

NATURE HAS A FUTURE
**WITH THE EXPERTISE
OF EXPERTS.**



ALMOST 50 YEARS ARE BEHIND US – THE BEST ARE AHEAD OF US.

From the very beginning, the idea behind our green roofs was to preserve nature, especially in the modern urban environment. Climate change was not yet a public issue at that time – that has now changed radically. We have all become more sensitive when it comes to the threat to biodiversity, weather extremes and quality of life in cities.

During this time, we have naturally also undergone further development, too. In the last 20 years, we have grown from a small team to an enterprise with approx. 100 employees and have increased our turnover almost tenfold during this period. We have also expanded our range of products.

The most important aspect of green roofs is the interplay of sophisticated technology and comprehensive expertise in all variants. For this reason alone, service and advice are of particularly high importance to us.

Architects, designers and building owners benefit from our know-how as do gardening and landscaping companies when it comes to delivery and maintenance. With this holistic approach, we create the basis for unique developments and economical solutions, even for difficult and seemingly impossible challenges. Let's work together to ensure that our cities can breathe again.

“THE MORE CHALLENGING,
THE MORE OPTIGRÜN.”



Uwe Harzmann
Optigrün Managing Director

SYSTEM SOLUTIONS WITH ADDED VALUE.

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IMPRESS WITH CREATIVITY. CONVINCE WITH FACTS.

As specialists in green roofs who aspire to shape the market and the future, we offer holistic systems as innovative solutions. The highest product quality is a matter of course here. Added to this are our technological superiority, decades of experience and comprehensive consulting expertise. This results in unique synergies, which greatly benefit our customers, our partners and nature.

INNOVATION CULTURE IN A CLASS OF ITS OWN: THE OPTIGRÜN ACADEMY.

State-of-the-art expertise, regular updates on changes in guidelines and standards – this is what the OPTIGRÜN Academy offers with all relevant specialist topics. The seminars and training courses are always tailored to the different target groups. Together with our selected network partners from related industries, we conduct seminars that are primarily aimed at designers and building owners and are recognised as further training measures in many German federal states. At the same time, we support our partner and processing companies by providing regular seminars for their employees. In this way, we can ensure that the latest findings and innovative developments for implementation reach the market.



more than
3,500,000 m²
of green roofs worldwide per year

almost
50
years of
experience

approx.
2,000
products

up to
80 %
CO₂ REDUCTION
by using recycled material
and green electricity

approx.
100
employees both in the
sales office and in the field

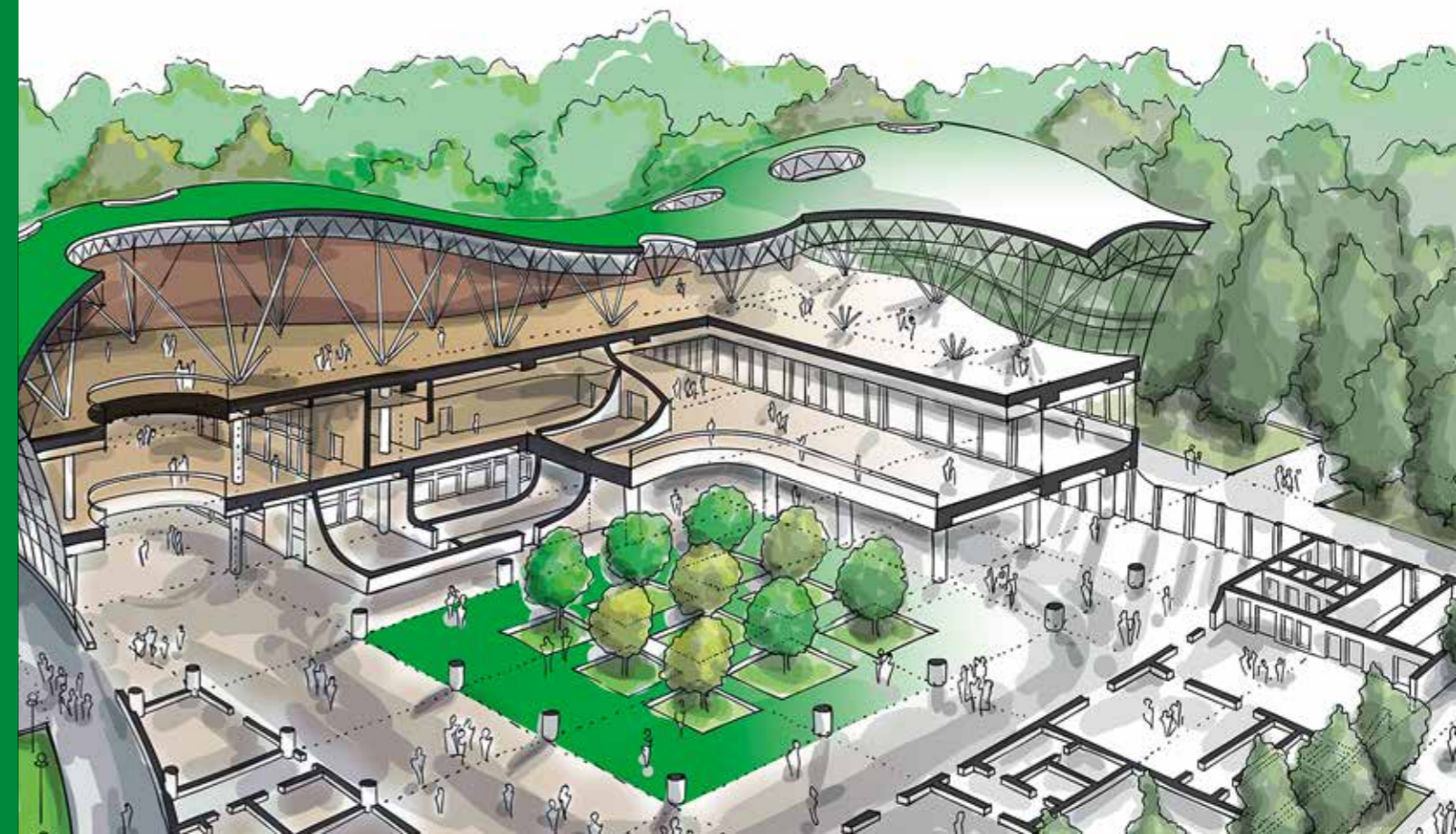
approx.
125
partner companies in
the Optigrün Group

6
export
offices

over
6,500
implemented green roofs
per year

approx.
50
specialist seminars
each year

over
5,000
seminar participants
each year



DESPITE URBANISATION AND CLIMATE CHANGE GREATER QUALITY OF LIFE.

