



PLANNING GUIDE

## System Solutions for Green Roofs and Landscaped Podium Decks

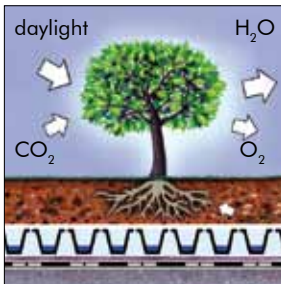
Life on Roofs



# Why have a Green Roof?

Beyond their attractive visual nature, Green Roofs offer many undisputable benefits, both ecological and economical, provided they are built with the right system.

## Improve the Microclimate



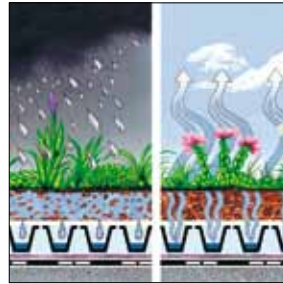
Green Roofs cool and humidify the surrounding air. Thus they contribute to improving the microclimate in urban centres. This cooling effect significantly increases the performance of air-conditioning systems, reducing carbon emissions.

## Bind Dust and Toxic Particles



Green Roof vegetation helps to filter out dust and smog particles. Nitrates and other harmful materials are absorbed by the plants out of the air and rainfall and bound within the substrate.

## Increase Rainwater Retention



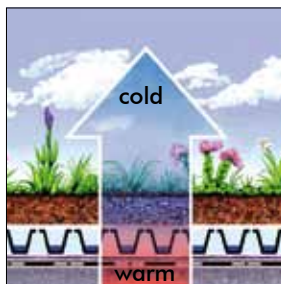
A Green Roof can reduce water run-off by 50–90%; any water flows from the roof with a delay. Outlets, pipes and drains can be reduced in capacity, thereby saving construction costs. Sewer costs can be reduced in some areas.

## Improve Noise Protection



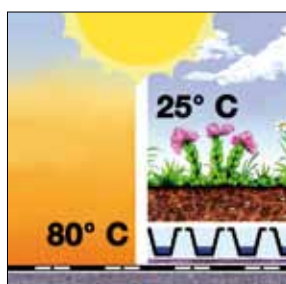
Planted areas are natural sound insulators and absorb more sound than hard surfaces. Green Roofs reduce reflective sound by up to 3 dB and improve sound insulation by up to 8 dB. This is very effective for buildings near airports, noisy nightclubs and factories.

## Reduce Energy Costs



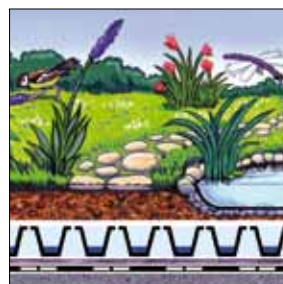
A Green Roof has the ability to buffer temperature extremes and improve the buildings energy performance.

## Protect the Waterproofing



A Green Roof protects the waterproofing from climate extremes, UV exposure and mechanical damage. This greatly increases the life expectancy of the waterproofing and results in reduced maintenance and replacement costs.

## Offer a Natural Habitat



Landscaped roofs compensate for green spaces, which are lost to building development. They provide natural habitats for wildlife and bring nature back into the cities.

## Provide Additional Space



Green Roofs offer additional space for numerous uses. Whether you want a relaxing garden, a playground or a golf course, it all can be achieved as part of the existing footprint.

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The continuing climate change and a trend towards urbanisation require new and intelligent solutions.

The ZinCo planning guide "Green Roof 4.0" offers detailed information on green roof systems specifically designed to face these new challenges.

**Download at [www.zinco-greenroof.com](http://www.zinco-greenroof.com)**

# Types of Green Roofs



Extensive Green Roof

There are two basic types of Green Roofs with a number of variations.

**Extensive Green Roofs** are an ecological alternative to conventional surface protection or ballast layers such as gravel and pavers. They are lightweight and have a shallow build-up height. Suitable plants include various Sedum species, herbs and some grasses.

They cope with the conditions on the roof (sun, wind, drought, etc.) by nature. After establishment of the vegetation, the maintenance is limited to one or two inspections a year.

## Extensive Green Roofs

- **minimal maintenance required**
  - inspection 1–2 × / year
  - supply of water and nutrients mostly by natural processes
- **adapted plant communities**
  - undemanding, drought-tolerant
  - self-regenerating
- **little weight and shallow build-up height**
  - mainly mineral substrate with depth up to 120 mm
  - weight approx. 50–150 kg/m<sup>2</sup>
- ➡ **surface protection with ecological functions**

## Intensive Green Roofs

- **regular maintenance required**
  - garden maintenance such as mowing, fertilizing, watering, weeding etc.
- **weight and build-up height depending on plant selection**
  - e. g. ornamental lawn, summer flowers, demanding shrubs, bushes and trees
  - substrate with higher amount of organic material, with depth > 150 mm
  - weight > 150 kg/m<sup>2</sup>
- ➡ **well kept Roof Garden**

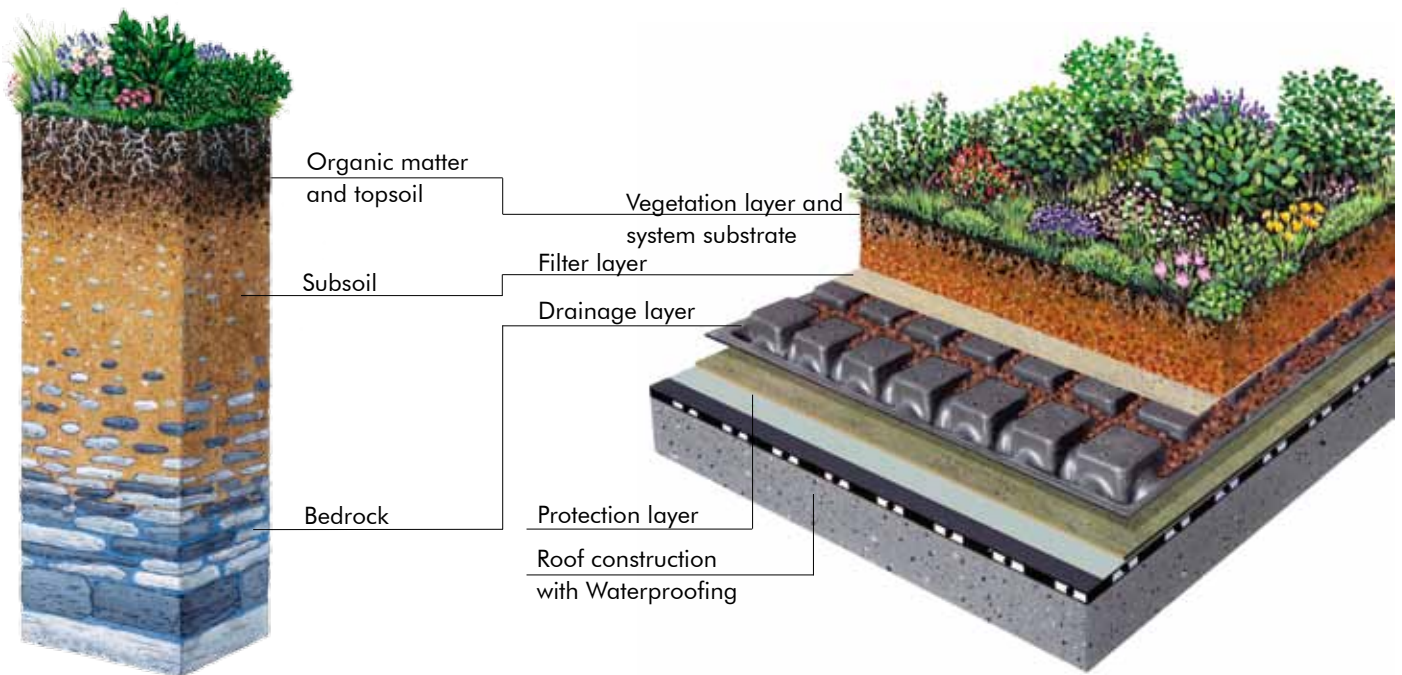


Intensive Green Roof

**Intensive Green Roofs** can most easily be compared to building a garden on a roof. They are usually multifunctional and accessible. They require more weight and a deeper system build-up. The maintenance is regular and depends on the landscape design and the chosen

plant material. Depending on the substrate depth, anything is possible from lawns, perennials, shrubs, trees including other landscape options such as ponds, pergolas and patios.

# Replicating Nature on Roofs



## The Challenge

When designing and installing a Green Roof it is important to provide a growing environment as close as possible to the plants' natural environment. The most important issue is to compensate for the lack of subsoil.

## The answer is the ZinCo technology

ZinCo systems are able to retain the necessary quantities of water to support the plants, while draining off the excess. The required amount of water is determined by the plant type, the geographical region and the roof itself. Besides building the correct Green Roof system to support the plants, it is very important to protect the waterproofing

from both mechanical damage and attack from plant roots.

ZinCo systems provide a number of solutions to these problems. ZinCo Green Roof Systems have been designed to function naturally. The plants receive a stable environment without adversely affecting the waterproofing.



