



Green design for areas  
large and small

# OPTIGRÜN PLANT CONTAINERS AND EDGE ELEMENTS

Greening in a nutshell.

OPTIGRÜN<sup>®</sup>  
ROOF GREENING



# Endless green diversity





# Many reasons for Plant Containers and Edge Elements

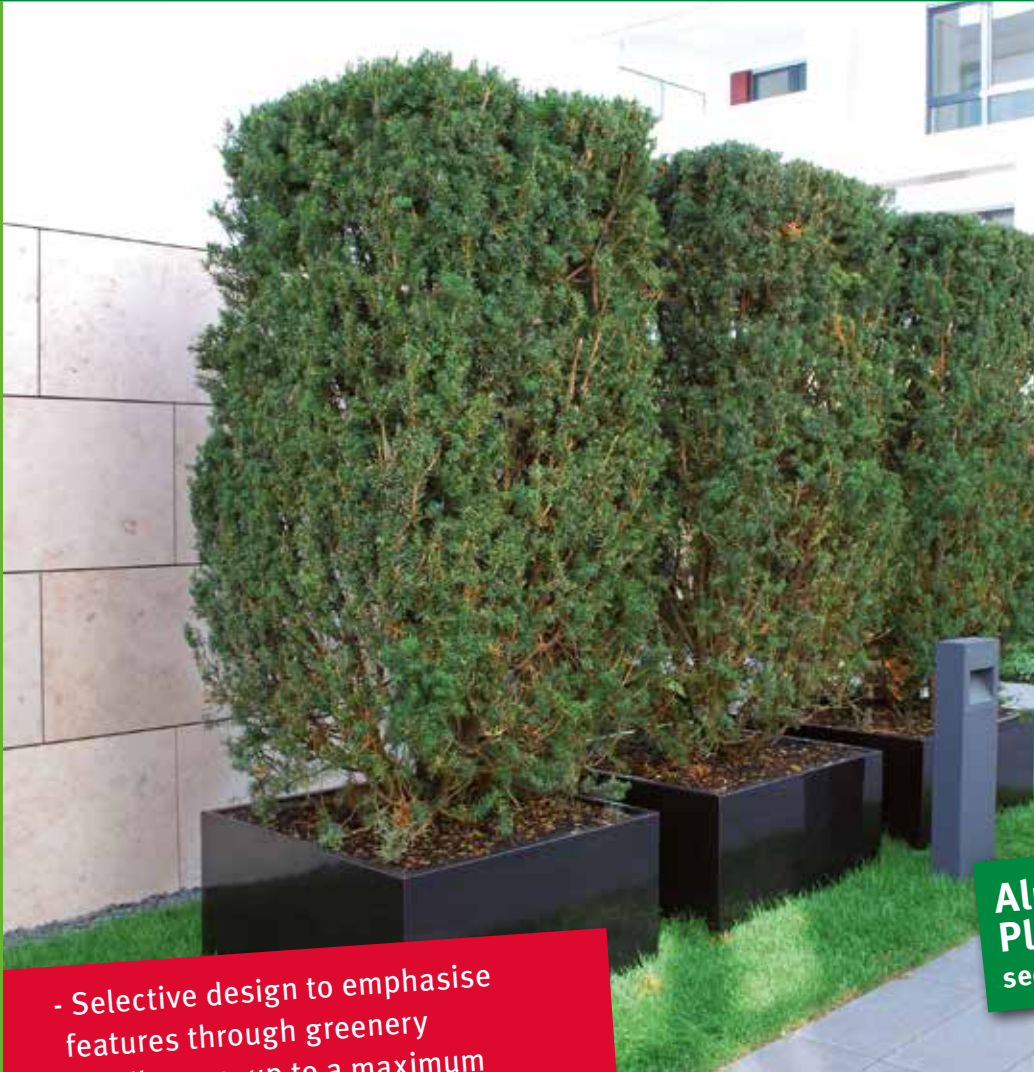


Partial greening, in the form of green islands, combines multiple benefits and positive effects:

