

Loose laid & ballasted system

RENOLIT ALKORPLAN L



RENOLIT
ALKORPLAN
roofing products

Loose laid & ballasted system

PRODUCT INFORMATION

RENOLIT ALKORPLAN L

Synthetic roofing membrane of flexible PVC with laminated glass fleece reinforcing.

Application

RENOLIT ALKORPLAN L is used as waterproofing membrane within loose laid systems, protected with gravel or tiles on tile supports or bedding screed.

Certificates

Product certification EN 13956
0749-CPR-BC2-320-01452-0001-01
Product and system certification UEAtc

Certificates available on our website
www.renolit.alkorplan.com

PRODUCT DATA

| | Method | Production values RENOLIT ALKORPLAN L | Unit |
|---|---------------|--|-------------------|
| | | 1.5 mm | |
| Mass per unit area | EN 1849-2 | 1.80 | kg/m ² |
| Tensile strength | EN 12311-2 | ≥9 | N/mm ² |
| Elongation at break | EN 12311-2 | ≥180 | % |
| Dimensional stability (6 h at 80 °C) | EN 1107-2 | ≤0.1 | % |
| Foldability at low temperature (-20 °C) | EN 495-5 | ≤-25 | °C |
| Nail tear resistance | EN 12310-1 | ≥325 | N |
| Tear resistance | EN 12310-2 | ≥120 | N |
| Joint peel resistance | EN 12316-2 | ≥BOJ or 200 | N/50 mm |
| Vapour diffusion resistance (μ) | EN 1931 | 20,000 | - |
| Resistance to root penetration | EN 13948/ FLL | Pass | - |
| Resistance to static perforation | EN 12730 | ≥20 | kg |
| Reaction to fire | EN 13501-1 | E | - |

PACKAGING

| | Thickness | Width | Roll length | Roll weight |
|--------------------------------------|-----------|--------|-------------|--------------|
| RENOLIT ALKORPLAN L ₃₅₁₇₇ | 1.5 mm | 2.15 m | 15 / 20 ml | 60.7 / 80 kg |

Storage

The rolls should be stored horizontally and parallel to each other. Store in the original packaging, in a dry and frost-free area, protected from direct sunlight. The maximum stack height in the original pallet packaging is 4 high with a protection between the pallets, and 5 high in the original open crate packaging.

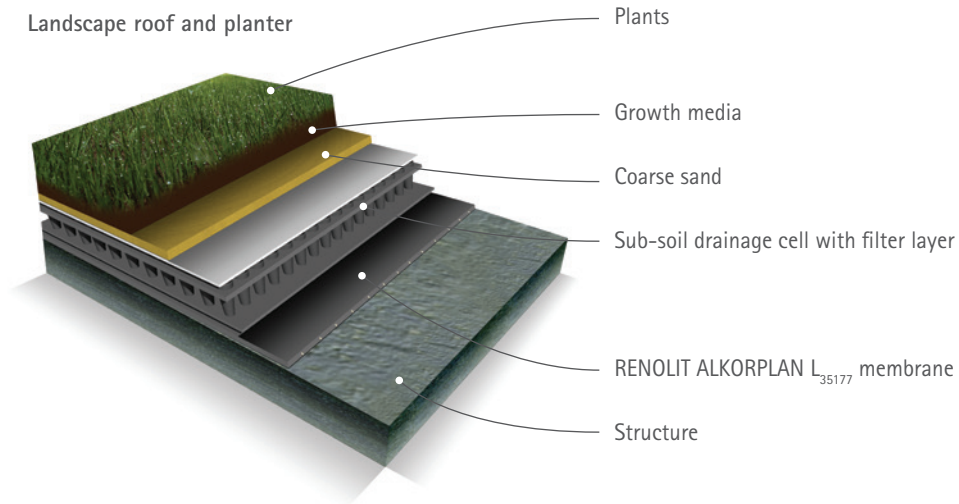
The RENOLIT ALKORPLAN roofing membranes are supplied in rolls on cardboard cores. Every delivery may contain up to 10% of short rolls (minimum length: 8 m).