SHAPING THE FUTURE SYSTEMATICALLY.

A green roof is an upgrade for any building. It looks good, offers multiple benefits with numerous functions and even saves money. In order to make the right decision, it is essential to identify the respective requirements and to use the best solution for each application. Our motivation is the idea of designing living spaces better, taking the next step for tomorrow today and further extending our technological lead. To do this, we develop innovative systems that impress with their functionality from both an ecological and an economic viewpoint.

Our systems for optimum green roofs are an important contribution to climate compensation. As a recognised measure of the impact compensation regulation under nature protection law, green roofs offer new living spaces for people, plants and animals. The large storage capacity and evaporation of precipitation relieve pressure on the sewer system, especially in the event of heavy rainfall. At the same time, the green roof efficiently cools both the surrounding area and the building and also contributes to air humidification and fine dust filtration. As protection against extreme temperatures or hail, green roofs also extend the service life of waterproofing.

WATER RETENTION.

Relieving of the sewer system and mitigation of climate change through evaporation.

ECOLOGICAL COMPENSATION.

Compensation areas that counteract soil sealing.

REDUCTION OF FINE DUST AND NOISE.

Improvement in quality of life and active health protection.

PROTECTION AT EXTREME TEMPERATURES.

Extension of the service life of the waterproofing.

CREATIVE AND VISIONARY.

A contribution to sustainable construction and urban planning for improved quality of life.

EFFECTIVE AND EFFICIENT.

Increased yield with photovoltaics, cost savings for wastewater charges.



MORE THAN JUST A PRODUCT:

The superiority of OPTIGRÜN Systems is not only reflected in the high quality of the products. We draw on our expertise to develop the optimal solution for every application and also offer comprehensive service. This is what makes the difference!

MANY POSSIBILITIES. ALWAYS THE RIGHT DECISION.

Our expertise to assist with your decision:
Make the most of the expertise and experience of our experts! You will find the optimal green roof system with a build-up, substrate and planting to suit every requirement and every concern.

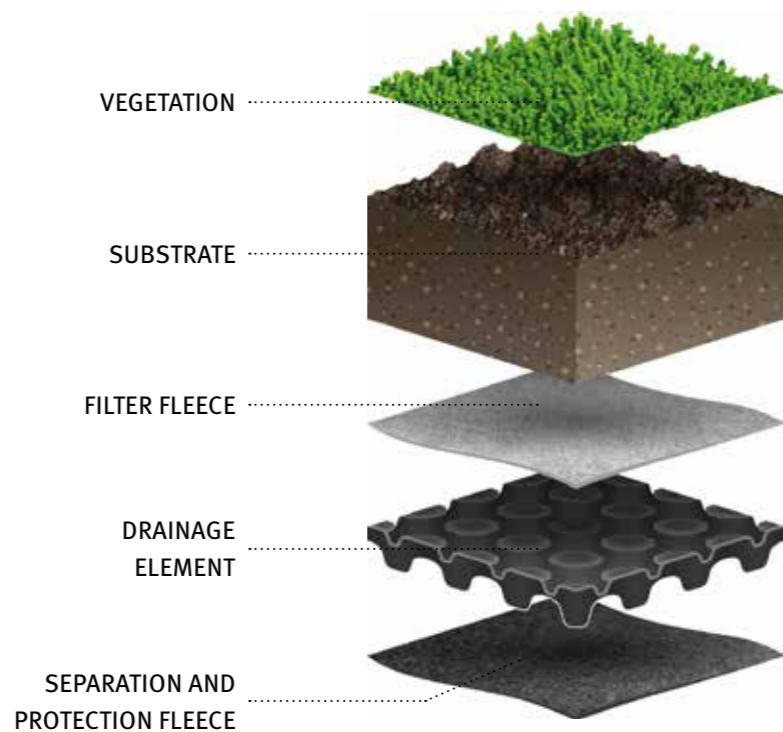
Every roof can fundamentally be greened. Nevertheless, there are some differences – in the type of building and in the conditions that the roof itself provides. We offer various alternative designs, which differ based on the form and use of the green roof:

Extensive green roofs with a simple build-up and low maintenance requirements for green roofs without further use.

Intensive green roofs with a garden-like build-up and higher maintenance requirements for the use of green roofs as additional living space.

The functional green roof with intelligent rainwater management for rain retention and drainage or a special solution for solar systems.

There is also the simple intensive green roof as a mixed form. This version contributes to preserving biodiversity by means of a more sophisticated build-up. The principle behind the green roof build-up is always the same:



DID YOU KNOW...?
Preventing CO₂ emissions is the major goal of sustainable action. CO₂ emissions can be reduced both by using recycled material and by using green electricity in production.



Simple and easy-care – Extensive green roofs from OPTIGRÜN

- Low-growing plants adapted to extreme local conditions, which largely develop by themselves
- Ecological compensation of built-up nature, recognised as a mitigation measure
- All of the requirements of the FLL Green Roof Guidelines are fulfilled



Ecologically valuable and versatile – Intensive green roofs from OPTIGRÜN

- Unlimited design options for flat and slightly pitched roofs
- Use of more demanding plants requires increased maintenance and water supply
- Additional useful areas and living spaces for humans, flora and fauna
- Option for public areas such as paths, terraces and even road surfaces



Intelligent and sustainable – Functional green roofs from OPTIGRÜN

- Rainwater management at a high level
- Large storage capacities to maximise evaporation and flood protection in urban areas
- Photovoltaic supports without damaging the roof membrane

EASY-CARE OR LOW-COST? **BOTH, OF COURSE!**



ECONOMY ROOF EXTENSIVE

Water storage:
25 l/m²

Low
maintenance

Weight:
from 90 kg/m²

Cost reference value:
from €23/m²

A green roof is always better. This principle can also be applied to large roof areas and small budgets. The ECONOMY ROOF is the simplest solution for ecological compensation. At the same time, the green roof protects the roof membrane and thus extends the service life of the entire roof.

