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RENOLIT ALKORPLAN A

Adhered system



EXCELLENCE
IN ROOFING

Adhered system

PRODUCT INFORMATION

RENOLIT ALKORPLAN A₃₅₁₇₉

Fleecebacked membrane of flexible PVC conform to UEAtc guidelines.

RENOLIT ALKORPLAN A₃₅₂₇₉ for the RENOLIT ALKORBRIGHT Concept

Fleecebacked membrane of flexible PVC, white in the mass and provided with a protection layer. High quality product which stands for durable and extra high reflection.

Application

Used as a waterproofing membrane within fully bonded systems

CE approval.

Certificats available on our website www.renolit.com/roofing. 0749-CPD

BC2-320-0295-0100-02

Product data	Method	Requirements according to UEAtc	RENOLIT ALKORPLAN A _{35179/35279}		Units
			1.2 mm	1.5 mm	
Tensile strength	EN 12311-2 (A)	L ≥ 650	1086	1170	N/50 mm
		T ≥ 650	1162	1204	N/50 mm
Elongation at break	EN 12311-2 (B)	L ≥ 40	78	80	%
		T ≥ 40	88	99	%
Dimensional stability (6h at 80 °C)	EN 1107-2	L ≤ 1	-0.16	-0.27	%
		T ≤ 1	0.01	0.11	%
Cold crack temperature	EN 495-5	-20	-25	-25	°C
Tear strength	EN 12310-2	L ≥ 150	348	381	N
		T ≥ 150	355	389	N
Lamination strength	EN 12316-2	≥ 50	100	95	N/50 mm
Vapour diffusion resistance (μ)	EN 1931	-	20 000	20 000	-
Resistance to static perforation	EN 12730	-	20	20	kg

Size/Weight	Thickness	Width	Weight	Roll length	Roll weight
RENOLIT ALKORPLAN A ₃₅₁₇₉	1.2 mm (3.2 mm incl. fleece)	2.10 m	1.86 kg/m ²	15 lm	ca. 57 kg
	1.5 mm (3.5 mm incl. fleece)	2.10 m	2.25 kg/m ²	15 lm	ca. 71 kg
RENOLIT ALKORPLAN A ₃₅₂₇₉	1.5 mm (3.5 mm incl. fleece)	2.10 m	2.25 kg/m ²	15 lm	ca. 71 kg

Standard conditions of sale are included in price lists, all sales of RENOLIT products are made under these conditions. RENOLIT ALKORPLAN is delivered in rolls. Every delivery may contain up to 10 % of short rolls (minimum length: 8 m).

Storage

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



Sunparks (Belgium)

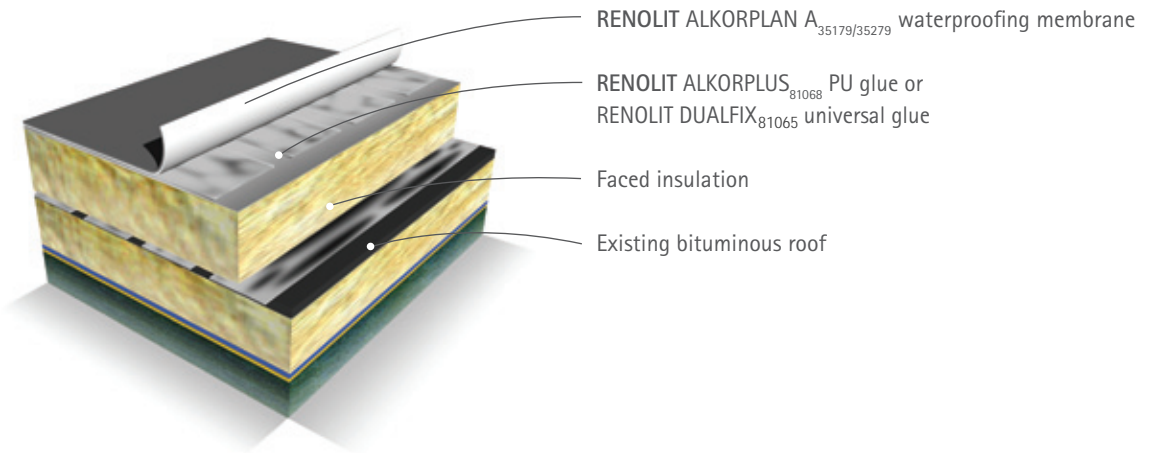


Ewert House Oxford University (UK)

