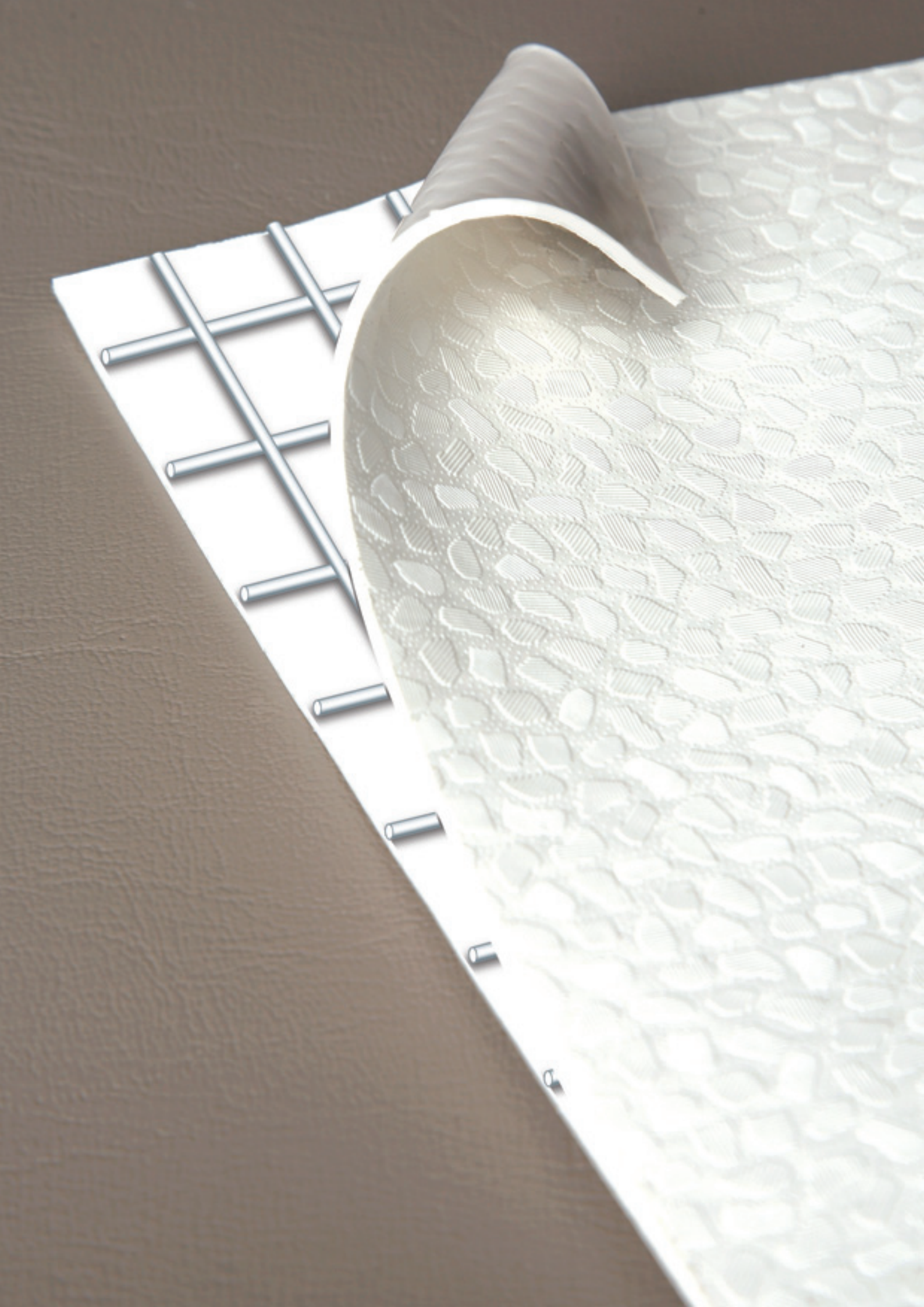
RENOLIT

Rely on it.

RENOLIT ALKORBRIGHT

EXCELLENCE
IN ROOFING



Stay cool, **RENOLIT** ALKORBRIGHT

With the development of the **RENOLIT** ALKORBRIGHT concept, the **RENOLIT** team has created an extra energy friendly and ecologically sound solution for sealing your roof. The new 'cool roof' membrane is an extension to the already wide range of **RENOLIT** ALKORPLAN roofing membranes.