The name says it all: The ECONOMY ROOF is a particularly cost-effective green roof structure. But nothing is spared when it comes to function and safety. Thanks to its sophisticated technology, the system offers a large water storage capacity with simple means. The classic with a standard build-up for extensive green roofs has proven itself for decades, especially with sedum vegetation.

No experiments! Instead, rely on the experts from the very beginning. The ECONOMY ROOF barely costs more than a gravel roof and the small additional costs are even saved by reduced wastewater charges.

MINIMUM WORKLOAD:

- Compliance with official building requirements
- Reduction in wastewater charges
- Reduction in the environmental footprint



THE MAXIMUM FOR YOU:

Drainage design from our application technology – an **exclusive service** from OPTIGRÜN.





WITH HALF OF THE NORMAL WEIGHT MAKE THE MOST OF ADVANTAGES THAT WEIGH TWICE AS MUCH.

LIGHTWEIGHT ROOF EXTENSIVE

Roofs with limited statics initially appear to be a particularly demanding challenge. With the LIGHTWEIGHT ROOF build-up, there is a completely natural solution to create compensation areas. Even with almost exclusively natural materials, the weight can be reduced by approx. 50% compared to a normal green roof.

Our specially developed lightweight substrate in combination with our lightweight roof vegetation mat creates a continuous extensive green roof in a very short time and security against drift from the very beginning.

This makes it easy to achieve a sufficiently large water storage capacity on any flat roof – drainage takes place via a drainage board. At the same time, our LIGHTWEIGHT ROOF system protects against UV radiation and fully complies with the FLL Green Roof Guidelines.



Water storage: approx. 18 l/m²

Up to 50% weight reduction

Low maintenance

Weight: from 58 kg/m²

Cost reference value: from €44/m²



Protection from UV radiation and heavy rain/thunderstorms

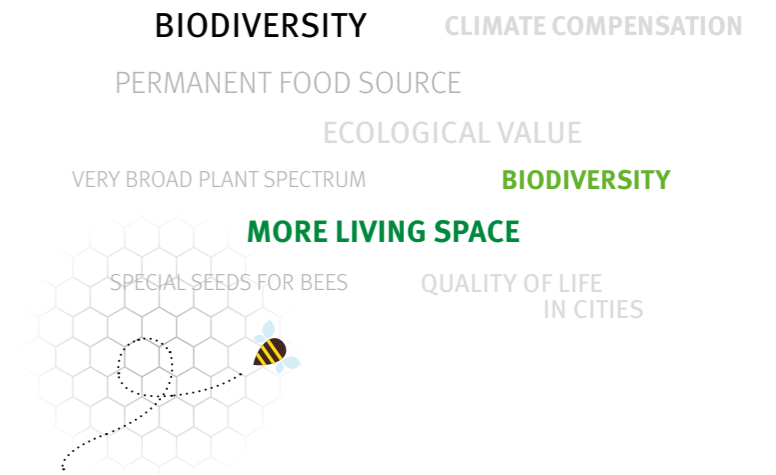


DID YOU KNOW...?

Especially when refurbishing older roofs or industrial roofs with a lightweight construction, the LIGHTWEIGHT ROOF is the optimal solution!



THE BEST COMBINATION OF ECOLOGY AND ECONOMY.



NATURE ROOF EXTENSIVE, SIMPLE INTENSIVE

- Water storage: up to 80l/m²
- Increased evaporation and cooling performance
- Increase in ecological value through biodiversity
- Wastewater charge reduction
- Weight: from 90 kg/m²
- Cost reference value: from €28/m²

The long flowering phase is not only visually exciting – the high-quality green roof form is also very popular with insects and bees as a permanent source of food. Further biodiversity components, such as different substrate heights and mounds, nesting aids, water areas, and dead trees, further increase the ecological value and biodiversity.

The NATURE ROOF is a cost-effective type of green roof with highly flexible design options: Grasses, herbs, perennials, shrubs, even small trees can be planted. These are the best conditions for greater

water retention and higher evaporation. And, as an intervention-reducing measure, the NATURE ROOF leads to a significant reduction in split wastewater charges.

It is this versatility that makes the NATURE ROOF an ideal border for roof terraces or recreation areas for employees. Preserving biodiversity thus creates new habitats and increases quality of life.

Edge elements



Planters



Railing systems



SYSTEM ADD-ONS

As a specialist in complete systems, we offer a wide range of additional products in order to maximise the use of the possibilities. More on this from page 34.



DID YOU KNOW...?

OPTIGRÜN invented the nature roof 30 years ago – even then, it was a passionate pioneer in the preservation of nature and biodiversity.



STORE RAIN WHERE IT FALLS: MORE RELIABLE RETENTION ON THE ROOF

RETENTION ROOFS

With the increase in heavy rain and storms, the existing infrastructure is reaching its limits. At the same time, periods of drought are becoming more frequent and a shortage of water for plants is increasing. Stormwater retention spaces must be created, and solutions for stormwater management at a high level are required. As there is no room for such systems, especially in urban areas, existing building roofs offer excellent opportunities for being used as retention storage.

roof. With water storage capacities ranging from 19 l to over 300 l per m², our systems, products and services make an important contribution to restoring the natural water balance and flood protection.

The experts from OPTIGRÜN already faced these challenges when they were not yet receiving much public attention. It is therefore only logical that we developed innovative retention systems at an early stage and have maintained our pioneering role in technology and advisory services on the market to this day.



Increased evaporation and cooling performance

Compliance with the master plan specifications on the Cs value or restrictions on discharge

Hardly any additional costs with significantly greater benefit

Application on flat roofs up to 5% roof pitch

As the inventors of the RETENTION ROOF, we offer effective solutions for water discharge delay and evaporation, which can be used with any flat



Stormwater is saved in water retention boxes under the green roof and is available to the vegetation.

PATENTED SOLUTIONS SO COSTS ARE KEPT UNDER CONTROL.

RETENTION ROOF MEANDER 30 / 60
Water discharge delay system

RETENTION ROOF FLOW CONTROL
Storage and evaporation system

SMART FLOW CONTROL
Innovative control of retention storages

RWS 4.0
Rainwater simulation program for flooding verification as a service



DID YOU KNOW...?