## System Build-up “Sedum Carpet”



The “Sedum Carpet” is a standard build-up for extensive Green Roofs. It is a shallow and lightweight Green Roof type with an attractive “back-to-nature” appearance, that requires little maintenance. Floradrain® FD 25-E is the appropriate drainage and water storage element for this system. It has the necessary compressive strength, a low profile height, little weight and is walkable. Proven Sedum species, in combination with the adapted substrate and System

Build-up, guarantee a durable Green Roof. The System Substrate “Sedum Carpet” is particularly suitable for extensive Green Roofs as well as the plant community “Sedum Carpet”, containing various low-growing Sedum species that are wind and frost-resistant. The main blooming time is early summer with yellow, red and white flowers dominating. During the year, “Sedum Carpet” is represented in various shades of green. Red shades show particularly

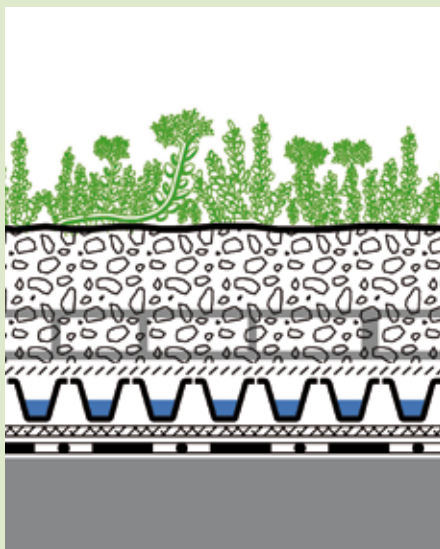
in autumn and are a nice change in the Green Roof’s appearance. Sedum cuttings are produced by cutting off the shoot tips of selected types of Sedum. This is only possible during the non-flowering period (spring or autumn), as flowering shoots do not easily grow roots. With Sedum cuttings, good ground cover is achieved within 2–3 years. A faster ground coverage is achieved with plug planting.



## System Build-up "Sedum Carpet"

### Features:

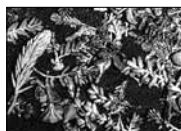
- Proven simple green roof build-up especially for roofs with low design demands.
- Requires minimum maintenance.
- For roofs without standing water and with a slight slope up to 8°.



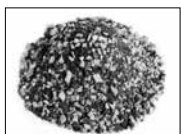
Plug Plants "Sedum Carpet"  
or Sedum Cuttings

System Substrate "Sedum Carpet"

Fallnet®  
Filter Sheet SF  
Floradrain® FD 25-E  
Protection Mat SSM 45  
Root Barrier, if waterproofing is not  
root-resistant



	Item No.	Unit
Sedum Cuttings	8020	bag of 2 kg
Plug Plants "Sedum Carpet"	8110	tray with 50 pcs.



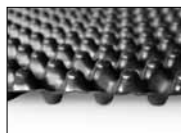
	Item No.	Unit
System Substrate "Sedum Carpet"	611102	big bag
	611202	bulk



This System Build-up allows the integration of the **Fallnet® Fall Protection System** for roofs with slopes up to 5° (see page 28–29)



	Item No.	Dimensions	Unit	Pallet
Filter Sheet SF	2100	ca. 2.00 m × 100.00 m	200 m²-roll	4600 m²
	2102	ca. 1.00 m × 100.00 m	100 m²-roll	2500 m²
	2101	ca. 2.00 m × 10.00 m	20 m²	



	Item No.	Dimensions	Unit	Pallet
Floradrain® FD 25-E	3028	ca. 1.00 m × 2.00 m	2 m²-board	300 boards
Floradrain® FD 25-R (Roll)	3023	ca. 1.00 m × 15.00 m	15 m²-roll	
Floradrain® FD 25-RV (Roll with filter sheet attached)	3022	ca. 1.00 m × 15.00 m	15 m²-roll	



	Item No.	Dimensions	Unit
Protection Mat SSM 45	2045	ca. 2.00 m × 50.00 m	100 m²-roll

If the waterproofing is not root resistant, the Root Barrier WSF 40 is required as a bottom layer of the System Build-up.  
If the System Build-up is to be in compliance with the ETA standard, the Root barrier WSB 100-PO must be used instead.



System Build-ups with European Technical Assessment.  
Details at [www.zinco-greenroof.com](http://www.zinco-greenroof.com)

## System Build-up “Rockery Type Plants”



Extensive Green Roofs call for plant communities that can easily deal with sun, wind and drought. The System Build-up “Rockery Type Plants” leads to an extensive Green Roof with sophisticated design and individual character. The substrate has a minimum depth of 70 mm and vegetation consists of various species which provide a long blooming period and set different accents throughout the vegetation period.

Water and nutrients are mostly supplied through natural processes. Rainfall collects in the Floradrain® storage cells and roots are provided with water through diffusion. Water is also stored in the protection mat. Excess water is drained away by the Floradrain® element.

Sedum species and other perennials are primarily used as a ground cover. The vegetation of “Rockery Type Plants” is achieved by root ball plants. Hand-planting ensures that the design agrees with the landscape drawings.

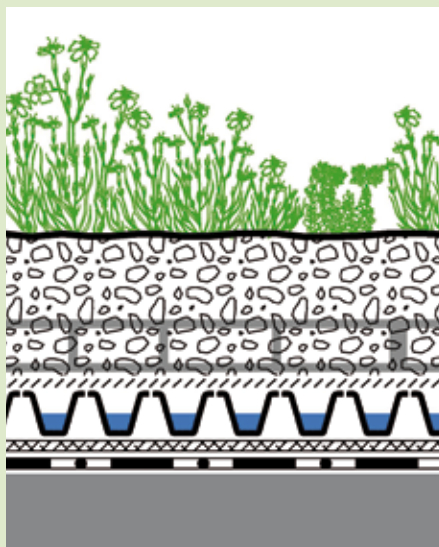
The System Build-up “Rockery Type Plants” can also be combined with seed-sowing. Different seed mixtures, such as “Meadow Scents”, “Country Colours” and “Grassy Pasture” provide Green Roofs with attractive “back to nature” appearance.



## System Build-up "Rockery Type Plants"

### Features:

- Extensive Green Roof with a large variety of species as an ecological protection layer instead of gravel covering.
- Design options through plug planting according to plant list "Rockery Type Plants".
- For roofs without standing water and with a slight slope up to 8°.
- Requires minimum maintenance; various designs and combinations with walkways and patios are possible.



Plug Plants "Rockery Type Plants"

System Substrate "Rockery Type Plants"

Fallnet®

Filter Sheet SF

Floradrain® FD 25-E

Protection Mat SSM 45

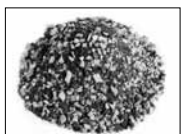
Root Barrier, if waterproofing is not root-resistant



Plug Plants  
"Rockery Type Plants"

Item No.  
8120

Unit  
tray with 50 pieces



System Substrate  
"Rockery Type Plants"

Item No.  
612102  
612202

Unit  
big bag  
bulk



This System Build-up allows the integration of the **Fallnet® Fall Protection System** for roofs with slopes up to 5° (see page 28–29)



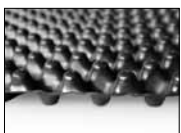
Filter Sheet SF

Item No.  
2100  
2102  
2101

Dimensions  
ca. 2.00 m × 100.00 m  
ca. 1.00 m × 100.00 m  
ca. 2.00 m × 10.00 m

Unit  
200 m²-roll  
100 m²-roll  
20 m²

Pallet  
4600 m²  
2500 m²



Floradrain® FD 25-E  
Floradrain® FD 25-R (Roll)  
Floradrain® FD 25-RV  
(Roll with filter sheet attached)

Item No.  
3028  
3023  
3022

Dimensions  
ca. 1.00 m × 2.00 m  
ca. 1.00 m × 15.00 m  
ca. 1.00 m × 15.00 m

Unit  
2 m²-board  
15 m²-roll  
15 m²-roll

Pallet  
300 boards



Protection Mat SSM 45

Item No.  
2045

Dimensions  
ca. 2.00 m × 50.00 m

Unit  
100 m²-roll

If the waterproofing is not root resistant, the Root Barrier WSF 40 is required as a bottom layer of the System Build-up.  
If the System Build-up is to be in compliance with the ETA standard, the Root barrier WSB 100-PO must be used instead.



System Build-ups with European Technical Assessment.  
Details at [www.zinco-greenroof.com](http://www.zinco-greenroof.com)

## System Build-up “Meadow Scents” on 0°-Roofs



As a general rule, flat roofs should be laid to fall of at least 2%. This is particularly important when designing an extensive Green Roof with a shallow drainage and substrate layer as any deflection in the deck allowing water to pond above the drainage layer will be harmful to the plants.

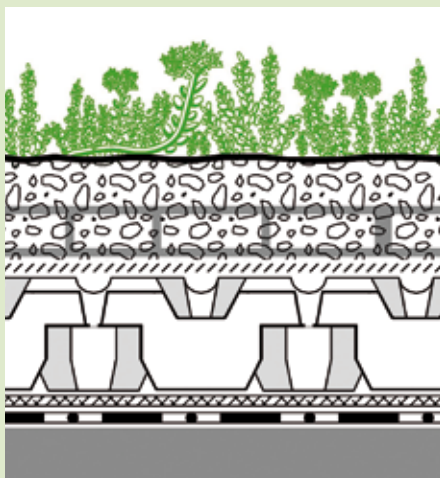
However, Green Roofs can be installed on zero degree roofs where deeper puddles remain, provided that the correct build-up is designed to avoid the danger of drowning the plants. The standard

System Build-ups for extensive Green Roofs are to be adapted to these requirements. By using Floraset®, a deeper drainage element (50 or 75 mm), the necessary distance between the water level and the vegetation layer is ensured. The System Build-up is higher, but not heavier compared to a standard build-up. The Floraset® elements are made of expanded polystyrene thus they are light-weight.