What makes **RENOLIT** ALKORBRIGHT so special is the combination of well-known advantages and qualities of **RENOLIT** ALKORPLAN roofing membranes together with the high reflection of the sunlight.

RENOLIT ALKORBRIGHT stands for durable and extra high reflection. Cool roofs are roofs with a high reflection of the solar radiation. In summertime, this reflection of the sunlight has a positive influence on the roofing membrane, the interior climate and on the surroundings of a building.

RENOLIT ALKORBRIGHT system

PRODUCT INFORMATION

RENOLIT ALKORPLAN F_{35276}
Laminated membrane of flexible PVC with woven polyester reinforcing, with a protective coating.

CE approval
0749-CPD
BC2-320-0295-0100-02 (EN 13956)

Certificats available on our website www.renolit.com/roofing. Conforms to UEAtc guidelines. Certificate available on request.
External fire: complies with B_{ROOF} t1, B_{ROOF} t3 and B_{ROOF} t4 according to EN 13501-5*

* See modalities

RENOLIT ALKORPLAN A_{35279}
Laminated fleecebacked membrane of flexible PVC with a protective coating.

CE approval
0749-CPD
BC2-320-0295-0100-02 (EN 13956)

Product data	Method	Requirements according to UEAtc	Average production values **RENOLIT** ALKORPLAN F_{35276}	Requirements according to UEAtc	Average production values **RENOLIT** ALKORPLAN A_{35279}	Units
Tensile strength	EN 12311-2 (A)	L ≥ 800	1251	L ≥ 650	1121	N/50 mm
		T ≥ 800	1196	T ≥ 650	1172	N/50 mm
Elongation at break	EN 12311-2 (A)	L ≥ 15	18,1	L ≥ 40	77	%
		T ≥ 15	19,9	T ≥ 40	91	%
Dimensional stability (6h at 80 °C)	EN 1107-2	T ≤ 0.5	-0,16	L ≤ 1	-0,31	%
		L ≤ 0.5	-	T ≤ 1	-0,09	%
Cold crack temperature	EN 495-5	-20 no cracks	-25	-20 no cracks	-25	°C
Tear strength	EN 12310-1	L ≥ 150	574	L ≥ 150	373	N
		T ≥ 150	598	T ≥ 150	381	N
Lamination strength	EN 12316-2	≥ 80	179	≥ 80	89	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 F_{35276}	1,5 mm	1,05 m	1,85 kg/m²	20 lm	ca. 41 kg
RENOLIT ALKORPLAN A_{35279}	1,5 mm	2,10 m	2,25 kg/m²	15 lm	ca. 71 kg

Installation guidelines

The installation of the **RENOLIT** ALKORBRIGHT system is almost identical to that of the **RENOLIT** ALKORPLAN F or A roofing sheets. A standard minimal slope of 30mm/m has to be maintained.

In combination with photovoltaic cells, a slope of 60 mm/m has to be maintained. The embossing of the membrane of the **RENOLIT** ALKORBRIGHT concept reduces the risk of slipping when installing the membrane.

Properties of the **RENOLIT** ALKORBRIGHT system

White in the mass

RENOLIT is one of the few manufacturers who offer a completely white PVC-P roofing membrane. Due to the fact that our roofing membrane is white in the mass, a large reflection of the sunlight is possible.
In addition to the increased reflection, the installation also benefits from the white underlayer.

The white welding seams barely catch the eye and ensure an aesthetic and homogeneous white roofing surface. The installation of the **RENOLIT** ALKORBRIGHT roofing concept is almost identical to that of the **RENOLIT** ALKORPLAN F and A roofing membranes. Check the **RENOLIT** ALKORPLAN F and A brochures for the installation guidelines and technical details. Solvent welding is not allowed.

When installing a standard white roofing membrane, the welding seams will stand out against the white roofing surface.

In the case of the **RENOLIT** ALKORBRIGHT system, the homogenous welding seams are barely visible.

