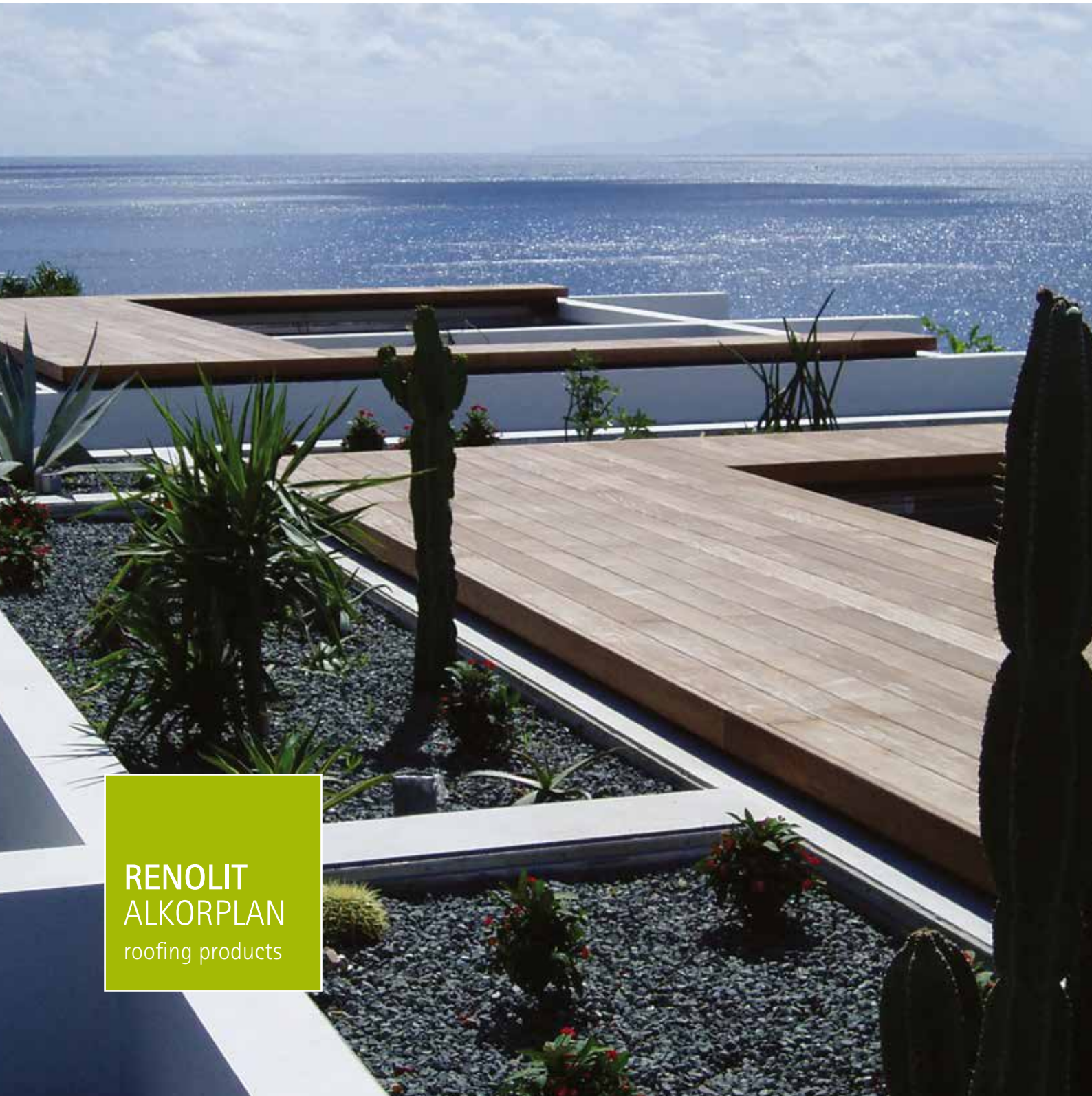




Rely on it.

A garden between heaven and earth

RENOLIT ALKORPLAN Green



RENOLIT
ALKORPLAN
roofing products



Commercial building (The Netherlands)

RENOLIT ALKORPLAN Green ... your living roof

Green roofs are not just another trend. The tendency towards green roofs has increased markedly over the last 20 years. With the **RENOLIT ALKORPLAN**, **ALKORTOP** or **ALKORTEC** membranes, **RENOLIT** has proved its competence within green roof projects over many years and various geographical locations.