## System Build-up "Meadow Scents" on 0°-Roofs

### Features:

- For 0°-Roofs with standing water; can also be used for roofs with a slight slope up to 10°.
- The plant covering is realized by sowing a seed mixture of "Meadow Scents" and Sedum Cuttings.
- Requires minimum maintenance; offers a great variety of Sedum species and drought resistant grasses.



Seed mixture "Meadow Scents" and Sedum Cuttings  
System Substrate "Rockery Type Plants"  
Fallnet®  
Filter Sheet SF  
Floraset® FS 50 (FS 75)  
Protection Mat TSM 32  
Root Barrier, if waterproofing is not root-resistant



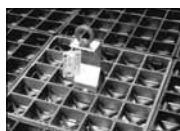
Seed Mixture "Meadow Scents"	Item No.	Unit
	8003	bag of 0.5 kg
	8004	bag of 1.0 kg
	8005	bag of 2.0 kg
	8006	bag of 5.0 kg



Sedum Cuttings	Item No.	Unit
	8020	bag of 2 kg



System Substrate "Rockery Type Plants"	Item No.	Unit
	612102	big bag
	612202	bulk



This System Build-up allows the integration of the **Fallnet® Fall Protection System** for roofs with slopes up to 5° (see page 28–29)



Filter Sheet SF	Item No.	Dimensions	Unit	Pallet
	2100	ca. 2.00 m × 100.00 m	200 m²-roll	4600 m²
	2102	ca. 1.00 m × 100.00 m	100 m²-roll	2500 m²
	2101	ca. 2.00 m × 10.00 m	20 m²	



Floraset® FS 50 Floraset® FS 75	Item No.	Dimensions	Unit	Pallet
	3052	ca. 1.00 m × 1.00 m	1 m²-board	64 boards
	3076	ca. 1.00 m × 1.00 m	1 m²-board	40 boards



Protection Mat TSM 32	Item No.	Dimensions	Unit
	2032	ca. 2.00 m × 50.00 m	100 m²-roll

If the waterproofing is not root resistant, the Root Barrier WSF 40 is required as a bottom layer of the System Build-up.

## System Build-up on Inverted Roofs



The characteristic of an inverted roof is that the insulation is above the waterproofing. The extruded polystyrene insulation (XPS) which is used for this kind of roof is impervious to water, but not to water vapour. Forming a vapour barrier directly above it when installing a Green Roof must therefore be avoided.

Layers that prevent moisture from diffusing out must not be installed over the thermal insulating XPS boards and the layer above should be vapour permeable. The protection mat has to be replaced by the permeable separation membrane TGV 21. If a root barrier is required, it has to be placed

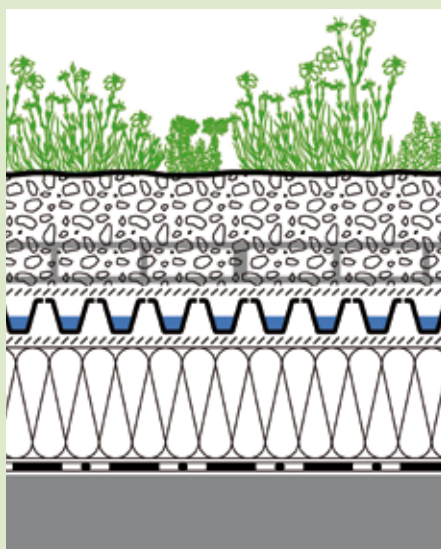
below the insulation directly onto the waterproofing. A deeper substrate layer compensates for the water retention capacity of the missing protection mat and prevents wind uplift of the insulation boards.



## System Build-up "Rockery Type Plants" on Inverted Roofs

### Features:

- Build-up for inverted roofs allowing diffusion and vaporisation.
- Extensive Green Roof with a large variety of species as an ecological protection layer instead of gravel covering.
- Planting with Plug Plants according to plant list "Rockery Type Plants".
- For roofs without standing water and with a slight slope up to 8°.
- Requires minimum maintenance.
- Various designs and combinations with walkways and patios are possible.



Plug Plants "Rockery Type Plants"

System Substrate "Rockery Type Plants"

Fallnet®

Filter Sheet SF

Floradrain® FD 25-E

Separation Membrane TGV 21

Thermal Insulation XPS

Root Barrier, if waterproofing is not root-resistant



Plug Plants  
"Rockery Type Plants"

Item No.  
8120

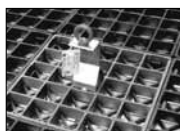
Unit  
tray with 50 pcs.



System Substrate  
"Rockery Type Plants"

Item No.  
612102  
612202

Unit  
big bag  
bulk



This System Build-up allows the integration of the Fallnet® Fall Protection System for roofs with slopes up to 5° (see page 28–29)



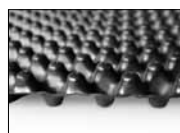
Filter Sheet SF

Item No.  
2100  
2102  
2101

Dimensions  
ca. 2.00 m × 100.00 m  
ca. 1.00 m × 100.00 m  
ca. 2.00 m × 10.00 m

Unit  
200 m²-roll  
100 m²-roll  
20 m²

Pallet  
4600 m²  
2500 m²



Floradrain® FD 25-E  
Floradrain® FD 25-R (Roll)  
Floradrain® FD 25-RV  
(Roll with filter sheet attached)

Item No.  
3028  
3023  
3022

Dimensions  
ca. 1.00 m × 2.00 m  
ca. 1.00 m × 15.00 m  
ca. 1.00 m × 15.00 m

Unit  
2 m²-board  
15 m²-roll  
15 m²-roll

Pallet  
300 boards



Separation Membrane TGV 21

Item No.  
2180  
2185

Dimensions  
ca. 1.60 m × 250.00 m  
ca. 1.60 m × 50.00 m

Unit  
400 m²-roll  
80 m²-roll

Pallet  
3600 m²  
1600 m²

If the waterproofing is not root resistant, the Root Barrier WSF 40 is required as a bottom layer under the XPS insulating boards. If the System Build-up is to be in compliance with the ETA standard, the Root barrier WSB 100-PO must be used.



System Build-ups with European Technical Assessment.  
Details at [www.zinco-greenroof.com](http://www.zinco-greenroof.com)

## System Build-up “Pitched Green Roof”



In general, flat roofs should have a slope of at least 2%. Pitched roofs, as described in this brochure, start with a slope of 10° (18%). From 10° on, the Green Roof System Build-up differs significantly from System Build-ups below 10°. Shear forces increase with the roof slope and have to be transferred into stable beams. The substrate layer has to be protected against erosion. Plant selection and

planting methods are to be adjusted to the relevant slope and exposure.

A professionally waterproofed roof surface, e.g. with bituminous or highpolymer membranes, is a precondition for a durable long-lasting Green Roof. The waterproofing should be root-resistant and a protection mat with high water storage is needed. Floraset® FS 75,

a multi-functional drainage element of expanded polystyrene is the perfect element for Pitched Green Roofs. It is very important to take the Green Roof upkeep and maintenance aspects into account at an early stage of project planning. Skylights can be installed as access for the maintenance personnel.

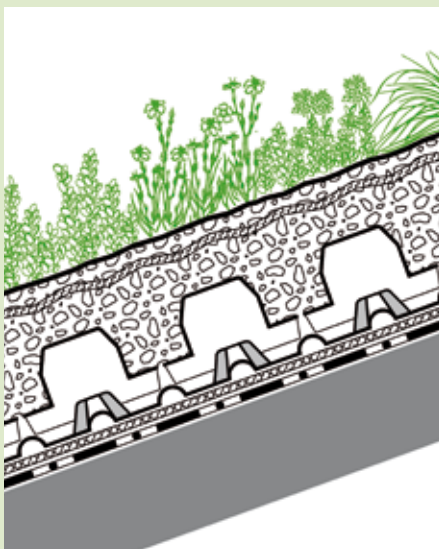


For more detailed information on sloped green roofs please refer to the ZinCo planning guide “Systems for Pitched Green Roofs”. Download at [www.zinco-greenroof.co.uk](http://www.zinco-greenroof.co.uk)

## System Build-up "Pitched Green Roof"

### Features:

- Proven system, low maintenance, requires root-proof waterproofing on roofs with slopes between 10° and 25°.
- Floraset® elements retain the substrate and prevent it from sliding off.
- The elements transfer shear forces into the roof construction; eaves and shear barriers have to be in compliance with the structural design.
- Additional erosion control is provided by the coarse-meshed jute net JEG for roof pitches > 15° or in case of strong wind exposure.



