact glue is applied to the entire surface of both membrane and up-stand with a minimum consumption of 2 x150 g/m². The parapet will still be finished with a metalsheet trim, but compressive foam and intermediate fastening can be omitted.



St Andrew's Community Hospital (Singapore)

General remarks

Slope

The minimum finished fall at any point is determined by national legislation.

Compatibility

Contamination of **RENOLIT ALKORPLAN** membranes by oil, petrol and other solvents, hot or cold bituminous products, tar, etc. must be avoided as these will attack the PVC polymer, damage the appearance and reduce the life expectancy of the products. For a list of chemical resistance with a number of substances, a summary table is available. (See brochure «Chemical stability»).

RENOLIT ALKORPLAN membranes must not be brought into contact with **RENOLIT ALKORTOP**, **RENOLIT ALKORTEC** or other membranes. Wood in contact with **RENOLIT ALKORPLAN** membranes should only be treated with salt-based products to avoid adverse effects. Under no circumstances should solvent-based preservatives be used.

Other remarks

The following rules and regulations must be respected at all times:

- UEAtc
- National design guidelines for single ply roofing or in absence of these according to the German guidelines "DDH ZVDH-Regelwerk des Deutschen Dachdeckerhandwerks"
- All other current norms and directives.
- The product information and instructions for execution of particular details issued by **RENOLIT** concerning **RENOLIT ALKORPLAN** and **RENOLIT ALKORPLUS** products.
- The installation and safety instructions issued by manufacturers or suppliers of associated materials and accessories used in the construction of the roof.
- Water outlets and other details are duly fixed to the structure.



HDB Bukit Panjang (Singapore)



HDB Tampines (Singapore)

The information contained in the present commercial literature has been given in good faith and with the intention of providing information. It is based on current knowledge at the time of issue, and may be subject to change without notice. Nothing contained herein may induce the application of our products without observing existing patents, certificates, legal regulations, national or local rules, technical approvals or technical specifications or the rules and practices of good workmanship for this profession. The purchaser should verify whether import, advertising, packaging, labelling, composition, possession, ownership and the use of our products or the commercialisation of them are subject to specific territorial rules. He is also the sole person responsible for informing and advising the final end user. When faced with specific cases or application details not dealt with in the present guidelines, it is important to contact our technical services, who will give advice, based on the information at hand and within the limitations of their field of expertise. Our technical services cannot be held responsible for the conception of, nor the execution of the works. In the case of negligence of rules, regulations and duties on the part of the purchaser we will disclaim all responsibility. The colours respect the UV resistance required by EOTA, but are still subject to the natural change over time. Are excluded from the guarantee: aesthetic considerations in case of partial repair of deficient membrane covered by the guarantee.

WWW.RENOLIT.COM/ROOFING



The British Board of Agrément have assessed the life expectancy of RENOLIT ALKORPLAN F used in the United Kingdom to be in excess of 35 years.



RENOLIT ALKORPLAN roofing products and Systems have a standard guarantee of 10 years, and are installed by approved contractors and installers who are trained and assessed by RENOLIT.



All RENOLIT waterproofing membranes for roofing are part of the ROOFCOLLECT® collection and recycling programme.



The RENOLIT Iberica S.A. factory in Barcelona is approved to ISO 9001/14001.



Vier Systems Pte. Ltd - Singapore
T +65 6659 8880 - www.viersystems.com



Rely on it.