Most of our drainage panels are made from recycled lids from PET bottles.

ADOPTED FROM NATURE. DEVELOPED INTO EFFICIENT TECHNOLOGY.

RETENTION ROOF MEANDER EXTENSIVE, SIMPLE INTENSIVE



Reduction of discharge peaks to 0.1 or 0.17 respectively

Water storage of 19 or 32 l/m² respectively

Patented, unique product

Cost reference value: from €25/m²

Ecologically valuable, visually sophisticated – these are the attributes of the MEANDER systems from OPTIGRÜN. After all, the two patented retention roof solutions allow a considerable water discharge delay to be achieved. The principle comes directly from nature, where the flow velocity is reduced when the water moves in a loop. In our MEANDER

retention roofs, water drainage occurs on winding detours with significantly reduced drainage peaks. A further advantage resulting from the low peak discharge coefficient is the reduction in the required pipe cross-section for the drainage pipe. An ecological measure that pays off in two respects.



MEANDER FKM 30
Storage height 30 mm
90 % discharge reduction
(C_s = 0.1)

MEANDER FKM 60
Storage height 60 mm
83 % discharge reduction
(C_s = 0.17)

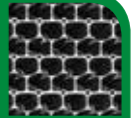


Efficient and economical – Retention Roof MEANDER 30



- The best peak drainage coefficient in the industry according to FLL 2018 (C_s = 0.1)
- For extensive green roofs
- With the MEANDER Water Retention Board FKM 30 for a longer flow path
- Additional flow control at the outlet
- Especially easy to maintain with our sedum vegetation
- Low build-up height

Flexible and efficient – Retention Roof MEANDER 60



- With a permanent water storage
- For extensive and simple intensive green roofs
- With the MEANDER Water Retention Board FKM 60 for a longer flow path
- Additional flow control at the outlet
- Besides the recommended perennial planting, a biodiversity area can be created with little effort



SAVING TIP – KNOW HOW!

A MEANDER Retention Roof does not cost **more** than a normal extensive green roof – the reduced peak discharge coefficient is supplied virtually free of charge.

GOING WITH THE FLOW. FLOW CONTROL ON THE SPOT.



RETENTION ROOF FLOW CONTROL EXTENSIVE, SIMPLE INTENSIVE, INTENSIVE

High retention volume up to approx. 75 - 300 l/m²

Fulfilment of structural requirements for flood volume

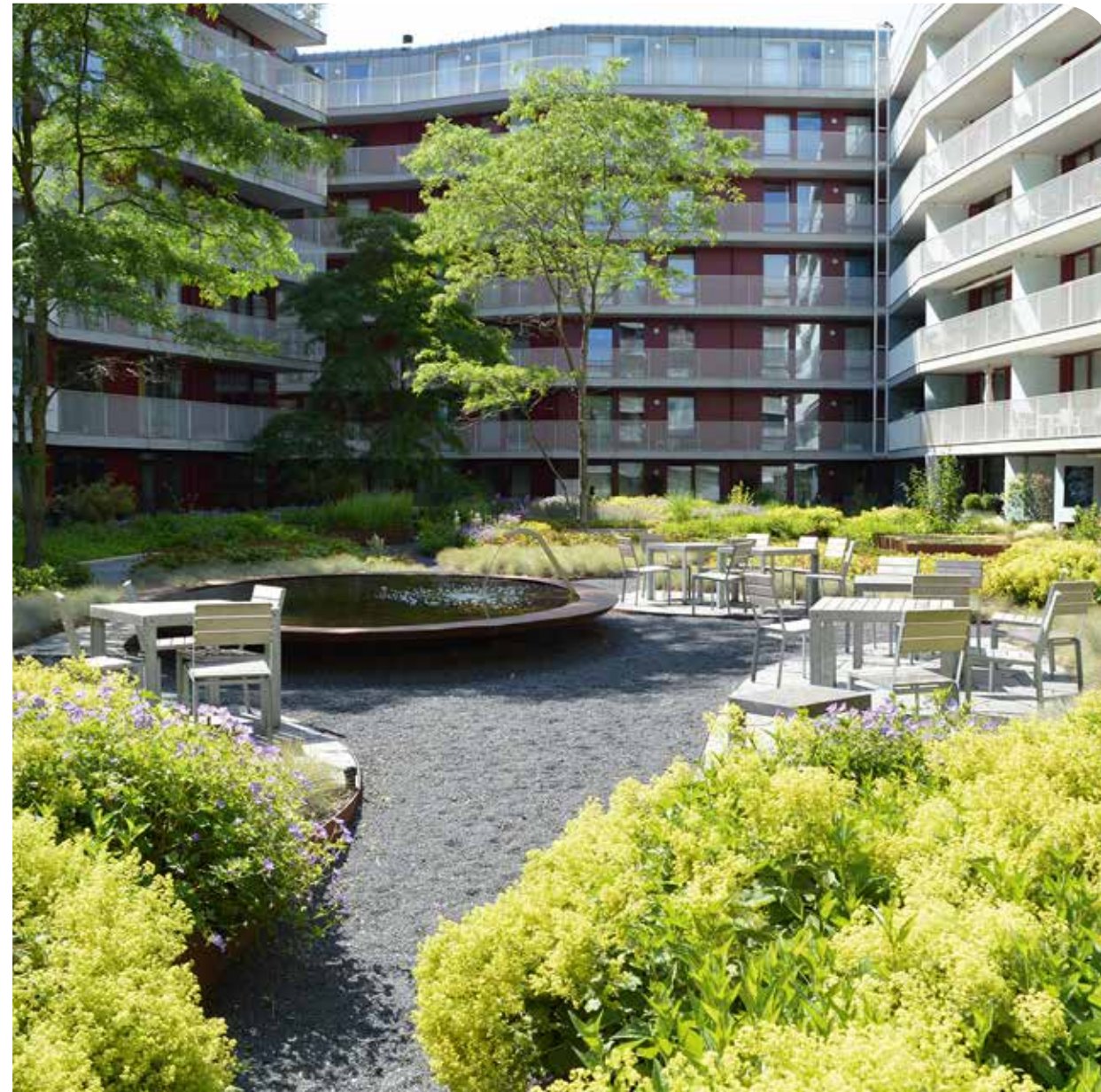
Increased evaporation performance due to integrated capillary system

Cost reference value: from €39/m²

Static or dynamic for a natural water balance.