Plug Plants "Pitched Roof"

Jute Anti-Erosion Net JEG (> 15° slope)  
System Substrate "Rockery Type Plants"

Floraset® FS 75

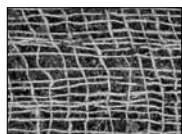
Protection Mat BSM 64



Plug Plants "Pitched Roof"  
(ca. 10°–20°)

Item No.  
8121

Unit  
tray with 50 pieces



Jute Anti-Erosion Net JEG

Item No.  
2856

Dimensions  
ca. 70.00 m × 1.22 m

Unit  
85.4 m² -bale

Pallet  
683.2 m²



System Substrate  
"Rockery Type Plants"

Item No.  
612102  
612202

Unit  
big bag  
bulk



Floraset® FS 75

Item No.  
3076

Dimensions  
ca. 1.00 m × 1.00 m

Unit  
1 m²-board

Pallet  
40 boards



Protection Mat BSM 64

Item No.  
2064

Dimensions  
ca. 2.00 m × 25.00 m

Unit  
50 m²-roll



Eaves Profile TRP 140

Item No.  
7782

Dimensions  
length 3 m,  
height 140 mm

Unit  
piece



Support Bracket TSH 100

Item No.  
9565

Unit  
piece



Shear Fix LF 300

Item No.  
9568

Unit  
piece

## System Build-up “Steep Pitched Green Roof”



The System Build-up “Steep Pitched Green Roof”, based on the Georaster® elements, enables the installation of Green Roofs with slopes exceeding 20° and up to 35°. Above 35° special solutions can be designed by the ZinCo engineers. The Georaster® elements are made of recycled polyethylene (HD-PE) and interlock without requiring tools, creating a stable structure. This structure is safely accessible and can be infilled

with system substrate. The Georaster® elements allow for plenty of space for the plant root systems to establish and develop. The plant selection has to be well adapted to the extreme conditions of Steep Pitched Green Roofs, where the solar radiation is the highest on the south facing roof side and the water run off is much faster than of a flat roof. The irrigation should be planned for, even if it is only needed in times of drought. It can

avoid gaps in the vegetation coverage, which would lead to erosion. A transfer of existing shear forces into stable eaves and into additional shear barriers is necessary.

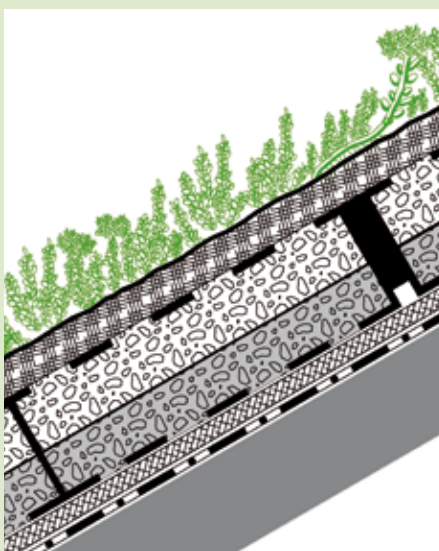
Georaster® elements can also be installed under reinforced lawns, footway constructions, in slope protection, etc.



## System Build-up "Steep Pitched Green Roof"

### Features:

- Attractive pitched Green Roofs for root-proof and waterproofed roofs with slopes between 20° and 35°.
- Georaster® elements transfer the shear forces into the eaves or into additional shear barriers.
- Pitched Green Roofs require periodic maintenance. Depending on the location, slope and exposure, additional irrigation may be necessary.
- Vegetation may develop differently on the north and the south side.

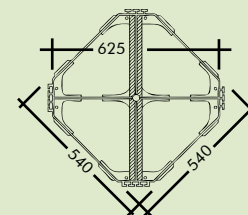


Vegetation Mat "Sedum Carpet" or  
Plug Plants "Steep Pitched Green Roof"

System Substrate  
"Heather with Lavender"

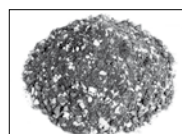
Georaster®

Protection Mat WSM 150



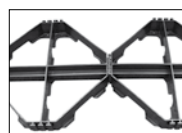
Plug Plants "Steep  
Pitched Roof" (ca. 20°–30°)  
or Vegetation Mat "Sedum Carpet"

Item No.	Unit
8122	tray with 50 pieces
8030	mat of 2 m <sup>2</sup>



System Substrate  
"Heather with Lavender"

Item No.	Unit
614102	big bag
614202	bulk



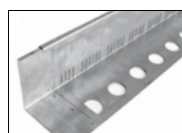
Georaster®

Item No.	Dimensions	Unit	Pallet
3400	ca. 0.54 m × 0.54 m	piece	96 pieces



Protection Mat WSM 150

Item No.	Dimensions	Unit
2015	ca. 1.00 m × 15.00 m	15 m <sup>2</sup> -roll



Eaves Profile TRP 140

Item No.	Dimensions	Unit
7782	length 3 m, height 140 mm	piece



Support Bracket TSH 100

Item No.	Unit
9565	piece



Shear Fix LF 300

Item No.	Unit
9568	piece



Shear Fix LF 600

Item No.	Unit
9569	piece

Snow guard supports as well as special inspection chambers are available for the System Build-up "Steep Pitched Green Roof". For more detailed information please refer to our product list. Download available at [zinco-greenroof.co.uk](http://zinco-greenroof.co.uk)

## System Build-up “Heather with Lavender”

“Heather with Lavender” is the ideal build-up for simple intensiv Green Roofs with blooming perennials and fragrant herbs. The plant community “Heather with Lavender” contains ground covering plants, fragrant herbs and small shrubs such as thyme, oregano and lavender.

This plant selection forms a drought resistant and visually pleasant vegetation. The “Heather with Lavender” system substrate, specifically designed for this plant community, is used in combination with the water retention and drainage element Floradrain® FD 40-E to create the ideal habitat conditions for this vegetation.

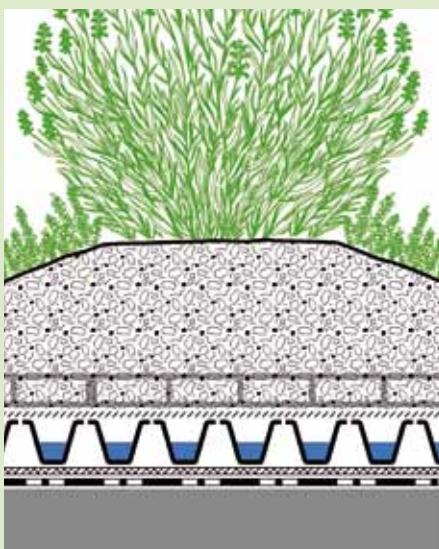
Floradrain® FD 40-E is a universal element for both extensive and intensive build-ups. It has a high drainage capacity and is also suitable for roofs without slope, provided residual ponding is less than 40 mm to keep the substrate clear of the water beneath. It is quick and easy to install as well as walkable.



## System Build-up "Heather with Lavender"

### Features:

- Attractive Green Roof with perennials, grasses and scented herbs such as Lavender, Thyme and Oregano.
- Installation on flat and slightly pitched roofs with a slope up to 8°.
- By shaping the substrate layer, a variety of landscapes can be created. During dry season additional irrigation is necessary.
- Various designs and combinations with walkways and patios are possible.
- Requires medium maintenance.

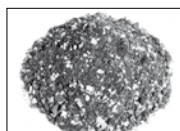


Plug Plants  
"Heather with Lavender"

System Substrate "Heather with Lavender"  
100 mm–150 mm

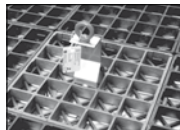
Fallnet®  
Filter Sheet SF  
Floradrain® FD 40-E  
Protection Mat SSM 45  
Root Barrier WSB 100-PO, if  
waterproofing is not root-resistant

Pre-cultivated plug plants for the System Build-up "Heather with Lavender" are available at perennial nurseries.



System Substrate  
"Heather with Lavender"

Item No.	Unit
614102	big bag
614202	bulk

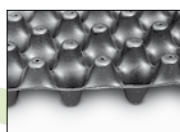


This System Build-up allows the integration of the **Fallnet® Fall Protection System** for roofs with slopes up to 5° (see page 28–29)



Filter Sheet SF

Item No.	Dimensions	Unit	Pallet
2100	ca. 2.00 m × 100.00 m	200 m²-roll	4600 m²
2102	ca. 1.00 m × 100.00 m	100 m²-roll	2500 m²
2101	ca. 2.00 m × 10.00 m	20 m²	



Floradrain® FD 40-E  
Floradrain® FD 40-RV  
(Roll with filter sheet attached)

Item No.	Dimensions	Unit	Pallet
3041	ca. 0.96 m × 2.08 m	2 m²-board	250 boards
3042	ca. 0.94 m × 10.70 m	10 m²-roll	



Protection Mat SSM 45

Item No.	Dimensions	Unit
2045	ca. 2.00 m × 50.00 m	100 m²-roll

If the waterproofing is not root resistant, the Root Barrier WSB 100-PO is required as a bottom layer of the System Build-up.



System Build-ups with European Technical Assessment.  
Details at [www.zinco-greenroof.com](http://www.zinco-greenroof.com)

## System Build-up “Roof Garden”



The “Roof Garden” is a multifunctional Green Roof build-up with high water storage. It is suitable for lawns, perennial plants, and with deeper system substrate, for shrubs and trees. The Roof Garden build-up allows a variety of design concepts, even waterfeatures. It is also possible to integrate hard landscapes, such as walkways, terraces, driveways or play areas, etc.

Within the Roof Garden, it is useful to store as much rainwater as possible to reduce the need for additional watering. The spacious channels forming the underside of the Floradrain® FD 60 neo provide for a 50 mm deep water reservoir underneath the system substrate throughout the roof area. This water reaches the plants by capillary action and diffusion. Water storage can also be easily achieved

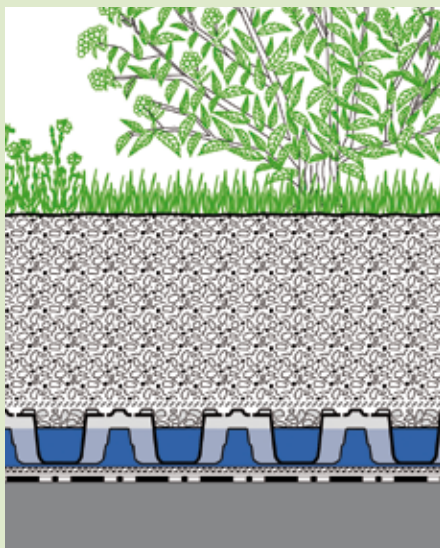
by installing roof dam elements above the roof outlets. A roof laid at 0° fall is required to include this system, along with a suitable waterproofing membrane for such use. Inspection chambers make it possible to examine and maintain the roof dam elements at any time. With automatic irrigation, a minimum water storage can be maintained even in periods of drought.