Adhered system

Application of **RENOLIT ALKORPLAN** membranes, for new structures or refurbishment of existing roofs. The system is used within a maximum wind load of 3,600 N/m² for fully bonded systems. If in doubt or for specific installation advice, please contact the Technical Department of **RENOLIT**.

Refurbishment with additional insulation



Mercedes Truck Factory (Turkey)



Glasgow University (Scotland)

Roof construction

Structure

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

- **Metal Deck**

The minimum thickness for metal deck to be used with mechanical fasteners is 0.7 mm according BS EN 10147:2000. All construction work is carried out according to current requirements (BS 5950) and design criteria.

- **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 BS EN 636 and BS 5268.
- OSB 3: 18 mm according to BS 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 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).

Vapour control layer

Condensation can occur on the underside of the membrane during cold periods. If high humidity exists in a building, there may be a build up of condensation in the construction which will not be fully removed in the drying periods. Depending on the predicted interior climate in the building and the hygrometric characteristics of the roofing materials, a vapour control layer will be required. Where the insulation

is mechanically fastened to the structure a loose laid vapour control layer can be installed. The **RENOLIT ALKORPLUS₈₁₀₁₂** LDPE vapour control layer is available in the standard version. The vapour control layer is laid with an overlap of 100 mm and taped with **RENOLIT ALKORPLUS₈₁₀₅₇** adhesive tape. The joint should be fully supported and be hand rolled to secure to the tape. The vapour control layer is taken up and sealed to details in accordance with Part L1 of the UK Building Regulations.

RENOLIT also has a self-adhesive vapour control layer available. The **RENOLIT ALKORPLUS₈₁₀₀₂** vapour control layer is a self-adhesive membrane, which is based on an aluminium film, barrier to vapour, and a self adhesive bitumen-based glue layer.

Insulation

Insulation boards must be approved by the respective manufacturer for use with **RENOLIT ALKORPLAN** membranes. The insulation is installed in accordance with the manufacturers' guidelines. The insulation must resist to the designed dead and live loads. The compressive strength must be at least 0.06 N/mm² at 10% compression (according to BS EN 826). On metal decks, the dimensions and thickness of the insulation boards must suit the dimensions of the metal deck profile.

RENOLIT DUALFIX₈₁₀₆₅: Universal adhesive for roofing membranes and insulation.

The **RENOLIT DUALFIX₈₁₀₆₅** universal adhesive is a one component moisture curing polyurethane glue especially created for the bonding of fleece-backed synthetic roofing membranes to the insulation of the roof surface. It can also be used for bonding insulation to either the roof surface or to insulation.

Bonding membrane.

- 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 100 and 160 g/m², depending on the surface) by means of a spray gun. (see picture 2) Within 4 to 9 minutes when the adhesive is touch dry the fleece-backed roofing membrane is rolled onto the adhesive.

Table1: Structural joints

Joint width	no additional insulation	With additional insulation
≤ 10 mm (e.g. between insulation boards)	a strip of 200 mm must be kept free of glue	a strip of 200 mm must be kept free of glue + a synthetic foam filler
between 10 and 30 mm	a strip of 300 mm must be kept free of glue and supported by a fixed galvanised steel sheet	+ 200 mm wide RENOLIT ALKORPLAN D
≥ 30 mm	a specific joint construction is required	

Please refer to the design manual for precise information.

Roof construction

- 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. Sufficient curing of the adhesive takes place between 20 to 45 minutes depending on humidity.

Bonding insulation

- The adhesive is dispensed by means of a spray nozzle. The distance between beads should be between 150 and 300 mm depending on wind load. (width of bead 20 to 25mm).
- The insulation panels should be placed within 3 minutes after the dispensing of the adhesive, and should be pressed onto the adhesive until sufficient initial curing has taken place.