The RETENTION ROOF FLOW CONTROL takes care of excellent stormwater management and relieves pressure on the public sewer network. The system makes designing easier, especially when there are flood volume and water discharge delay specifications.

The Retention Roof FLOW CONTROL offers a safe solution for both extensive and intensive green roofs offering the precise throttling of the water discharge along with the storage of water. The water retention box is used here both as a temporary retention space and as a permanent water storage. This enables the FLOW CONTROL system to simultaneously increase evaporative cooling and flood protection.



State-of-the-art technology, perfectly integrated

SMART FLOW CONTROL – MAXIMUM INTELLIGENT CONTROL: EVAPORATION AND FLOOD PROTECTION.

The intelligent control of retention reservoirs is globally unique and typical of OPTIGRÜN. This gives us a real edge in the race against climate problems in our cities. SMART FLOW CONTROL achieves the two major goals of stormwater management and combines what initially appear to be opposites: restoring the natural water balance and increasing flood protection. On the basis of weather forecasts, individual rainfall events trigger precisely timed rainwater

control using construction project-specific drainage models. Of course, we take care of continuous monitoring for our customers.

SMART FLOW CONTROL is the clever solution for controlling retention storages. This forward-looking technology opens up great potential, especially with increasing urbanisation: maximum evaporation and maximum flood protection for better quality of life.

ONLINE AND OFFLINE: STORMWATER MANAGEMENT IN FOCUS.

Only available from OPTIGRÜN: the free app. This allows the inhabitants of a building to see precisely how the special retention roof affects their direct living space. In this way, you have an overview of all of the values in the system.



EXPERTS FOR YOU:

When it comes to retention roofs, we are also right at the top with our consulting expertise: Our application technology engineers are available to answer all of your questions about drainage and retention systems.



RWS 4.0 – A LOOK TO THE FUTURE. SUPPORT IN REAL TIME.

OPTIGRÜN is the only supplier of green roof systems offering professional design support with the rainwater simulation program RWS 4.0. We show all of the possibilities for the individual case. A free service, of course!

High degree of planning security through:

Dynamic calculations of the drainage, flooding frequency and water balance of a green roof based on local rainfall values for the last 10-50 years.

HIGH ART. IMPLEMENTED MASTERFULLY.



A visual and ecological exclamation mark, even from a distance

Quick and easy installation possible

Cost reference value: from €22/m²

PITCHED ROOF EXTENSIVE, SIMPLE INTENSIVE

Diversity even in the supreme discipline. The particular strengths and experience of the market leader in green roofs are in demand, especially in the case of significant roof pitches. We have developed unique PITCHED ROOF systems taking into account the pitch, design and construction of the roof, including static conditions. Specially adapted modules offer

a multitude of solutions and meet the various requirements of the respective building project. This allows inexpensive solutions to be implemented for simple roofs and green roofs are even possible for very steep and complex roofs.

THE SPECIAL SYSTEM FOR EVERY ROOF PITCH. INDIVIDUAL CALCULATION, DESIGN, PRODUCTION.



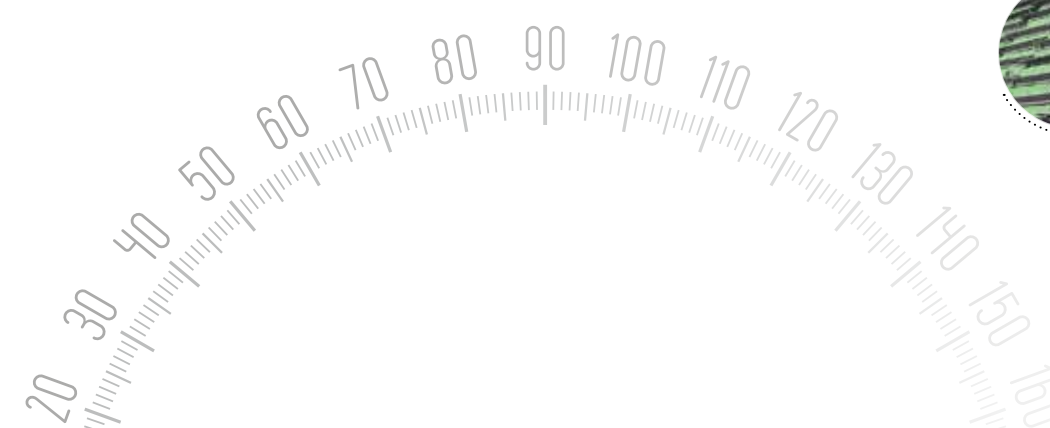
WITHOUT ANTI-SLIP SYSTEM 5 – 15°

Durable solutions for green roofs with a low roof pitch up to a maximum of 15°.



A DEMANDING SYSTEM!

Detailed design and advice from experts required.



WITH ANTI-SLIP SYSTEM P 15 – 35°

The special pitched roof **board** with its low own-weight is used for monopitched and saddle roofs with load transfer at the eaves. The advantages: quick installation, simple cutting to size, low price.

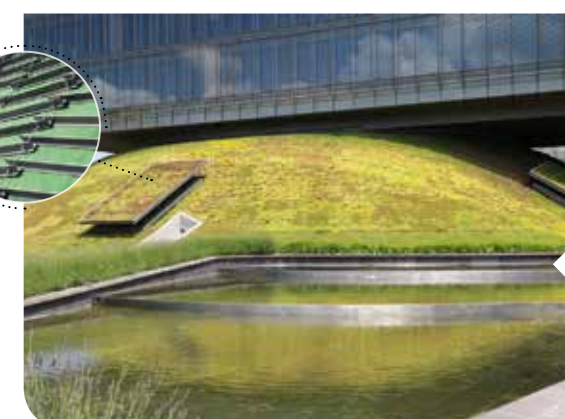
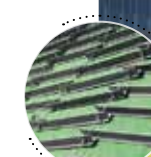


WITH ANTI-SLIP SYSTEM N 15 – 45°

The safety **net** has a real talent for adaptation, even for complex roof geometries, as it is simply laid over the ridge. Suitable for barrel, monopitched, saddle and domed roofs: penetration-free, easy to install, inexpensive.