## System Build-up "Roof Garden"

### Features:

- Multifunctional Green Roof System Build-up with high water retention capacity; dam-up irrigation possible on 0° roofs.
- Suitable for lawn and perennials; with a deeper substrate level also for bushes, small trees etc.
- Various combinations are possible, for example with walkways, patios, driveways or playgrounds.
- Floradrain® FD 60 neo can be filled with concrete as a sub-construction for driveways without penetrating the waterproofing or interrupting the drainage.



Lawn and perennials; with a deeper substrate level, bushes and small trees

System Substrate "Roof Garden" or "Lawn"

Filter Sheet SF  
Floradrain® FD 60 neo with  
Zincolit® Plus infill  
Protection Mat ISM 50  
Root Barrier WSB 100-PO, if  
waterproofing is not root-resistant

Suitable plants for the System Build-up "Roof Garden" are available at perennial or tree nurseries.



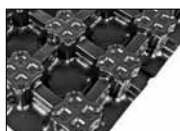
	Item No.	Unit
System Substrate "Roof Garden"	616102	big bag
	616202	bulk



	Item No.	Dimensions	Unit	Pallet
Filter Sheet SF	2100	ca. 2.00 m × 100.00 m	200 m²-roll	4600 m²
	2102	ca. 1.00 m × 100.00 m	100 m²-roll	2500 m²
	2101	ca. 2.00 m × 10.00 m	20 m²	



	Item No.	Unit
Zincolit® Plus	607102	big bag
	607202	bulk



	Item No.	Dimensions	Unit	Pallet
Floradrain® FD 60 neo	3062	ca. 2.30 m × 1.03 m (netto 2.25 m × 1.00 m)	2.30 m²-board	450 m²



	Item No.	Dimensions	Unit
Protection Mat ISM 50	2050	ca. 2.00 m × 25.00 m	50 m²-roll



	Item No.	Dimensions	Unit	Pallet
Root Barrier WSB 100-PO	1084	ca. 2.44 m × 30.50 m	74.4 m²-roll	1116 m²



	Item No.	Unit
Dam-up element CU	4140	piece
Dam-up element PE	4142	piece



	Item No.	Height	Unit
Irrigation Unit B 32	4031	ca. 300 mm	piece

## System Build-up “Roof Garden” with Aquatec® AT 45



To date, intensive green roofs were irrigated either from above with a water sprinkler, within the substrate layer using drip-irrigation or from below through dam-up irrigation. All those methods have limitations, such as high water consumption, soil erosion, uneven water distribution, restricted application area, etc.

What is more, a traditional intensive green roof implies a minimum of 200 mm of system substrate. This results in a minimum weight of 300 kg/m<sup>2</sup> that not all roofs can bear.

With its System Build-up “Roof Garden” with Aquatec AT 45, ZinCo is treading a new path. It pushes out these boundaries and reinvents capillary irrigation.

This system consists of a water retaining element called Aquatec® AT 45 (patent pending), irrigation pipes that are clipped into the Aquatec® elements and the Wicking Mat DV 40.

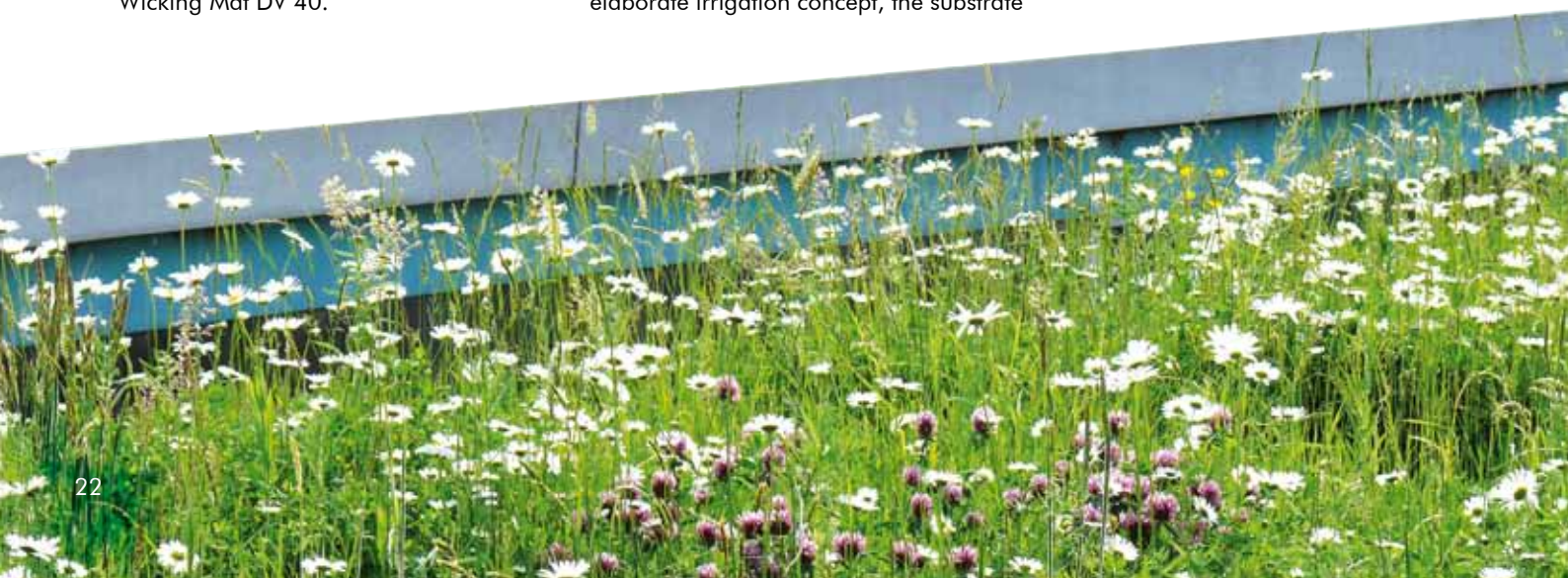
It is based on an optimal water distribution and retention within the Aquatec® AT45. The water is fed into its channels and cells. It is drawn upwards by the wicks of the wicking mat and is then made available to the substrate, thus the plants. This build-up can be installed on flat and sloped roofs up to 5° pitch, even on inverted roofs.

The water consumption is considerably lower with this type of irrigation. Compared to overhead irrigation, there is nearly no surface evaporation because the water is directly available within the root area. Compared to drip-irrigation, significantly fewer pipes are required as the water is easily distributed throughout the whole Aquatec® area. Ingenious control technology regulates the water flow, as required. Furthermore, Aquatec® AT 45 needs no infill and owing to the elaborate irrigation concept, the substrate

depth can be considerably reduced, hence the overall build-up weight is lower.

A lawn, for example, can be achieved with just 100 mm of system substrate, allowing for installation on many roofs that would not withstand the weight of a standard system. The vegetation layer may consist of lawn, perennials and small shrubs (over substrate mounds). In case of ready lawn it is important that it was grown on a sandy and permeable soil!

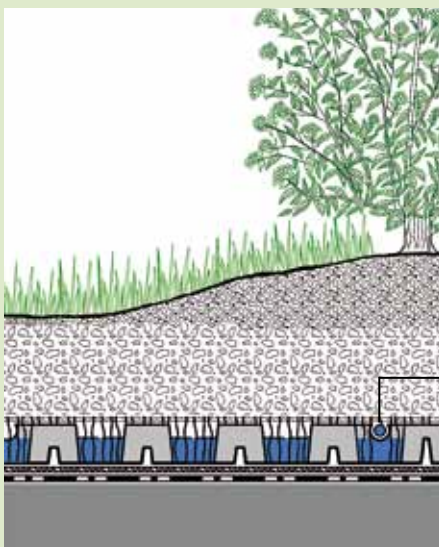
For maximized water retention capacity, given a sufficient load bearing capacity, the system substrate lawn can be used for all above mentioned forms of vegetation in a substrate depth of 150 mm to 200 mm. For seeding a topping layer with approx. 10 l/m<sup>2</sup> Zincohum® is recommended, which can be omitted otherwise.



## System Build-up "Roof Garden" with Aquatec® AT 45

### Features:

- Light-weight intensive Green Roof with a variety of design options.
- Installation on flat roofs as well as on inverted roofs (slope max 5°).
- The irrigation takes place via special Dripperlines inserted into the Aquatec® elements which are supplied with water by the Irrigation Manager BM 4 as required.



Lawn, perennials and small shrubs  
(over substrate mounds)

System Substrate "Sedum Carpet"  
100–150 mm + 15 l/m² Zincohum®  
Dripperline 100-L1  
Wicking Mat DV 40  
Aquatec® AT 45  
Filter Sheet PV  
Root Barrier WSB 100-PO,  
if waterproofing is not root-resistant

Pre-cultivated plug plants for the System Build-up "Roof Garden with Aquatec®" are available at perennial nurseries.