- Partial greening forms part of the styling and design trends of modern architecture, as well as being an attractive eye-catcher
- Greenery is an integral part of sustainable constructions (economic, ecologic and social aspects)
- New urban ecology. Living and working within nature
- Creating new habitats on roofs and terraces
- Relaxed working environment. Plants stimulate inspiration, creativity and motivation
- Comfort and relaxation oasis
- Upgrading real estate value. Higher living quality
- Increased living comfort
- Pollutant and fine-dust filtering
- Noise reduction
- Visual protection and shade
- Enclosure and fall prevention







### Optigrün Plant Containers and Edge Elements made of aluminium

- Low weight
- Colours: powder-coated in all RAL and DB colours
- Very solid, weather- and frost-proof
- Multiple shapes: straight and curved shapes are possible
- Integrated water retention
- Automatic watering system also possible

**Aluminium Plant Containers**  
see page 8

- Selective design to emphasise features through greenery
- Small areas, up to a maximum of approximately 2 m<sup>2</sup>
- Movable greenery
- Closed system



### Optigrün Stone Fibre Plant Containers and Edge Elements

- Environment-friendly material
- Very solid, weather- and frost-proof
- Well proven over several decades
- Competitively priced serial containers
- Standard as well as all RAL and NCS colours
- Integrated water retention
- Automatic watering systems are also possible

**Stone Fibre Plant Containers**  
see page 10





**Aluminium  
Edge Elements**  
see page 12

- Flower beds
- Larger, delimited areas
- Unlimited design regarding shape and size
- May be complimented with benches, water basins, etc.



**Stone Fibre  
Edge Elements**  
see page 14

Aluminium

Stone Fibre



## Aluminium

**Material:** Aluminium

**Standard wall thickness:** 3–5 mm, depending on the size

**Surface:**

- Powder-coated according to RAL or DB colour palettes. Finished seams
- Upon request natural aluminium with ungrounded welding bead seams in the corners
- Coating on side walls has limited tolerance to de-icing agents used close by

**Weight:** Optigrün Aluminium Plant Containers and Edge Elements are light when empty and therefore easy to handle. The gross weights of the containers are listed on the following pages. Alternatively, Optigrün will calculate these weights when an order is placed

**Special features of the Plant Containers:**

- Side walls and bottoms have been welded together and are watertight
- Top rims have been folded twice inwardly and the width seen from above is a standard 30 mm
- There is a welded overflow pipe at the bottom, on request also on the side walls
- Side walls of the containers are reinforced by means of welded bracing plates oriented towards the centre of the container
- Inner walls possess a styrofoam lining, as protection from heat and cold

**Special features of the Edge Elements:**

- Edge Elements' design is based on L-shaped profiles
- Bracing plates are welded at regular distances to reinforce the vertical walls of the Edge Element
- Units are joined by system connectors with round head carriage bolts
- Internal and external corners can be done in different angles
- Delivered ready to install and exactly to plan
- Inner walls possess a styrofoam lining, as protection from heat and cold

**Colours:** All RAL or DB colours



**Material:** Stone Fibre

**Standard wall thicknesses:** Up to a container height of 400 mm: 12 mm  
Over a container height of 400 mm: 15 mm

**Surface:**

- Colour coated-according to the Optigrün colour chart or the RAL colour palette
- Special coatings on request
- Coating on side walls has limited tolerance to de-icing agents used close by

**Weight:** The Optigrün Stone Fibre Plant Containers and Edge Elements are heavier than the aluminium ones when empty, but can be handled easily without the use of machines. The gross weights of the containers are listed on the following pages. Alternatively, Optigrün will calculate these weights when you place an order

**Special features:**

- Side walls are glued and screwed to the bottom
- If necessary, reinforcements can be glued and screwed to the walls
- Internal sides of the containers possess a water-proof coating
- There is a sealed overflow pipe at the bottom, on request also on the side walls
- Plant Containers are supplied with double-sided, 20 mm thick EPS styrofoam plates to compensate expansion and the action of frost