RENOLIT ALKORPLAN Green roofs offer an ecological as well as an aesthetic solution for waterproofing your roof. Apart from the aesthetic benefits, growing environmental awareness and the significant economical and ecological advantages are the driving forces behind the success of green roofs. Urbanisation creates problems, for which green

roofs may offer a solution, particularly with regard to storm water runoff and management. It's no coincidence that green roofs are subsidised in a growing number of regions and countries across Europe (e.g. Belgium, Germany, United Kingdom, Sweden, The Netherlands, etc.). **RENOLIT** roofing membranes are still mainly applied for waterproofing industrial and commercial buildings. Nevertheless, there is a clear development towards aesthetic and visible roof finishes.

The **RENOLIT ALKORPLAN Green** system offers a highly developed all in one green roof system, specifically adapted to our **RENOLIT** roofing membranes.



Swimming pool (The Netherlands)



Apartments Sengkang (Singapore)

Green your roof with RENOLIT roofing membranes

One partner

The major advantage of the **RENOLIT ALKORPLAN Green** system is that you have only one contact for the waterproofing membranes as well as for the entire construction of the green roof (except for the plants). Architects and contractors can therefore reduce the time and trouble they would have to take in finding suitable systems and products themselves.

45 years of experience in waterproofing

RENOLIT membranes have been successfully used in the waterproofing of green roofs for many years. **RENOLIT**

roofing membranes have an excellent resistance to static perforation Class L20, on both hard and soft substructures.

Root resistance

RENOLIT roofing membranes have successfully passed the EN 13948 root resistance test and can therefore be considered as top quality products for green roofs. Furthermore, **RENOLIT** membranes are installed using tried and tested hot air welding techniques which produce watertight and root resistant joints.

Green roofs and their properties

	Cross-section substrate layer (cm)	Additional weight (kg/m ²)	Maintenance	Accessibility	Type of plants
1 Extensive green roof	3-15	30-150	Minimal	No	Sedum, herbs, ...
2 Semi-intensive green roof	15-30	150-400	Yes	Yes	Flowers, lawn, small shrubs, herbs
3 Intensive green roof	> 30	≥ 400	Yes	Yes	Any plant choice*

(1 = standard **RENOLIT ALKORPLAN Green** system)

* Aggressive plants such as bamboo are not allowed on green roofs. For a full list of prohibited plant species, please refer to Krupka, Bernd. Dachbegrünung – Pflanzen und Vegetationsanwendung an Bauwerken. Stuttgart, Ulmer, 2000



Sports Centre (Germany)



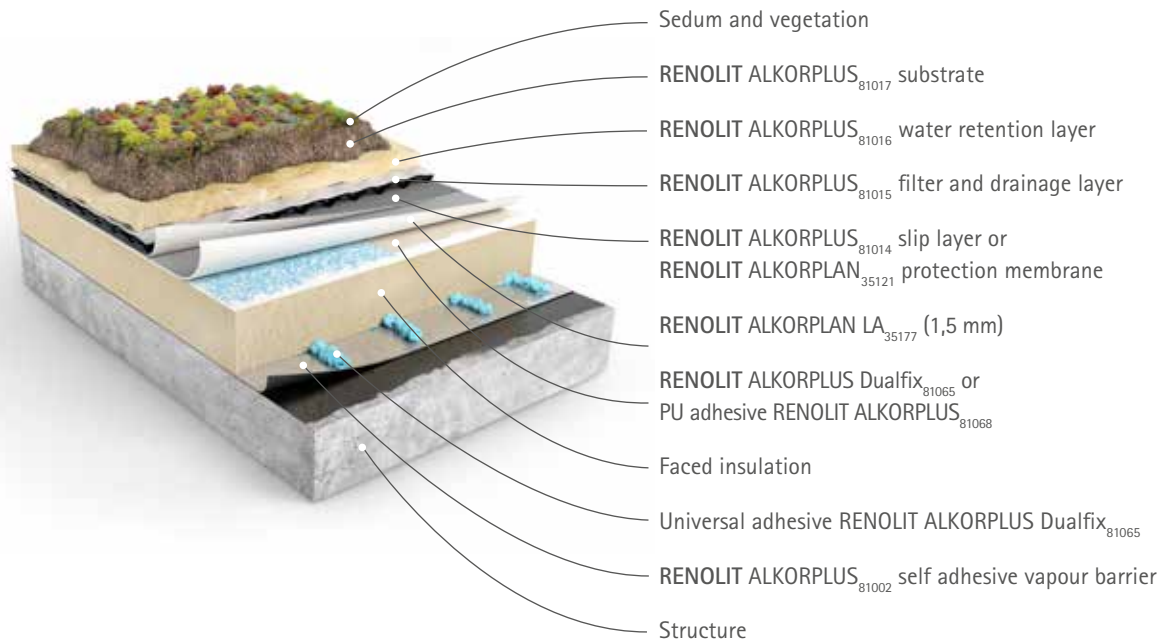
Birtenshaw School (UK)





La Strada (Germany)

The RENOLIT ALKORPLAN Green system



The RENOLIT ALKORPLAN Green system is "standard" for roofs with a slope from 1° to 5°

Sedum and vegetation

In the case of large projects, we advise sedum cuttings to be sown onto a substrate layer of about 6 cm. For smaller projects, we recommend the use of precultivated layers.