Zincohum®

Item No.	Unit
605102	big bag
605202	bulk



System Substrate  
"Sedum Carpet"

Item No.	Unit
611102	big bag
611202	bulk



Wicking Mat DV 40

Item No.	Dimensions	Unit
2160	ca. 2.00 m × 25.00 m	50 m²-roll
2165	ca. 2.00 m × 10.00 m	20 m²-roll



Aquatec® AT 45

Item No.	Dimensions	Unit	Pallet
3345	ca. 1.02 m × 2.02 m	2 m²-board	135 boards



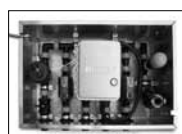
Dripperline 100-L1

Item No.	Dimensions	Unit	Pallet
9310	Ø ca. 16 mm	100 m²-roll	24 rolls



Filter Sheet PV

Item No.	Dimensions	Unit	Pallet
2131	ca. 2.00 m × 50.00 m	100 m²-roll	900 m²



Irrigation-Manager  
BM 4

Item No.	Dimensions
4045	L × W × H : ca. 480 × 480 × 300 mm

If the waterproofing is not root resistant, the Root Barrier WSB 100-PO is required as a bottom layer of the System Build-up.

# System Build-up "Urban Rooftop Farming"

The number of densely-populated urban centres is steadily rising. As more than half of the global population now lives in towns or cities, the demand for residential zones and infrastructure in urban areas is naturally also on the increase. Undeveloped land and green areas are becoming increasingly rare, resulting in the loss of agricultural land.

In order to counter this development from an urban development and climatic point of view, green roofs have become popular in densely-populated areas.

It makes absolute sense, therefore, to use these roof areas for growing vegetables, fruit and herbs as the benefits are considerable both in terms of the environment and economics. For example, given the vicinity to the consumer, supply routes and emissions are minimized. Short supply routes mean that the produce is fresher and as a result tastier.

Circular techniques that integrate urban vegetable production are also profitable, given that urban farming on roof areas uses local resources: rainwater and



filtered waste water, solar energy and the heat from the building. On the other hand, a vegetable garden will serve the building well as the plants provide cooling in the summer and thermal protection in the winter. This is good for the building climate and just as beneficial for the roof waterproofing membrane because it is no longer exposed to extreme fluctuations in temperature. In addition, plants help to improve the urban climate.

There are basically two types of urban farming, private and commercial. The latter is carried out on roofs either in the open-air or under glass.

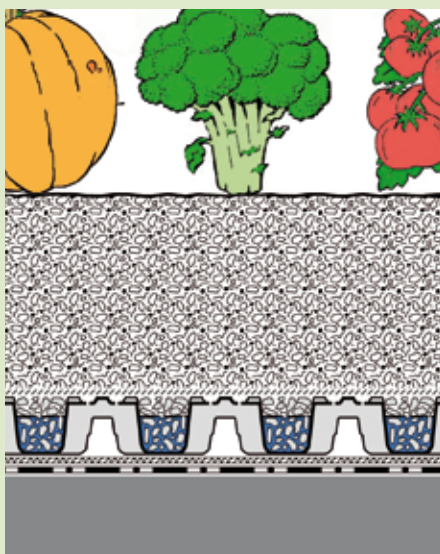
The specific requirements of a roof-top location (e.g. wind, structural requirements, water run-off and above all the issue of safety) must be addressed at the planning stage.



## System Build-up „Urban Rooftop Farming“

Features:

- With 200 mm ZinCo System Substrate, this build-up is suitable for fruit and vegetables such as lettuce, onions, zucchini, eggplant, squash, cabbage, melons, strawberries, herbs and such like.
- For vegetables and fruits e.g. tomatoes, green beans, raspberries, blackberries, currants and such like a substrate depth of 280 to 400 mm is recommended.
- The amount of fertilizer and irrigation depends on the requirements of the cultivated fruit and vegetable species and on local climate conditions.



Fruits and vegetables

System Substrate „Lawn“, 200–400 mm

Filter Sheet TG  
Floradrain® FD 60 neo  
Protection Mat ISM 50  
Root Barrier WSB 100-PO,  
if waterproofing is not root-resistant

Suitable plants for the System Build-up „Urban Rooftop Farming“ are available at garden centres or tree nurseries.



System Substrate „Lawn“

Item No.	Unit
615102	big bag
615202	bulk



Filter Sheet TG

Item No.	Dimensions	Unit	Pallet
2192	ca. 2.00 m × 100.00 m	200 m <sup>2</sup> -roll	1800 m <sup>2</sup>
2193	ca. 1.00 m × 100.00 m	100 m <sup>2</sup> -roll	900 m <sup>2</sup>



Floradrain® FD 60 neo

Item No.	Dimensions	Unit	Pallet
3062	ca. 2.30 m × 1.03 m (netto 2.25 m × 1.00 m)	2.30 m <sup>2</sup> -board	450 m <sup>2</sup>



Protection Mat ISM 50

Item No.	Dimensions	Unit
2050	ca. 2.00 m × 25.00 m	50 m <sup>2</sup> -roll

If the waterproofing is not root resistant, the Root Barrier WSB 100-PO is required as a bottom layer of the System Build-up.

## System Build-up "SolarVert"



Green Roofs include a range of benefits. They can add thermal insulation, protect the waterproofing, improve biodiversity, retain storm water and improve the micro-climate. ZinCo extend the advantages of Green Roof technology with the development of support bases for solar panels. With the innovative Solar Base, solar energy can be integrated into

Green Roof Systems without penetration of the roof membrane, the Green Roof build-up providing the necessary load to keep the structure in place. The Solar Base can be used for photovoltaic as well as for solar water heating applications. The inclusion of solar power can be seen as another valuable ecological benefit and will contribute towards compliance

with various building regulations, environmental standards and assessments. Furthermore, this system makes use of synergy effect, as the efficiency of solar panels is significantly improved if combined with a Green Roof.



The System Build-up "SolarVert" as illustrated above has been designed for the classical southern exposure with a maximal energy yield during the midday period.

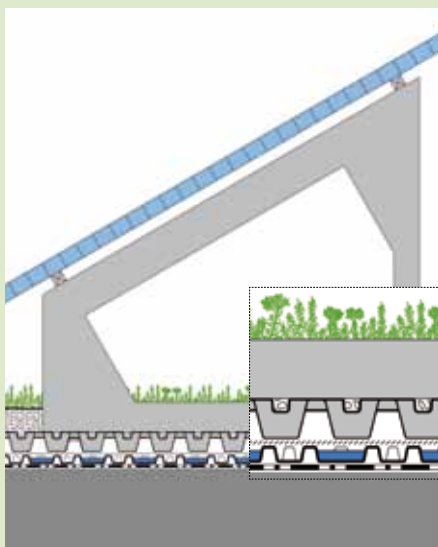
Meanwhile there is an increasing demand for systems with an east-west orientation aiming at a more evenly distributed yield during the day and avoiding excessive power peaks.

See example on the left: Weilheim public utility, Germany. These systems can also be realised with the ZinCo Solar Base SB 200 and a base frame with an inclination of approx. 15°.

## System Build-up "SolarVert"

### Features:

- No penetration of the waterproofing.
- Even load distribution, no high point loads.
- No transport of heavy parts on the roof.
- Unlimited drainage.
- The required substrate quantity depends on the project-specific analysis.



Solar Panel

Solar Base Frame SGR

Plug Plants "Sedum Carpet" or  
Sedum Cuttings  
System Substrate "Sedum Carpet"  
ZinCo Solar Base SB 200  
Fixodrain® XD 20  
Root Barrier WSF 40 and Filter Sheet PV,  
if waterproofing is not root-resistant



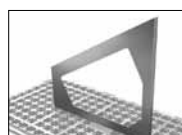
	Item No.	Unit
Sedum Cuttings	8020	bag of 2 kg
Plug Plants "Sedum Carpet"	8110	tray with 50 pieces



	Item No.	Unit
System Substrate "Sedum Carpet"	611102	big bag
	611202	bulk



	Item No.	Dimensions	Unit
Solar Base SB 200	3460	ca. 1.00 m × 2.00 m	piece
Solar Base SB 200-Q crosswise installation	3463	ca. 1.00 m × 2.00 m	piece
Solar Base SB 200-4 for east-west-installation	3465	ca. 1.00 m × 2.00 m	piece



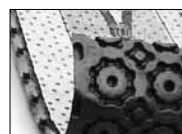
	Item No.	Length	Front Height	Rear Height	Unit
Solar Base Frame SGR with different different inclinations	9700...	950 mm	350 mm	800–1300 mm	piece



	Item No.	Unit
Solar Substructure East-West Set of Screws	9133	Pack



	Item No.	Unit
Wind Bracing – Stabilisation of two Solar Base Frames in different sizes	9710...	piece



	Item No.	Dimensions	Unit
Fixodrain® XD 20	3021	ca. 1.00 m × 20.00 m	20 m²-roll

If the waterproofing is not root resistant, the Root Barrier WSF 40 is required as a bottom layer of the System Build-up.

# Green Roofs, Safety and Guardrails

Working on a roof always involves risks, no matter whether it's inspecting technical equipment, upkeeping gravel roofs or maintaining Green Roofs.

Accident prevention saves lives!

Therefore, regulations prescribe safety measures for work that is being carried out on roofs with a low parapet.

ZinCo offers a maximum of safety to people and buildings through their innovative Fallnet® solutions specifically designed for the use on Green Roofs.

There are various types of Fallnet® Fixing Devices, all of them non-penetrating and based on the idea of using the actual Green Roof build-up as necessary ballast. For instance, the Fallnet® SR Fixing Device consists of interlocking grid elements and a centralised fixing point made of stainless steel. It offers new dimensions in terms of flexibility and can be adapted to nearly any construction requirement and geometry. Light domes, drainage outlets and roof penetrations can be smartly embedded within the Fallnet® SR.