**Colours:** Standard\* and in all RAL or NCS tones



### Standard colours:



Pearl-white  
RAL9010  
NCS S 0500 N



Grey-white  
RAL9002  
NCS S 1502 Y



Light grey  
RAL7035  
NCS S 1502 G



Black  
NCS S 8502 B



RAL colours

\* Colours displayed here may differ slightly from the original ones.  
If in doubt please ask for colour samples or order according to the RAL or NCS colour cards.



## Alu-Angolare

### Example sizes:

Length [mm]	Width [mm]	Height [mm]	Weight (when full) [kg/unit]*
800	800	600	approx. 494
1,000	600	600	approx. 461
1,200	600	600	approx. 556
1,200	800	600	approx. 751
1,600	400	400	approx. 318
1,600	800	800	approx. 1,354
1,800	400	400	approx. 359
2,000	400	400	approx. 399
2,000	600	600	approx. 936
2,000	800	800	approx. 1,699
2,400	600	600	approx. 1,126
2,400	800	800	approx. 2,045







## Alu-Rondero

### Example sizes:

Diameter [mm]	Height [mm]	Weight (when full) [kg/unit]*
600	400	approx. 140
1,000	500	approx. 511
1,400	500	approx. 1,020
1,550	600	approx. 1,516



**Customised according to requirements!**  
Nearly every dimension is possible

Specifications can be found at [www.optigrun.co.uk](http://www.optigrun.co.uk)

\* Reference values. Weight depends on substrate, plants and watering.  
Not in stock, delivery time on request.



# Optigrün Stone Fibre Plant Container



## Markant



### Example sizes:

Length [mm]	Width [mm]	Height [mm]	Weight (when full) [kg/unit]*
800	400	400	approx. 176
1,000	400	400	approx. 220
1,200	400	400	approx. 265
600	600	400	approx. 196
800	600	400	approx. 263
1,000	600	400	approx. 329
1,200	600	400	approx. 396
800	800	400	approx. 350
1,200	800	400	approx. 528

## Markant Plus (with chamfered corners)



### Example sizes:

Length [mm]	Width [mm]	Height [mm]	Weight (when full) [kg/unit]*
800	400	400	approx. 176
1,000	400	400	approx. 220
1,200	400	400	approx. 265
600	600	400	approx. 196
800	600	400	approx. 263
1,000	600	400	approx. 329
1,200	600	400	approx. 396
800	800	400	approx. 350
1,200	800	400	approx. 528





## Railings

Railing heights depend on building height and local building regulations



## Railing material:

Stainless steel available on request

## Example sizes:

Length [mm]	Width [mm]	Height [mm]	Weight (when full) [kg/unit]*
1.200	500	600	approx. 502
1.200	600	600	approx. 601
1.200	700	600	approx. 701
1.200	800	600	approx. 801

**Customised according to requirements!**  
Nearly every dimension is possible

Further details on Plant Containers with railings on page 16!

\* Reference values. Weight depends on substrate, plants and watering.  
Not in stock, delivery time on request.

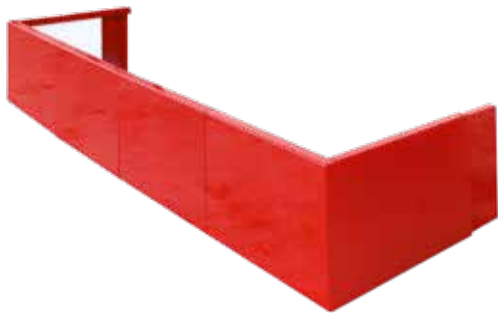




## Standard

### Example sizes:

L-Element (with double folding)