WITH ANTI-SLIP SYSTEM T 15 – 45°

The robust **carrier system**, which withstands the wind and weather, is suitable for monopitched and saddle roofs: It is stable and has proven itself for a long time, even on steep surfaces with a roof pitch of more than 40°. Easy to install thanks to a clever modular system.



WITH ANTI-SLIP SYSTEM S 15 – 45°

The unique special **rope system** is used above all for special roof shapes with high shear loads, for curved or arched surfaces. The combination of a stainless steel cable with cable stoppers and anti-slip sills ensures that even very steep and highly complex roofs can be greened.

OPEN UP NEW POSSIBILITIES. WE CREATE THE FRAMEWORK FOR THIS.



GARDEN ROOF INTENSIVE

Beautiful havens in the heart of cities

Excellent urban climate thanks to high water storage capacity

Creation of living space

Increase in well-being

Value appreciation for real estate

Cost reference value: from €55/m²

The principle is as simple as it is impressive: Everything that garden lovers appreciate is also possible on a building roof or the ceiling of an underground garage. As a terrace or roof garden, the GARDEN ROOF with its versatile possibilities offers additional living and usable space. New landscapes with lawns, shrubs and ponds are created on the basis of a lightweight roof structure.



URBAN GARDENING INTENSIVE



As a kitchen garden with vegetables, herbs, shrubs and even fruit trees, URBAN GARDENING is a special form of the GARDEN ROOF system. For self-sufficient people, it is an excellent opportunity to grow their own fruit and vegetables in the city. The lightweight build-up guarantees that larger plants can be grown and our optimised substrate with tested quality ensures good yields. URBAN GARDENING not only compensates for the loss of land – the cultivation of crops also reduces transport distances and thus CO₂ emissions.

Just to be safe:



Our SKYGARD railing system is a penetration-free railing system secured with a superimposed load. With different colours and filling and handrail versions, the fall protection system also impresses as an interesting design element. More on this from page 38.

SYSTEM ADD-ON



TREND INFO FOR YOU!

The future belongs to the garden:

The need for the growing urban population to experience nature is bringing more and more people together in new community gardens to grow organic food – even on the roofs of urban areas.

(Source: Zukunftsinstitut GmbH)



FARSIGHTED IDEAS FOR SUSTAINABLE LIVING SPACE.

LANDSCAPE ROOF INTENSIVE

With versatile design options, rooftop landscapes can be created that, as green oases, take on important functions in the urban environment. The high, multi-layered build-up of the LANDSCAPE ROOF offers the best conditions for varied planting. The optimum conditions for trees, shrubs, perennials, and even lawns, playgrounds, ponds and terraces

are created with this green roof system for roofs or underground garages.

The LANDSCAPE ROOF is comparable to green areas on natural ground, both visually and in terms of maintenance.

And this is also true of its recreational value!



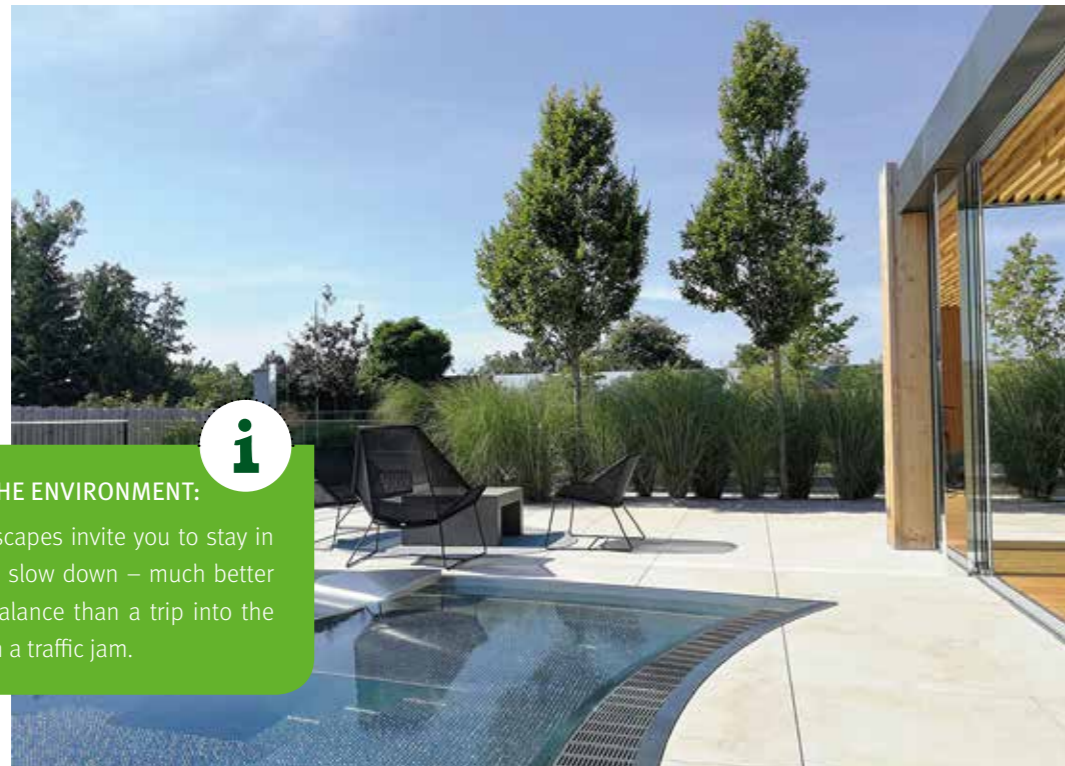
Intensively designed green roof, comparable with a garden

Low weight with high green roof build-up

Permanently functional underground garage green roof

Positive climate impact by reducing heat islands

Cost reference value: from €75/m²



GOOD FOR THE ENVIRONMENT:

Rooftop landscapes invite you to stay in the cities and slow down – much better for the CO₂ balance than a trip into the countryside in a traffic jam.

PIONEERING SYSTEMS BASED ON EXPERIENCE.



PUBLIC ROOF

Low superstructure heights and low load for the layer structure

Verification of stability and load calculations available

The designing and implementation of roads and path construction on building roofs are among the most demanding and complex challenges. Load distribution, surface drainage and substrate drainage are key tasks of the various usage categories NK 1-3 that need to be carried out for the public roof.