The grid system is simply laid over the drainage layer and is held in place by the weight of the substrate layer.

All Fallnet® systems offer attractive solutions for providing anchorage points for safety harnesses, without penetrating the waterproofing membrane. Whatever the



substructure, their installation is possible on most flat roofs with slopes up to 5°, provided the load bearing capacity allows for the minimum required ballast (up to 130 kg/m<sup>2</sup> dry weight).

They can be supplemented by personal protective equipments (ZinCo PPE-Set), as well as ZinCo Guardrail Systems.



Every Fallnet® SR is delivered with an identification label securely attached at the anchor eye. On this label you will find information about the product type, standard testing method, date of manufacture and serial number. If required, this information allows to document, even after decades, the contractor and the planning for this project.



The horizontally installed rail allows for the use of the whole radius surrounding the gliding runner, which is an ideal and efficient application on narrow roofs.

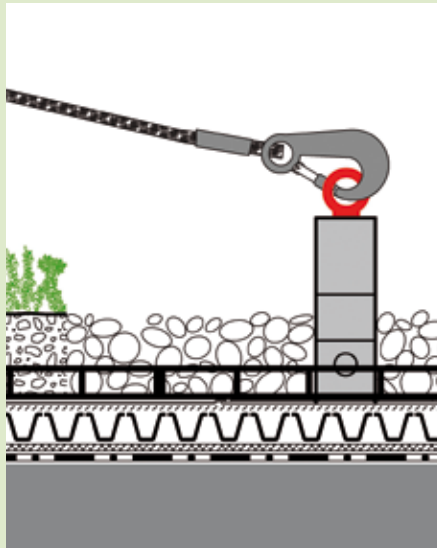


ZinCo Balustrade Railing Solutions – attractive, functional and installed on the roof without penetration of the waterproofing.

## Green Roofs with "Fallnet®"

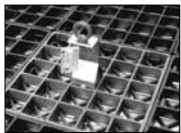
### Features:

- No roof penetration.
- Quick and easy installation, no specific tools required.
- Suitable for all roofs with load-bearing capacity.
- Independent of the substructure.
- Neutral with regards to building physics (thermal bridges).
- No visual nuisance.
- Certified according to European Standard EN 795:2012, Type E.



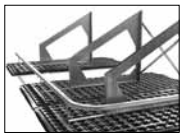
Fallnet® SR Anchorage point

Grid with Fallnet® base plate  
Filter Sheet  
Floradrain® FD 25-E  
Protection Mat SSM 45  
Root Barrier WSF 40, if waterproofing  
is not root-resistant



Fallnet® SR

Fixing device for fall protection according to European Standard EN 795:2012 Type E, consisting of grid elements which are plugged together to a unit with a centrally placed fixing point. To be installed with a superimposed load of Zincolit®, ZinCo System Substrate, gravel or comparable bulk material without any roof penetration. Please contact us to receive your project specific Fallnet® SR planning. Be sure to follow the installation and operating instructions supplied with the fixing device.



Fallnet® SB 200-Rail

Fixing device for fall protection according to European Standard EN 795 Type E incl. horizontally gliding runner. To be installed in combination with ZinCo Solar Base SB 200 or ZinCo Guardrail Base GB-Rail. Installed without any roof penetration using superimposed load.



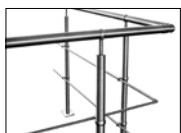
Fallnet® SR Rail

Fixing Device, consisting of grid elements which are plugged together to one unit with a centrally placed rail support. Modular expandable horizontal rail solution with a permanent sliding runner.



Fallnet® PPE-Set

Personal protective equipment according to European Standard EN 363 for work on roofs, compatible with the ZinCo Fixing Device Fallnet®. It consists of a safety harness, connectors, rope, rope shortener, shock absorber and instruction manual stored in a stable sheet metal case.



Railing System SG 40-E

Elegantly shaped balustrade railing, made of stainless steel, adapted to the Guardrail Base GB, for installation without any roof penetration and drilling.  
For project specific solutions please contact us for further information.



Railing System SG 40-S

Functional and stable balustrade railing, made of galvanized steel, adapted to the Guardrail Base GB, for installation without any roof penetration and drilling.  
For project specific solutions please contact us for further information.

# System Build-up "Stormwater Management Roof"

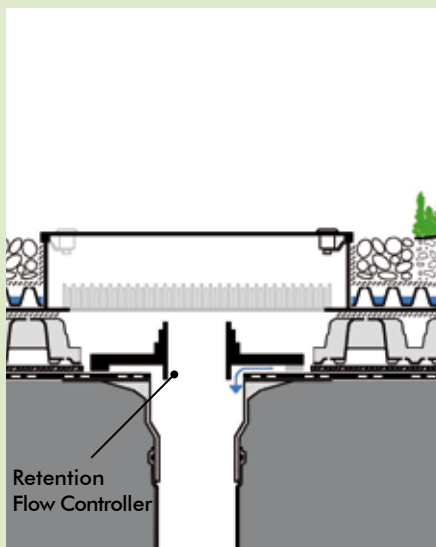
The word "retention" in water management refers to the balancing effect of storage space on the run off of stormwater into watercourses. The need for retention is becoming more frequent as changing weather conditions (e.g. severe local rain events) can lead to an entire stormwater drainage system becoming overloaded. First of all, a large proportion of the precipitation is retained on the roof area with a stormwater management roof, in the full sense of expanded flood control, and is then released over a pre-defined period (e.g. 24 hours) into the drainage system. All elements that are important for the correct functioning of the green roof are preserved (water storage for the plants, air-water household in the root area, etc.).



## System Build-up "Stormwater Management Roof" for example "Sedum Carpet"

### Features:

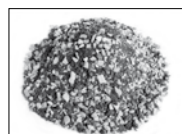
- System Build-up combining benefits of an extensive green roof and efficient stormwater management.
- Stormwater builds up to a predetermined depth and drains at a desired maximum rate.
- Instead of "Sedum Carpet" the green roof solutions "Rockery Type Plants" or "Heather with Lavender" can be applied over the Spacer Elements. Build-up height, weight and maintenance intensity differ accordingly.



Plant level "Sedum Carpet"  
System Substrate "Sedum Carpet"  
Filter Sheet SF  
Floradrain® FD 25-E  
Filter Sheet PV  
Retention-Spacer RS 60  
Filter Sheet PV



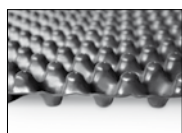
	Item No.	Unit
Sedum Cuttings	8020	bag of 2 kg
Plug Plants "Sedum Carpet"	8110	tray with 50 pieces



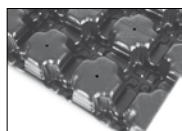
	Item No.	Unit
System Substrate "Sedum Carpet"	611102	big bag
	611202	bulk



	Item No.	Dimensions	Unit	Pallet
Filter Sheet SF	2100	ca. 2.00 m × 100.00 m	200 m <sup>2</sup> -roll	4600 m <sup>2</sup>
	2102	ca. 1.00 m × 100.00 m	100 m <sup>2</sup> -roll	2500 m <sup>2</sup>
	2101	ca. 2.00 m × 10.00 m	20 m <sup>2</sup>	



	Item No.	Dimensions	Unit	Pallet
Floradrain® FD 25-E	3028	ca. 1.00 m × 2.00 m	2 m <sup>2</sup> -board	300 boards
Floradrain® FD 25-R (Roll)	3023	ca. 1.00 m × 15.00 m	15 m <sup>2</sup> -roll	
Floradrain® FD 25-RV (Roll with filter sheet attached)	3022	ca. 1.00 m × 15.00 m	15 m <sup>2</sup> -roll	



	Item No.	Dimensions	Unit	Pallet
Retention-Spacer RS 60	3408	ca. 2.30 m × 1.03 m (netto 2.25 m × 1.00 m)	2.25 m <sup>2</sup> -board	100 boards



	Item No.	Dimensions	Unit	Pallet
Filter Sheet PV	2131	ca. 2.00 m × 50.00 m	100 m <sup>2</sup> -roll	900 m <sup>2</sup>



	Item No.	Unit
Retention Flow Control Set (Flow Controller + Inspection Chamber)	4000	Set



For further informations please refer to our Planning  
Guide Green Roof 4.0.

Download at [www.zinco-greenroof.com](http://www.zinco-greenroof.com)

# System Build-up “Walkways & Driveways on Podiums”



Rooftops are being used holistically at an ever increasing rate. Nearly everything that can be realised on the ground is now possible on roofs and podiums, too, provided the right technology is used. For instance, long lasting and functioning walkways and driveways on rooftops and podiums decks require well-engineered systems.

These assure the continuance of the roof function (e.g. continuous waterproofing and drainage capacity) and allow for horizontal forces generated by accelerating, braking and steering.

If walkways and driveways are combined with Green Roofs, not only drainage and compressive strength are important, but also the water retention capacity. Stabilodrain® SD 30, the core piece of this build-up, meets all requirements and ensures durable functionality.

Stabilodrain® SD 30 is an extremely stable, high pressure resistant drainage element that is quick and easy to install with its lateral, specially shaped connecting profiles. Depending on the

installation, it allows for drainage of water (diffusion holes facing downwards) or for drainage combined with water retention (diffusion holes facing upwards).