Material thickness	3 mm	3 mm	5 mm
Height	300 mm	500 mm	1,000 mm
Width	290 mm	465 mm	474 mm
Length	up to 2,500 mm	up to 2,000 mm	up to 1,500 mm
Weight	approx. 5,2 kg/lfm	approx. 8,2 kg/lfm	approx. 20,6 kg/lfm

**Customised according to requirements!**  
Nearly every dimension is possible





# Customization (Aluminium)



Integrated lighting

Photo: enea landscape design

## Project-oriented customisation



Different heights connected by means of a ramp

The customised production of Optigreen Edge Elements in aluminium is (almost) unlimited, providing maximum freedom for your design ideas. By selecting the appropriate corner angles, heights and chamfers, the green islands can be perfectly designed to match the landscaping. Curved forms are also possible.

Water basins, stairs and benches can also be integrated into the design. In this way it is not necessary to undertake any cutting or adjustments on-site. Make use of the Optigreen Consulting Service for better planning – email us at [info@optigreen.co.uk](mailto:info@optigreen.co.uk).



Stairs



Integrated bench



Integrated water basins





## Trapez profile

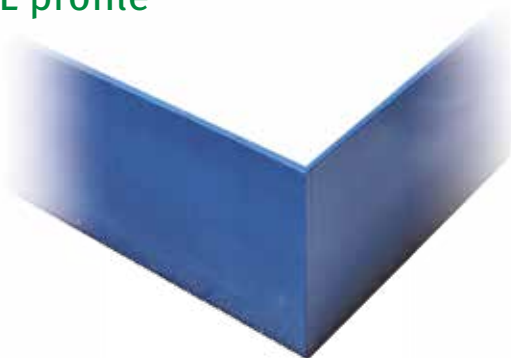


### Example sizes:

Cross section	Trapez profile	
Material thickness	12 mm	
Length	1,200 mm	
Width	250 / 400 mm	
Height	165 mm	345 mm
Weight	14,4 kg	27,0 kg
Accessories	Stone Fibre cover strip. Other materials on request.	

Specifications can be found at [www.optigrün.co.uk](http://www.optigrün.co.uk)

## L profile



### Example sizes:

Cross section	L profile		
Material thickness	12 mm		
Length	1,200 / 2,480 mm		
Width	250 mm		
Height	150 mm	200 mm	250 mm
Weight	10 kg	11 kg	12 kg



# A summary of plants for outdoor containers and flower beds

SCIENTIFIC NAME	ENGLISH NAME	COLOUR	SIZE [mm]	FLOWERING TIME [month]
<b>Shrubs</b>				
Anaphalis triplinervis	Pearl Everlasting	white	150	7
Aster linosyris	Goldilocks Aster	yellow	250	6–8
Allium moly	Golden Garlic	yellow	200	5–6
Allium sphaerocephalon	Round-headed Leek	purple	250	5–6
Buglossoides purpureo-caerulea	Blue Gromwell	blue-purple	200	5–7
Dictamnus fraxinella	Dittany	white-pink	200	5–8
Eryngium bourgatii	Mediterranean Sea Holly	silver-blue	400	5–7
Euphorbia polychroma	Cushion Spurge	yellow	400	5–6
Geranium sanguineum	Bloody Cranesbill	purple	300	5–8
Philosophical hybrid.	Baby's Breath	pink	150	5–6
Hypericum polyphyllum	Dwarf St. John's Wort	yellow	300	6–8
Hyssopus officinalis	Hyssop	blue	300	6–8
Inula hirta	Yellowhead	yellow	250	6–9
Iris germanica	German Iris	mixed	350	7–8
Jasione laevis 'Bluelight'	Bluelight	blue	400	6–8
Lavandula angustifolia	Lavender	blue	400	6–9
Linaria purpurea	Purple Toadflax	purple	600	7–10
Origanum vulgare	Wild Marjoram	pink	350	7–10
Salvia nemorosa	Woodland Sage	blue	600	6–8
Sedum telephium	Stonecrop	red	300	9–10
Verbascum thapsus	Great Mullein	yellow	600	7–8