RENOLIT ALKORPLUS₈₁₀₁₇ substrate (6 cm)

The substrate layer ensures feeding substances, water supplies to the vegetation plus oxygen and anchoring of the root structure.

RENOLIT ALKORPLUS₈₁₀₁₆ water retention layer

This layer provides the plants with extra water in time of drought or prolonged high temperatures. This allows the plants to continue growing and maintain their life expectancy.

RENOLIT ALKORPLUS₈₁₀₁₅ filter- and drainage layer

This layer is in two parts. The filter layer limits particles from the substrate layer migrating into the drainage layer causing blockages. The drainage layer ensures a steady removal of redundant water which is not held by the water retention layer.

RENOLIT ALKORPLUS₈₁₀₁₄ slip layer or RENOLIT ALKORPLAN₃₅₁₂₁ protection layer

This layer provides additional protection to underlying layers.

RENOLIT ALKORPLAN Green waterproofing membrane (1.5 mm)

This product provides a watertight roof and is unaffected by roots (except in case of prohibited plants). Fully glued with the adhesives RENOLIT ALKORPLUS₈₁₀₆₈ or RENOLIT ALKORPLUS Dualfix₈₁₀₆₅.



Expo Zaragoza (Spain)



School (Sweden)



Benefits of RENOLIT ALKORPLAN Green



International Campus (France)

RENOLIT ALKORPLAN Green offers a complete, aesthetic and ecological system for your roof.

RENOLIT ALKORPLAN Green is a green roof system that is as practical for new build as it is for refurbishment projects. The RENOLIT ALKORPLAN Green system is essentially an extensive green roof system but can be adapted to an intensive and a semi-intensive green roof system.*

With many years experience of green roofs it is proven that with such a wide and varied plant choice there are few limits to the design possibilities. Such roof gardens are work for specialists and cooperation between the roofing contractor and the sedum specialist is essential. Every green roof design will differ in some way so RENOLIT offer a full technical service.

Apart from the aesthetic benefits, a green roof has many other advantages:

From a construction and economic point of view

- Improved sound-proofing
- Reduction of heating/cooling costs
- Increased life expectancy of the waterproofing membrane
- Limited maintenance
- Limited weight