Thanks to decades of expertise, OPTIGRÜN is also in the fast lane with the PUBLIC ROOF. Comprehensive expertise, experience in all areas of green roofs and our own tests ensure the safety of innovative systems. The result is thin build-up for versatile solutions. This is the basis that turns roofs into surfaces that you can walk and drive on.



THREE USAGE CATEGORIES FOR PEOPLE, CARS AND TRUCKS.



NK1 Accessible to people



Roof areas that can be walked on with usable paths, can be combined with open space. Use on uninsulated roofs as well as on warm and inverted roofs. Can also be installed with tested footfall sound insulation (Optisound) or on elevated support pads.



NK2 Accessible to cars up to 3.5 t



Roof areas that can be driven on with usable paths and roads for people and cars, can be combined with open space. Use on uninsulated roofs as well as on warm and inverted roofs.



NK3 Accessible to trucks up to 20 t



Roof areas that can be driven on for occasional use by vehicles up to 20 tonnes, e.g. refuse collection, fire brigade, delivery traffic. In the event of higher usage frequencies or heavier vehicles, appropriately adapted superstructures are required.



GO-AHEAD FOR MANY DESIGNS. GREEN LIGHT FOR SOPHISTICATED SOLUTIONS.

LOW LOAD RESERVES

GRAVEL LAWN

LOW BUILD-UP HEIGHTS

GREEN ROOF COVERINGS

RETENTION FUNCTION

LIGHTWEIGHT CONSTRUCTION WITHOUT ROOF PITCH WITH DRAINAGE

PUBLIC ROOF

We offer the PUBLIC ROOF in different versions for all three usage categories (NK 1-3). This results in safe and functional path surfaces with aesthetically pleasing zones that impress with green roof coverings or gravel lawns.

The possibilities are wide-ranging, even a version with the valuable retention function is possible. We also create public areas on inverted roofs, naturally using a modified construction method. OPTIGRÜN has developed an additional system design in a lightweight construction for public routes on ceilings with low load reserves or to compensate for significant height differences.



Versatile solutions, depending on the construction site situation

Tested and calculated build-ups



STOP!

With drivable system build-ups, there is no need to risk any costly mistakes! The best protection is an expert with experience and expertise.

SUNNY TIMES FOR GREEN ROOFS.



SOLAR GREEN ROOF EXTENSIVE

Can be adapted to suit any standard solar panels

Low costs per kWp

Increased efficiency of the solar plant by means of evaporative cooling

Proven and calculated system

Tested in a wind tunnel

Cost reference value: from €65/m²

Those who want everything can have everything: Reducing global warming, increasing biodiversity, retaining precipitation and producing clean energy can all be perfectly combined with the SOLAR GREEN ROOF. OPTIGRÜN has developed the SUN-ROOT system – in different versions with different roof pitches – in order to enable optimum electricity yields on roofs with photovoltaic systems using a green roof. These are photovoltaic

mounting frames that do not interfere with the roof structures and waterproofing. The roof membrane is not damaged. This is a great advantage as the vegetation runs under the modules and thus a large proportion of the roof area can be greened. At the same time, evaporative cooling of the vegetation on the roof increases the efficiency of the solar plant by up to 5%.



OUR SERVICE:

We would be happy to draw up an installation plan to optimise the costs of the kWp – free of charge, of course!

SUN-ROOT – A MATTER OF INCLINATION

SUN-ROOT 15

- For all standard photovoltaics modules
- The modules have a 15° pitch as standard, the following are also possible: 10°, 20° and 25°
- Suitable for roofs with 0 - 5° pitch, for south or east-west orientation

A COMPREHENSIVE APPROACH. RIGHT DOWN TO THE LAST DETAIL.



OPTIGRÜN's aspiration to develop green roofs as complete solutions does not end with offering various green roof systems. System add-ons that focus on both safety aspects and the aesthetics of the planting make the product range truly complete.

The result is an overall picture of harmony – green roofs as climate compensation and a haven where you can feel at ease.



PLANTERS

- Closed system
- Mobile planting for greater flexibility
- Individual design with targeted accents
- Made-to-measure according to your preferences

Practical, durable and easy to maintain – our high-quality PLANTERS made from aluminium or stone fibre provide the ideal stage for every type of planting. In many shapes and sizes, colours and textures, they add green accents while also serving as demarcation and fall protection. They also lend the planting an individual character.



PLANTS AS A NATURAL EYE-CATCHER. AND AS A MODERN DESIGN ELEMENT.

System add-ons for green roof planting make it possible to create interesting landscapes and increase the variety of plants. The use of shrubs and trees as accents is also possible with low build-ups. The green roof thus becomes an expression of an individual style.

EDGE ELEMENTS

- Individual shapes and colours
- Targeted greening for larger spaces
- Increased plant diversity
- Elevated planting bed solution for the highest design standards

Edge elements made from aluminium or stone fibre – made to measure – open up almost unlimited creative scope on green roofs. With their versatility, the edge elements offer the designer many design possibilities. Larger areas can be delineated beautifully, and water tanks, stairs and seating areas can also be integrated harmoniously.

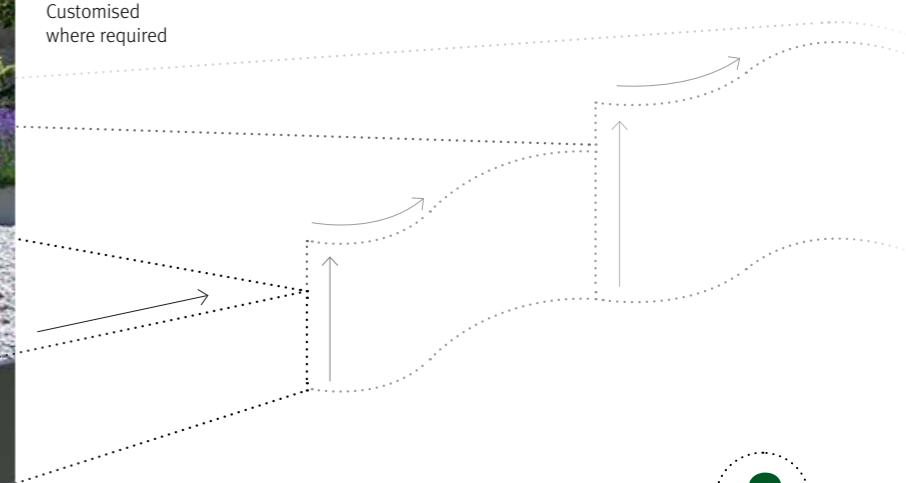


Customised where required

EDGE TRIMS

- Demarcation of areas
- Design element in specific areas
- Targeted accents

Our EDGE TRIMS provide a clean, aesthetic edge finish that separates the green roof build-up from the pebble strip. The strips are also used to free drainage facilities or to form fire protection strips. Recycled aluminium or recycled plastic is used to produce them.