## Grasses

Festuca mairei	Atlas Fescue	–	600	8
Helictotrichon sempervirens	Blue Oat Grass	–	500	8
Stipa pennata	Feather Grass	–	600	8

## Broadleaved trees

Amelanchier ovalis	Juneberry	white	2,500	8
Buddleia alternifolia	Butterfly Bush	blue	2,500	7
Buxus sempervirens	Boxwood	–	1,000	–
Cornus mas	Cornelian Cherry	yellow	1,000	7
Genista lydia	Goldland Ginster	yellow	800	5–6
Malus	Crab Apple	pink	2,000	5–6
Rosa pimpinellifolia	Burnet Rose	white	600	7

## Conifers

Juniperus communis	Common Juniper	–	405–600	–
Pinus mugo mughus	Mountain Pine	–	205–400	–

## Hedges (suitable for Aluminium containers and flower beds)

Ligustrum vulgare	Privet	–	2,000	–
Carpinus betulus	Hornbeam	–	2,000	–
Fargesia mur. Umbrella	Bamboo	–	2,000	–

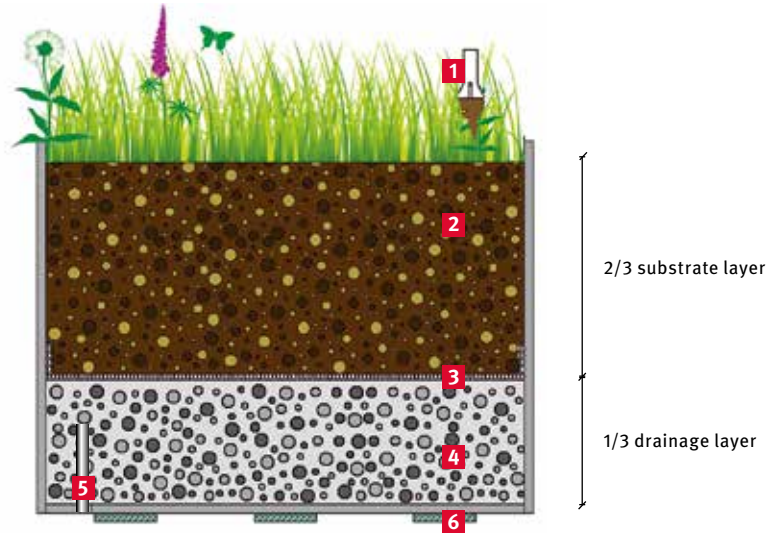
**Optigrün Aluminium Plant Containers are also suitable for planting bamboo.**

You must be able to see and remove any emerging rhizomes.



## Optigrün system build-up

- 1 Optigrün Water Level Indicator
- 2 Optigrün Intensive Substrate i
- 3 Optigrün Filter Fleece FIL 105
- 4 Optigrün Drainage Layer Perl 8/16 (100 mm)
- 5 Overflow pipe 70 mm
- 6 Polystyrene pads



## Optigrün Plant Containers with railings

Optigrün Plant Containers with railings are a good alternative to classic fixed railings, when considering fall protection and delimitation. Containers with railings comply with security regulations for terraces over 3 metres high and also permit soil-independent greening. In the planning phase you must take into consideration that the railing must be installed facing the terrace, so that it may not be climbed over. When setting up a container with railings give special consideration to stability and level flooring, so that container tensions can be avoided. If a container is to be used to prevent falls, the following requirements must be met, and if necessary adjusted to the building regulations and regulatory body codes:

- No horizontal rods which can be climbed over less than 600 mm from the top edge of the container
- No gaps larger than 120 mm or smaller than 40 mm between the filling components
- Impact load resistance in private areas: at least 0.5 kN and in public areas: at least 1.0 kN
- Suitable height for handrails, measured from the top edge of the container: between 600 and 900 mm, and according to local construction codes



Only the Optigrün Plant Containers with railings that we have listed and offered for sale have been designed to resist the stipulated impact loads. Other sizes must be statically verified.