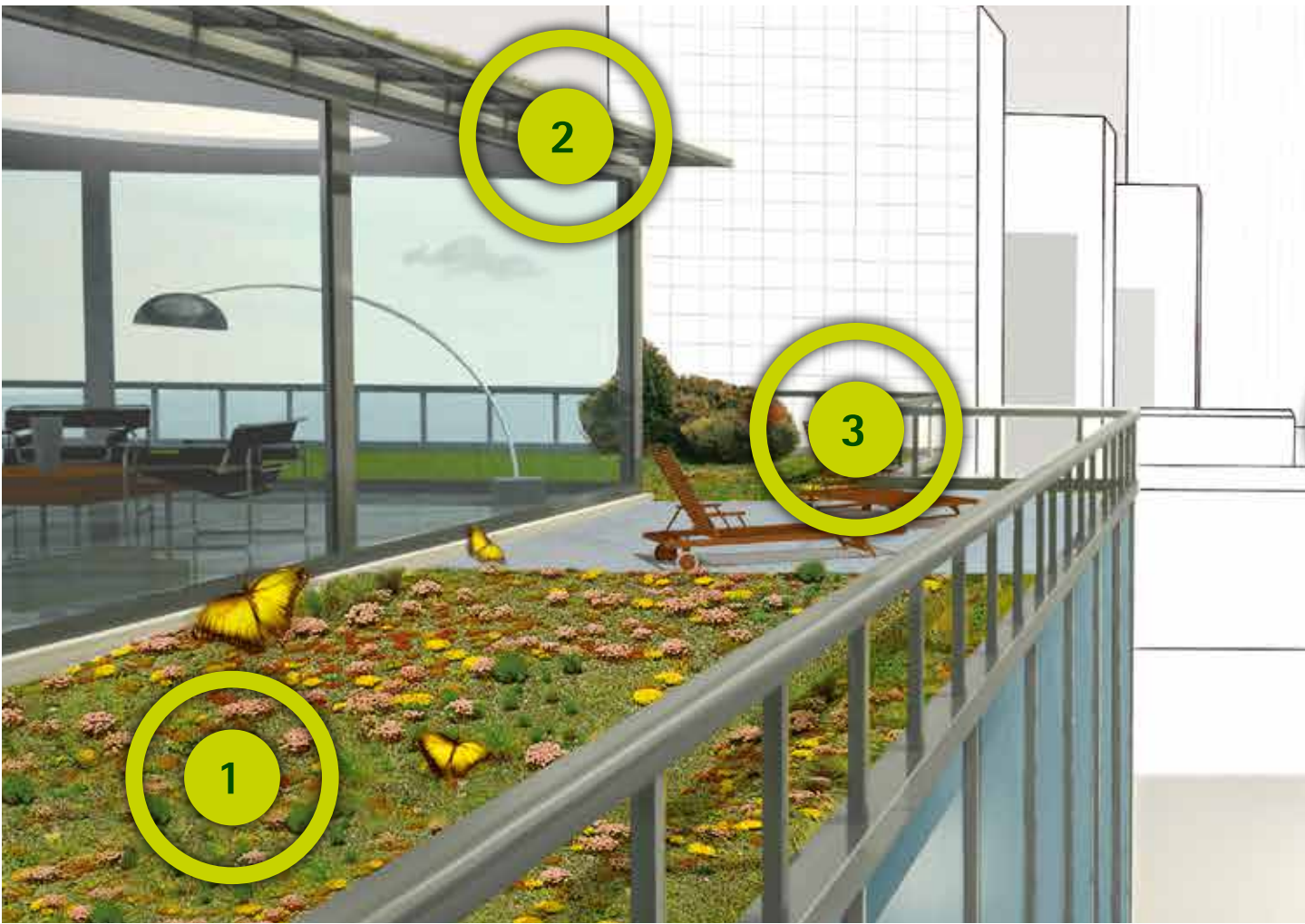
From an ecological point of view

- New environment for the fauna and flora
- Reduction of rain water run off
- Oxygen production
- Absorption of electromagnetic radiation

From a functional point of view

- Architectural possibilities
- Aesthetically pleasing.

** If you are interested in a semi intensive green roof, please contact RENOLIT.*



1

Improved sound-proofing

A RENOLIT ALKORPLAN Green roof system serves as an excellent sound insulator. Green roofs can be very efficient in reducing indoor noise attenuation from hail and rainfall, etc.

2

Benefiting the urban environment

Green roofs create more natural green areas in the urban environment. The plants on the roof give the owners a more natural view, instead of the increasingly dominating black or grey flat roof surfaces.

3

Reduction of heating/cooling costs

A green roof provides extra insulation and energy efficiency for the building. Because of its insulating properties, RENOLIT ALKORPLAN Green roofs have a large impact on the interior temperatures, reducing the amount of energy needed to heat a building in winter and to cool the building in summer.

2

3

As a result, RENOLIT ALKORPLAN Green system roofs operate more efficiently than the traditionally roofed buildings, resulting in lower energy costs for the building owner.

4

Increased life expectancy of the waterproofing membrane
Green roofs protect roof membranes from UV and IR radiation, ozone, extreme temperature fluctuations, punctures and other physical damage.

The RENOLIT ALKORPLAN Green roof system can thus significantly increase the life expectancy of roof membranes, diminishing the need for costly roof replacements and maintenance.



5

Oxygen production

Green roofs contribute to an improved air quality, especially in urban environments where the quality of the air is often unsatisfactory. The vegetation on the rooftop produces oxygen on the one hand and absorbs polluted particles from the air on the other hand.

6

Reduction of rain water run off

Green roofs absorb large quantities of the rain water and keep it from heading immediately into the drainage systems and into the rivers. A large quantity of this water is absorbed by the plants. The remaining water evaporates later over a period of time. In the case of significant rainfall, the runoff is delayed further reducing the pressure on storm drains, etc.

Green roofs introduced on a large scale, can greatly reduce the risk of flooding, sewer overflows, and subsequent discharges.

5

6

7

7

New environment for the fauna and flora

A living roof brings nature into the cities and industrial areas. It offers a high biodiversity that may prevent some animals from disappearing from the urban environment. Birds, insects, bees and other wildlife that need vegetation to survive, can find a place to rest and create a new natural habitat on top of the roofs.

Apart from this, green roofs may offer high-rise flat residents a functional space or entertaining area, replacing the traditional garden.



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 year with extended maintenance.

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 in Barcelona is approved to ISO 9001/14001.

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Rely on it.