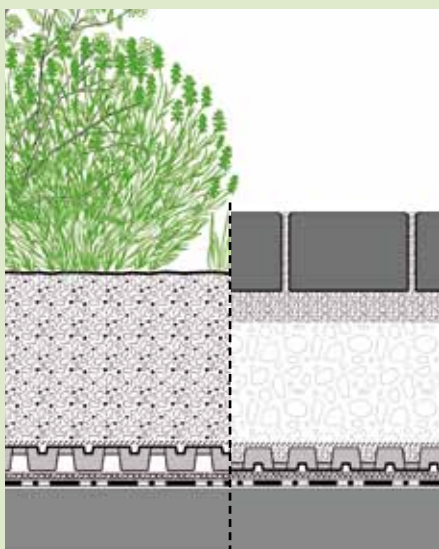
Stabilodrain® SD 30 can also be installed on inverted roofs, where it is essential to avoid creating a vapour barrier above the XPS insulation material.



## System Build-up "Walkways and Driveways on Podiums"

### Features:

- Heavy duty Hybrid Solution with high pressure resistance.
- Special connecting studs along the edges allow for an interlocking of single Stabilo-drain® SD 30 elements.
- Suitable for soft and hard landscaping. Under walkways and driveways SD 30 drainage elements are installed with its studs facing up, in green areas with the studs facing down.
- Trafficable with wheel loaders, also without infill.
- Suitable on flat roofs with standing water and on inverted roofs.



Concrete or natural stone pavers

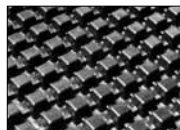

30–50 mm bedding layer  
Gravel base layer (only for driveways)  
Filter Sheet PV  
Stabilo-drain® SD 30 with infill  
Protection Mat ISM 50  
Root Barrier WSB 100-PO,  
if waterproofing is not root-resistant

Concrete or natural stone pavers are chosen according to the anticipated load demand and should meet the requirements of relevant standards. A greater paver depth results in a greater support surface and in a reduction of a possible distortion of the bedding material underneath. With driveways

on roofs, it is therefore crucial to plan sufficient load distribution, either through the paving surface or through an adequate base layer. Materials for base layers should ensure excellent compactibility and stability. Bedding material can come in different grain sizes, but has to harmonise with

the joint material to prevent it from being washed out. The ZinCo Technical Department provides assistance with designing the appropriate build-up. Please contact us for more information.



<b>Filter Sheet PV</b>	<b>Item No.</b> 2131	<b>Dimensions</b> ca. 2.00 m × 50.00 m	<b>Unit</b> 100 m <sup>2</sup> -roll	<b>Pallet</b> 900 m <sup>2</sup>
	<b>Art.No.</b> 3330	<b>Dimensions</b> ca. 0.94 m × 2.00 m	<b>Unit</b> 1.88 m <sup>2</sup> -board	<b>Pallet</b> 150 boards
	<b>Item No.</b> 2050	<b>Dimensions</b> ca. 2.00 m 25.00 m	<b>Unit</b> 50 m <sup>2</sup> -roll	

If walkways or driveways are to be combined with a vegetated green roof areas on top of a non root resistant waterproofing, the Root Barrier WSB 100-PO is additionally required.

# System Build-up “Driveways on Podiums”



Driveways on roofs and podiums require both a load-bearing System Build-up and an adequate strength in roof construction. Moreover, vehicular traffic on a roof deck induces very significant horizontal forces and torsional movements through steering, breaking and accelerating, that must be absorbed.



The System Build-up for cars employs the extremely stable Elastodrain® EL 202 specifically designed for low applications, without base layer.



Occasionally, roofs and their surfaces have to bear exceptionally heavy loads, e.g. in case of delivery or fire brigade access.



The Elastodrain® EL 202 has a very high compressive strength and distributes the load evenly into the substructure. This system is designed for heavy loads. A precondition is that the slope of the future driveway surface is taken into account in the planning. Establishing a slope is not a problem, if the waterproofing and surface have the same slope. If the slope on the surface has to be different from the slope of the waterproofing, a gravel base layer is necessary. The slope cannot be created with the bedding layer, as it will result in uneven settlement. For applications with gravel base layer the drainage element Protectodrain® PD 250 is the perfect solution. Moreover, the pavement thickness must be suitable for this application.

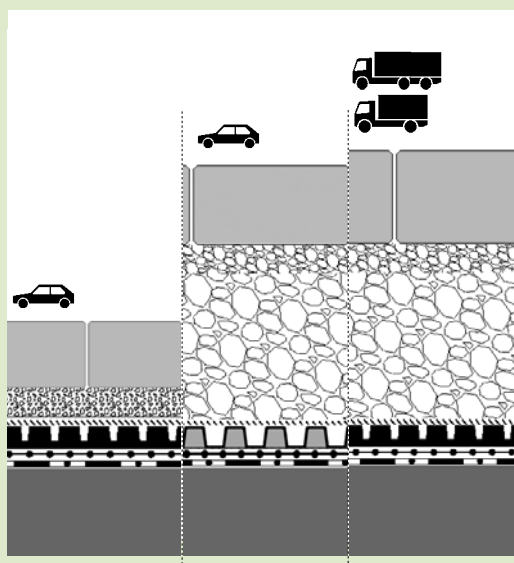
The thickness of the pavers or concrete slabs must enable a horizontal absorption of forces. For wheel loads exceeding 1 ton, a load distributing base layer has to be designed. Extreme stresses require extremely good protection layers in order to protect the waterproofing. Here again the Elastodrain® EL 202 with its high compressive and tensile strength is the perfect drainage element.

In addition two layers of Slip Sheet keep the horizontal forces issued by steering, breaking and accelerating away from the waterproofing level. The edge trim is very important too, as it contributes to the stability of the pavement. Its waterproofing must be sufficiently protected, too.

## System Build-up "Driveways on Podiums"

### Features:

- A solid base for creative surface designs. Mainly for use under driveways, fire brigade access or parking areas.
- Elastodrain® / Protectodrain® protect the waterproofing during construction works from mechanical damages.
- After installation, Elastodrain® / Protectodrain® form a durable base for all types of roof landscapes.
- Elastodrain® / Protectodrain® ensure long lasting drainage, hence it prevents frost damages.



1. Concrete or natural stone pavers  
bedding layer  
Filter Sheet TG  
Elastodrain® EL 202  
Slip Sheet TGF 20 (2 layers )
2. Concrete or natural stone pavers  
bedding layer  
gravel base layer  
Filter Sheet PV  
Protectodrain® PD 250  
Slip Sheet TGF 20 (2 layers )
3. Concrete or natural stone pavers  
bedding layer  
gravel base layer  
Filter Sheet PV  
Elastodrain® EL 202  
Slip Sheet TGF 20 (2 layers )

*For recommendations on bedding layers please contact us.*



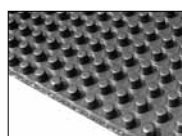
	Item No.	Dimensions	Unit	Pallet
Filter Sheet TG	2192	ca. 2.00 m × 100.00 m	200 m <sup>2</sup> -roll	1800 m <sup>2</sup>
	2193	ca. 1.00 m × 100.00 m	100 m <sup>2</sup> -roll	900 m <sup>2</sup>



	Item No.	Dimensions	Unit	Pallet
Filter Sheet PV	2131	ca. 2.00 m × 50.00 m	100 m <sup>2</sup> -roll	900 m <sup>2</sup>



	Item No.	Dimensions	Unit	Pallet
Elastodrain® EL 202 EL 202 Connector 2-holes	3220	ca. 1.00 m × 1.00 m	1 m <sup>2</sup> -board	50 boards
	3221		bag of 100 pieces	



	Item No.	Dimensions	Unit	Pallet
Protectodrain® PD 250 PD 250-Connector	3250	ca. 1.00 m × 2.00 m	2 m <sup>2</sup> -board	75 boards
	3251		bag of 200 pieces	



	Item No.	Dimensions	Unit	Pallet
Slip Sheet TGF 20	1020	ca. 8.00 m × 25.00 m	200 m <sup>2</sup> -roll	6600 m <sup>2</sup>
	1022	ca. 3.00 m × 33.50 m	100.5 m <sup>2</sup> -roll	2211 m <sup>2</sup>

# Mitä ZinCo voi tarjota

ZinCo tarjoaa kattavan paketin ympäristöystävällisiä viherkattojärjestelmiä ja projektikohtaista tukea, perustuen:

- 40+ vuoden kokemukseen viherkatoista
- Toimiviksi todetuista viherkattojärjestelmistä
- Laatuvaatimusten ylittymisestä & jatkuvasta innovaatiosta tutkimuksen ja kehityksen kautta
- Asianmukaisten kansainvälisten standardien noudattamiseen
- Rakennustekniikan, maisemasuunnittelun, puutarhanhoidon, materiaalin ja maaperätutkimuksen asiantuntijoihin
- Tukeen suunnitteluvaiheesta valmiiseen kohteeseen (suunnittelu, määrittely, CAD, konsultointi, paikan päällä käynnit)
- Kansainväliseen kumppaniverkostoon
- Kattaviin takuihin

Tähän mennessä ZinCo viherkattoratkaisut ovat inspiroineet suunnittelijoita ja rakennuttajia ympäri maailmaa, tarjoten heille tarvittavan joustavuuden mukauttaa laajan valikoiman suunnittelu- ja rakennustarpeita..

Kerro meille projektistasi!  
Osaamisellamme herätät sen henkiin.



Järjestelmäratkaisut noudattavat  
European Technical Assessmentiä.  
[www.zinco-greenroof.com](http://www.zinco-greenroof.com)



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