Ghelamco Football Stadium (Belgium)

Advantages of the **RENOLIT** ALKORBRIGHT system

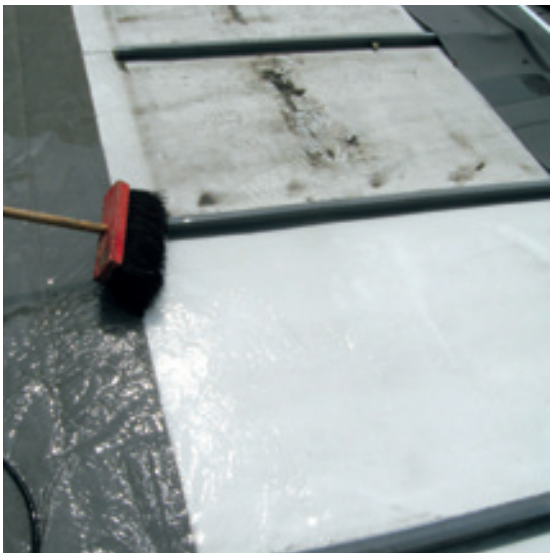
In pursuit of a durable reflection

A roofing membrane that is initially white will be subject to pollution after a relatively short time. There will inevitably be marks due to the installation of the membrane itself; The roofer can not complete the installation without walking on the membrane.

Of course a roof is strongly subjected to environmental pollution. The degree of reflection of the sunlight will decrease from the moment of installation. In order to resist this pollution, the membrane of the **RENOLIT** ALKORBRIGHT system is provided with a protective coating. This coating makes sure that less dirt sticks to the surface of the membrane and as a consequence strongly delays the loss of reflection. The roofing membrane is easier to clean with water and thus easier to maintain.
In addition, the dirt will be largely washed away by the rain. The coating provides an additional protection against UV radiation. Solvent welding is not allowed, as it may cause damage to the protective coating.

Dirty footstep caused by installation

Easily erasable with a clean cloth

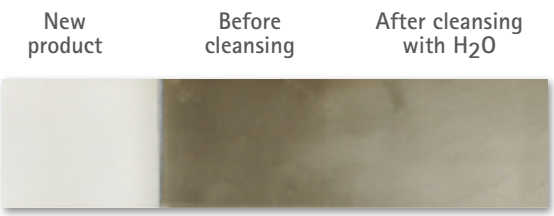


Easy to clean with water

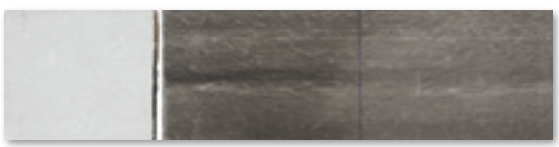
Visible advantages of the protective coating

The influence of the environmental pollution can be simulated with the test according to ISO 11378/2. In this test, the membrane is exposed to a mixture of water, mud, silica gel, cement and carbon black during a period of four hours. A comparative study of some existing roofing membranes gives the following result:

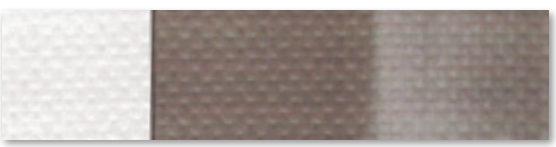
RENOLIT ALKORBRIGHT



White TPO roofing membrane



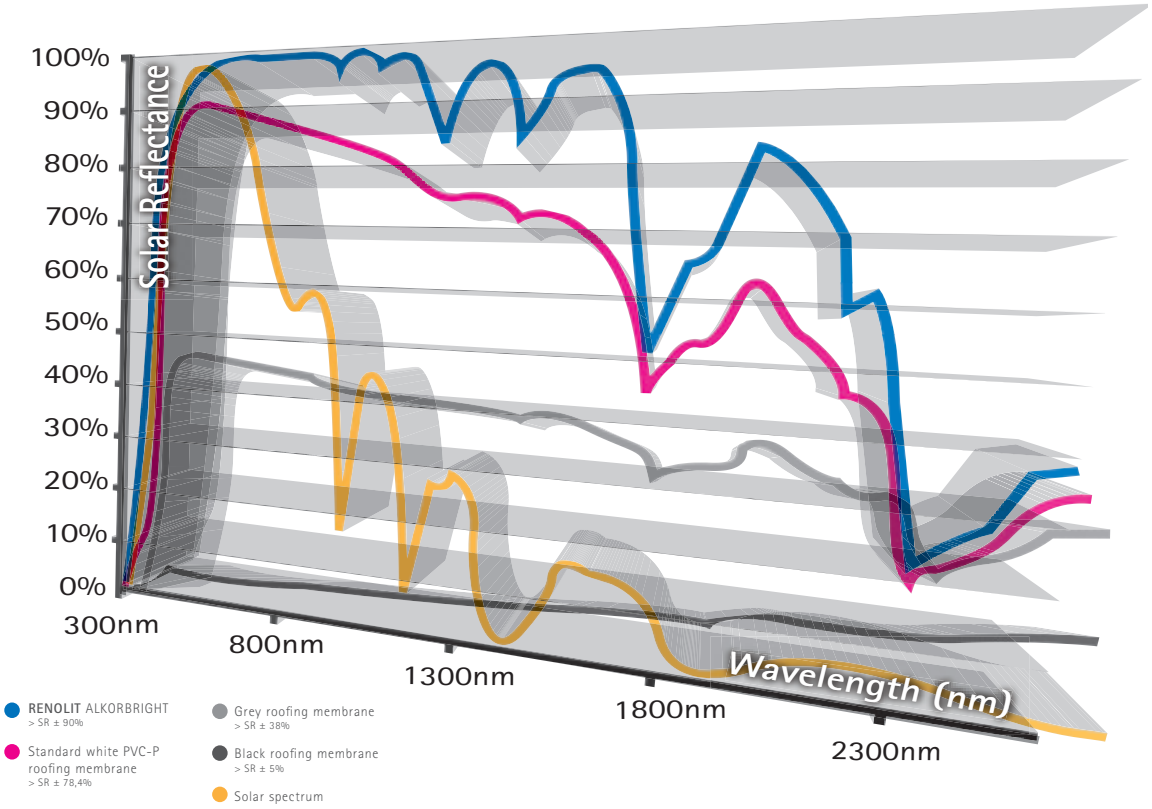
Bitumen roofing membrane with a smooth, reflective acrylic coating on top