Follow the installation instructions of the **RENOLIT DUALFIX** adhesive.

Structural movement joints

When installing a bonded roofing system, particular care has to be given to the execution of structure joints. Joint width is the essential factor. Whenever larger horizontal or vertical structural movement is anticipated, please refer to the examples given in our detail manual.

RENOLIT ALKORPLAN membrane:

RENOLIT ALKORPLUS₈₁₀₆₈ PU glue

The RENOLIT ALKORPLUS₈₁₀₆₈ PU glue can only be applied in dry weather at temperatures of 5°C and above. After preparing the surface, the RENOLIT ALKORPLAN membrane is unrolled entirely and straightened without tension. The adjoining lap is aligned to the first one with an overlap of 80 mm minimum. A line is printed on one side of the membrane to facilitate this. Then the RENOLIT ALKORPLAN membrane is re-rolled for half of its length. Application of the adhesive is executed as follows:

- The appropriate quantity of glue can be applied using an applicator. Five drums of glue can be mounted on a 1m wide rack. Using a special opener, 2 or 3 openings are made in every drum (see picture 1) and dispersed evenly over the surface using a roller, squeegee or brush.



Pict. 1: Application of the polyurethane glue by means of an applicator

- When applied by hand, the required glue is poured out and dispersed evenly over the surface using a roller, squeegee or brush. Concentrations of glue must be avoided.

On sloping surfaces, it is essential that the total glue quantity is dispersed evenly over the area. In addition, a certain drying time (10 to 15 min.) is required. The glue surface must still be sticky and not exhibit a skin-like surface. Total drying time is 1 to 5 hours depending on ambient temperature and humidity.

Glue quantity and windload

The quantity of glue and the percentage of the surface to be covered, will depend on the surface to be glued and the windload. A calculation in accordance to BS 6399-2 will be carried out to determine this. The chosen approved subcontractor will liaise with the Technical Department of RENOLIT for precise information.

A sufficient curing time of the adhesive takes approximately 20 to 45 minutes depending on humidity. Before processing, a small bonding test should be carried out to verify if the adhesive is suitable for the application. A bonding of minimum 1N/mm is necessary.

Specific instructions

- The surface must be swept clean. Loose elements and dust must be removed.
- RENOLIT ALKORPLUS₈₁₀₆₈ polyurethane glue can only be used for adhering fleecebacked RENOLIT ALKORPLAN, and can not be used for the joining of seams, insulating materials or connecting to accessories.
- It is essential to remove any excess glue from the surface of the membrane immediately. (using RENOLIT ALKORPLUS₈₁₀₄₄ cleaner).
- It has to be ensured that the existing surface, insulation and all other layers of the roofing structure are secure and intact.
- Prior to commencing main gluing, a test must be carried out to confirm adhesion strength and performance. A value of 1 N/mm should be achieved.



Pict. 2: The adhesive RENOLIT ALKORPLUS₈₁₀₆₅ is atomized by means of a spray gun.

Joining longitudinal and transverse seams

Along the longitudinal and transverse seams of the membrane, a strip of 200 mm (100 mm on either side) must remain free of glue. (see Fig. 1.) The adjoining transverse seams of the roofing membranes must be butt jointed. The joint must be covered with a 50 mm wide RENOLIT ALKORPLUS₈₁₁₉₂ aluminium tape, a 200 mm wide strip of RENOLIT ALKORPLAN D membrane is then welded over the joint. 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 preferably by hot air, or by solvent,

using RENOLIT ALKORPLUS₈₁₀₂₅ welding fluid. 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.

Other joints

Where a direct joint with the fleece-free selvage of the membrane is not possible, joints between the membrane and RENOLIT ALKORPLAN metal sheet must be completed with a junction strip of RENOLIT ALKORPLAN F roofing membrane.

Supplementary fixing

Edge restraint is installed along the perimeter of the roof and around all penetrations. Special attention is paid to the windtight installation of parapets.