DID YOU KNOW...?

System add-ons for planting from experts pay off in the long run – because the end result simply looks better for longer!

TESTED SAFETY INSTEAD OF UNNECESSARY RISKS.

Minimal care and maintenance measures are carried out, even with extensive green roofs. Safety must be ensured – preferably with our sophisticated and tested systems, which, of course, meet the legal requirements.

SKYGARD – THE RAILING SYSTEM FOR USED ROOFS AND TERRACES

The **penetration-free railing system** for intensive green roofs is secured with a superimposed load and has proven itself as a tested and recognised safety system. The self-supporting SKYGARD railing system is confirmed by a type statics calculation, with which its stability can be proven mathematically. There is therefore no further need for a separate calculation per building project. Safety against

tilting is calculated individually for each property and an installation plan is drawn up. The custom manufacture of the system components enables quick and easy assembly. The installation takes place without any penetration of the waterproofing, so no intervention in the roof structure is required. With all of the safety requirements, SKYGARD leaves plenty of scope for individual preferences.

- Type-tested statics
- Demarcation of areas
- Individual selection of colour and shape
- For public and private surfaces

OPTISAFE PERSONAL SAFETY SYSTEM

Tested and certified in accordance with DIN EN 795:2012

Independent of the substructure

Use even during frost

With our patented **OPTISAFE fall protection system**, we also offer two versions for the installation of an attachment point. Together with personal protective equipment, this is a valid alternative to railings as a protective measure during care and maintenance work. Both the ALS type as a linear system parallel to the roof edge and the APS type as a single attachment point are self-supporting and penetration-free.



OPTISAFE SAFETY RAILING

Penetration-free, held with a superimposed load

Without thermal bridges

Type tested and approved

Functional design

As **collective fall protection**, we have developed a safety railing in two versions: OPTISAFE GWP for the care and maintenance of extensive green and gravel roofs, and OPTISAFE GFS as an enclosure for escape routes, rescue platforms and assembly points. Both versions are self-supporting and therefore do not interfere with the waterproofing.



DID YOU KNOW...?

The various railing shapes and fillings as well as the RAL colour selection make SKYGARD a stylish design element.

WHEN GREEN IDEAS IMPRESS WITH NUMBERS IN THE BLACK.

The versatile possibilities of OPTIGRÜN green roofs open up additional potential – synergies that reduce the ecological footprint while also achieving economic goals.

A CLEAN SOLUTION: ENERGY FROM A GREEN ROOF.

Profitable double benefit of generating your own solar power and achieving climate compensation by means of evaporation.

HABITAT FOR BIODIVERSITY, QUALITY OF LIFE IN THE CITY.

Systematic contribution to a more pleasant living climate.

SYSTEMS IMPRESS WITH PERFECTION. AND WITH SENSIBLE ADDITIONS.

A complete system of aesthetic, custom-fitting additional planting and edging or safety-relevant railing systems.

WATER MANAGEMENT WITH THE HIGHEST STANDARDS. PATENTED RETENTION ROOFS.

Intelligent, future-oriented green roof solutions as protection against flooding and for evaporative cooling.

GARDEN LANDSCAPES ON ROOFS. FOR INCREASED QUALITY OF LIFE WITH A FEEL-GOOD FACTOR.

Park landscapes with trees, watercourses, playgrounds and quiet spaces on roofs or underground garages – anything can be realised without any problems.



ENVIRONMENTALLY-FRIENDLY
AND ECONOMICAL!

With a retention roof, you save valuable space for water reservoirs and can thus, for example, create more parking spaces.

That pays off many times over!



WE ARE VISIONARIES, THINKERS, PERFECTIONISTS, DOERS ... **AND ABOVE ALL YOUR PARTNER.**

Strengthening each other's strengths – that's the real idea behind our partnerships. The significance that this has in our everyday life is not only evident from the fact that we now count more than 125 partner companies in the OPTIGRÜN network. In addition to the numerous gardening and landscaping companies and construction material trade partners with whom we have been working for years and who share our passion for green roofs, many designers and architects have also placed their trust in us for a long time. This results in synergies from development, designing and implementation that offer unique advantages.

YOU HAVE A PLAN. WE HAVE THE SOLUTION AND A PLAN B.

The general rule is: ask if you have questions. Because, for us, helping you with challenges is a matter of course. This starts with **advice and service** along with **design and calculation** and by no means ends with **installation and assembly**. And, because the first approach might not lead directly to the goal, it is often important to talk about alternatives and new methods. For as long as it takes until the optimal solution is found.

Service requests

Tel. +49 7576 772-0 technik@optigruen.de

YOU CAN COUNT ON IT: WE ARE THERE WHEREVER YOU NEED US.

Of course, intelligent systems must also be economical. This is always the case when an offer meets – or even exceeds – requirements. In our market, this is not just about the quality of the products. It is also our conviction to exceed previous limits and to develop solutions for the most difficult

challenges. This is what we are doing with great passion and with the belief that we can contribute to a better quality of life with our expertise and as a market leader. Together with our partners, who rely on us.



OUR PARTNER TIP!

Save yourself from having to experiment!
Trust in the experts with designing, testing
and perspective.

PLANS BECOME REALITY WHEN THERE ARE EXPERTS AT WORK.

EXPERTISE FROM THE MARKET LEADER – GET IN TOUCH WITH US!



GERMANY

Optigrün International AG
Am Birkenstock 15 - 19
72505 Krauchwies-Göggingen
Tel. +49 7576 772-0
Fax +49 7576 772-299
info@optigruen.de

www.optigruen.de

www.optigruen.com