White PVC-P roofing membrane without protective coating

Advantages of the **RENOLIT** ALKORBRIGHT system

Reflection in figures



With a solar reflection of 90% (97% CIGS), the white membrane of the **RENOLIT** ALKORBRIGHT concept can consider itself to be at the absolute top of the cool roof roofing membranes. In general, the darker the colour of the membrane, the less sunlight that will be reflected.

Avoiding heat islands

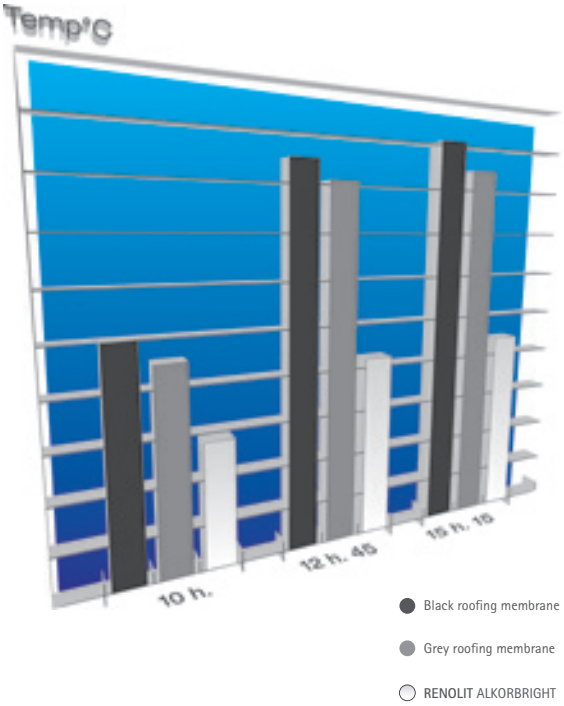
When less heat is generated near the roofing membrane, consequently less heat is transferred to the environment. Especially in urban and industrial areas, the **RENOLIT** ALKORBRIGHT roofing system will have a positive influence on the temperature in the immediate environment of the building.

Cultural centre (France)

Advantages of the RENOLIT ALKORBRIGHT system

Temperature near the roofing membrane

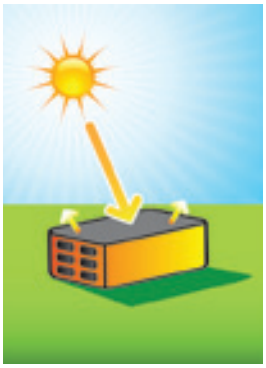
Thanks to the high reflection of the sunlight, only a limited part of the solar radiation is transferred into heat. Variations in temperature of 45°C between a black roofing sheet and the white membrane of the **RENOLIT** ALKORBRIGHT concept are not unusual. Due to the reduced surface temperature of **RENOLIT** ALKORBRIGHT, the membrane is subjected to less temperature changes. A stable rate of UV radiation will lead to an increased life span of the membrane.