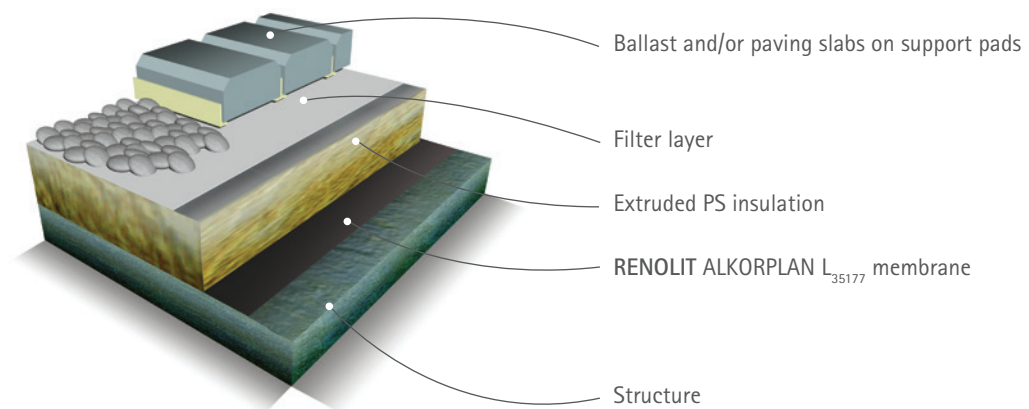
Hotel (St. Barthélemy)

Loose laid & ballasted system

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



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: min. 25 mm (tongued and grooved)
- plywood (exterior quality): min. 19 mm (preferably 22 mm) this must conform to the relevant requirements of national legislation (or in absence of this of European standard EN 636:2012+A1:2015).
- 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 EN 206:2013+A2:2021. The surface is to be smooth without protrusions or irregularities over 2 mm (ideally power floated).



HDB Sengkang (Singapore)

Landscape roof and planter

RENOLIT ALKORPLAN membrane

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. 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

RENOLIT ALKORPLAN membrane

The RENOLIT ALKORPLAN membrane is rolled out, free of tension, on top of the insulation or separation 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. 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. To ensure satisfactory adhesion of the liquid RENOLIT ALKORPLAN_{81038'} this operation must be carried out as work progresses.

Thermal insulation

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

Ballast and filter layer

After the installation of insulation boards, a filter layer synthetic fleece 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 EN 1991-1-4:2005) , with a minimum of 50 mm aggregate.



Fig. 1: Edge restraint with RENOLIT ALKORPLAN₈₁₁₇₀ metalsheet

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 50 cm 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 a capping with either RENOLIT ALKORPLAN_{81170/81171} metal sheet, timber or concrete slabs. See drawings in the 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

RENOLIT ALKORPLAN_{81170 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/lm. If RENOLIT ALKORPLAN metal profiles are fixed in the vertical leg, fasteners will be at 200 mm distance. Should the roof have valleys which have angles less than 174°, it will be necessary to include RENOLIT ALKORPLAN sections of 140 mm girth, fixed at 250 mm centres.

Windtight installation to parapets details

- With a 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 upstand surface by a RENOLIT ALKORPLUS₈₁₀₀₈ protective 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, the RENOLIT ALKORPLUS₈₁₀₄₀ contact glue is applied to the entire surface of both membrane and upstand 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.



HDB Bukit Panjang (Singapore)



HDB Kampung Admiralty (Singapore)

General remarks

Slope

The minimum finished fall at any point is determined by national legislation and/or will be not less than 15 mm per meter.

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.



Outram community Hospital (Singapore)



The British Board of Agrément have assessed the life expectancy of RENOLIT ALKORPLAN F used in the United Kingdom to be in excess of 40 years with extended maintenance.

RENOLIT ALKORPLAN roofing products and system have a standard warranty 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.

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Rely on it.