Edge restraint

RENOLIT ALKORPLAN metalsheet is preformed to obtain a minimum width of 70 x 70 mm for an L-shaped profile. These profiles are fastened through the main roof sheet to the supporting structure. The maximum distance between fixings is 250 mm with fixings on one face only of the RENOLIT ALKORPLAN metalsheet and in zig-zag formation, to resist a continual tensile load of 2,7 kN/lm. Subsequently, a 200 mm wide strip of RENOLIT ALKORPLAN D is welded both to the main roof sheet and horizontal shank of the RENOLIT ALKORPLAN metal. 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 metal sections of 140 mm girth, fixed at 250 mm centres.

Windtight installation to parapet details

- A mechanical edge restraint along the perimeter of the roof and around roof penetrations is not required where the roofing membrane is fully adhered in the perimeter area (minimum 2 m) and to the parapets. (See Fig. 2) The RENOLIT ALKORPLUS₈₁₀₆₈ or ₈₁₀₆₅ PU glue is applied to the surface of the upstand with a minimum consumption of 300 g/m². The parapet will have a RENOLIT ALKORPLAN metal trim, but the compressive foam and intermediate fastening can be omitted.
- Unbonded upstands are an alternative, using non-fleecebacked membranes to waterproof the upstands and parapets. However, at the point of termination, a RENOLIT ALKORMETAL section must be included as well as supplementary mechanical edge restraint. With a RENOLIT ALKORPLUS₈₁₀₅₈ compressive foam strip underneath the RENOLIT ALKORPLAN metalsheet trim, the parapet top is sealed against wind penetration. The RENOLIT ALKORPLAN membrane is protected from an abrasive upstand surface by a protective layer (min. 300 g/m² - RENOLIT ALKORPLUS₈₁₀₀₅). Where the parapet height exceeds 500 mm, intermediate support with a continuous RENOLIT ALKORPLAN metalsheet (50 mm wide) is required.

Execution of details

See Design Manual.

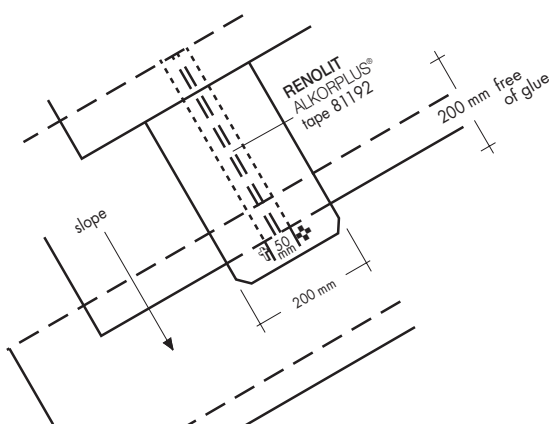


Fig.1. transverse seams of roofing membrane

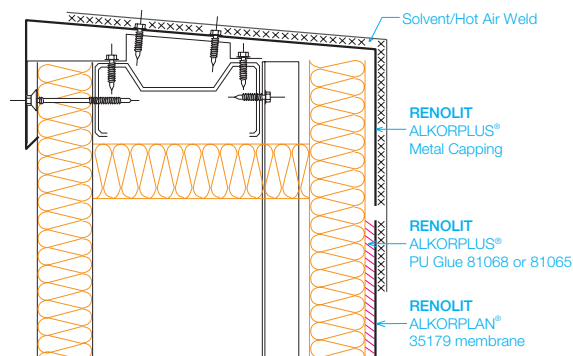


Fig. 2. gluing of parapets

General remarks

Slope

BS 6229 states that a minimum finished fall at any point of 1:80 should be achieved. Cut-to-falls systems are often produced to a 1:60 fall or 1:40 fall.

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** 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:

- BBA, UEAtc, IAB
- Irish Building regulations 2007
- BS 6229 2003 flatroofs with continuous supported coverings.
- The Building Act 2003 and its Building regulations 2011
- SPrA design guide for single ply roofing.
- 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.



Station (UK)



Makro - Metro Group (Belgium)

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.



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