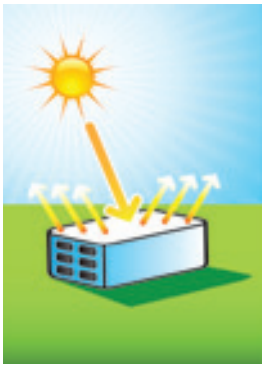
*Measurements on the roof of our production plant in Oudenaarde, Belgium, show a difference in temperature of 45°C between a membrane in a charcoal colour and the white membrane of the **RENOLIT** ALKORBRIGHT system.*

RENOLIT ALKORBRIGHT as an energy saving and ecologically sound system

The installation of **RENOLIT** ALKORBRIGHT on the roof will have a strong influence on the interior climate of the building and the related air conditioning costs. Due to the low absorption of solar radiation (heat), the heat will need considerably more time to enter the building. Inside the building, the peak temperature will be reached much more slowly and as a consequence the build up of heat will be smaller. This is particularly relevant in southern European countries. A difference in temperature of only a couple of degrees generates a more enjoyable working environment. In addition, the air conditioning costs can be lowered considerably. This lower energy consumption will also decrease the output of CO_2.



Temperature with a black membrane
Surface of the roof = 80°
Inside the building= 30°



Temperature with **RENOLIT** ALKORBRIGHT
Surface of the roof = 40°
Inside the building= 25°

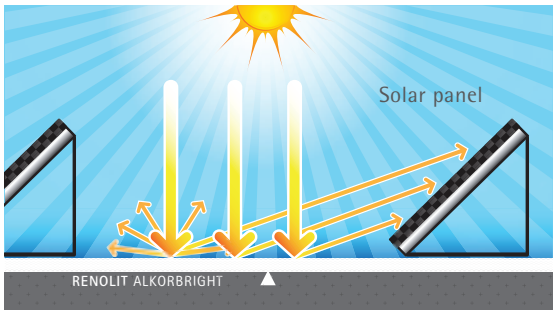
Advantages of the RENOLIT ALKORBRIGHT system

RENOLIT ALKORBRIGHT increases the return generated by solar panels

The return generated by photovoltaic cells relates positively to the solar reflection of the roofing membrane on which the panels are installed.

The effect on this generated return is dual

A small part of the solar energy that is transferred by the photovoltaic cells comes from the solar radiation that is reflected by the roof. This element amounts to approx. 1% for surfaces with an albedo of 0.2.
For roofing surfaces with an albedo of more than 0.8, like **RENOLIT** ALKORBRIGHT, this part can amount to 4 to 5%. In reality, this comes down to an increased return on the electrical power of 3 to 4% compared to roofs with a lower solar reflection.
Furthermore, a higher temperature of the roofing surface will have a negative influence on the return of the crystalline silicon cells.



An increase of 2°C involves a decrease in return of about 1%. A white reflecting roofing membrane like **RENOLIT** ALKORBRIGHT will lead to a lower air temperature around the photovoltaic modules. This will in turn lead to an increased return.

**Albedo or capability reflection of the surface is the relation between the reflected radiation and the incoming radiation.*

The major advantages of RENOLIT ALKORBRIGHT:

- Positive influence on the interior climate of a building in summer time
- Increase of the generated return of photovoltaic cells
- High and durable reflection of the sunlight
- Lower energy consumption and air conditioning costs, and consequently, a lower output of CO_2
- Avoiding heat islands
- Same properties and advantages as the **RENOLIT** ALKORPLAN roofing membranes
- High life expectancy

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 system 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 at Barcelona is approved to ISO 9001/14001.

RENOLIT Cramlington Ltd, Station Road - Cramlington, Northumberland NE23 8AQ - United Kingdom
T +44 1670 718283 - F +44 1670 590096 - renolit.cramlington@renolit.com

LAYDEX Ltd. - Unit 3 - Allied Industrial Estate - Kylemore Road - Dublin 10
T +353(0) 1 642 6600 - F +353 (0) 1 642 6601 - sales@laydex.ie

LAYDEX (NI) Ltd. - Units 4 & 5 Falcon Way - Belfast BT 12 6 SQT + 44 (0) 2890 382 223 - F + 44 (0) 2890 382 230

RENOLIT Belgium N.V. - Export Dpt. - Industriepark De Bruwaan 43 - 9700 Oudenaarde - Belgium
T +32 (0)55 33 98 51 - F +32 (0)55 31 86 58 - renolit.belgium@renolit.com

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