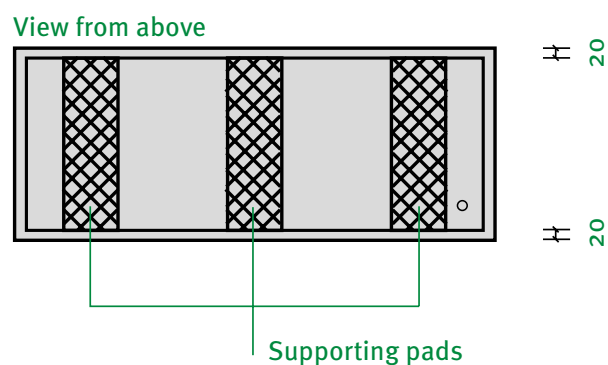
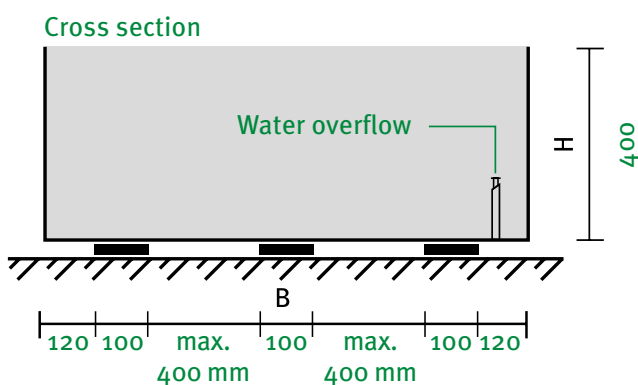
Further information and checklists can be requested from [info@optigrün.co.uk](mailto:info@optigrün.co.uk)



# Mounting instructions for Optigrün Plant Containers

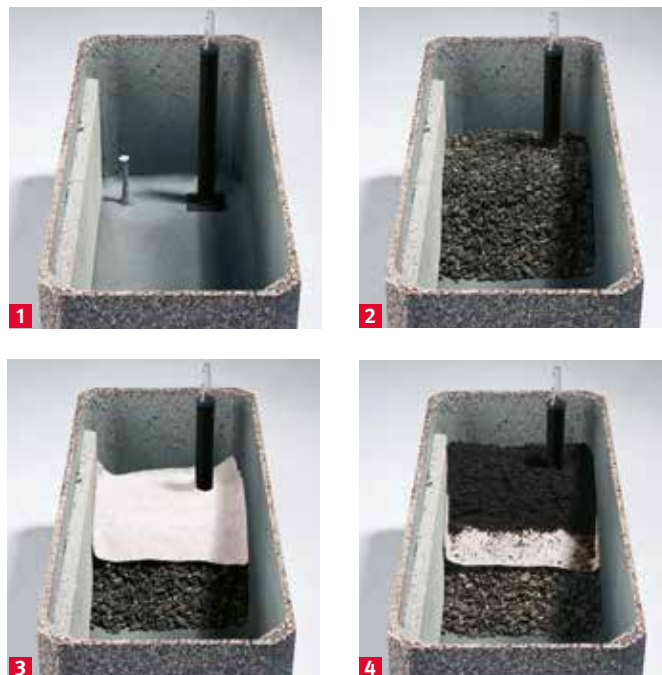
## Set on an even surface

1. Prerequisites: the ground must be even and must support the full weight of the container. Containers should be mounted on supporting pads
  2. Install containers on pressure-resistant supporting pads (e.g. 20 mm hard-foam pads) according to the sketch shown. If the ground is not even, then the pads should be set evenly on mortar
  3. Containers must rest evenly on all the pads. The vent of the water overflow on the bottom must be totally unobstructed and should be checked regularly for proper flow
- You will find more details in the provided installation instructions.



## Filling the Optigrün Plant Containers

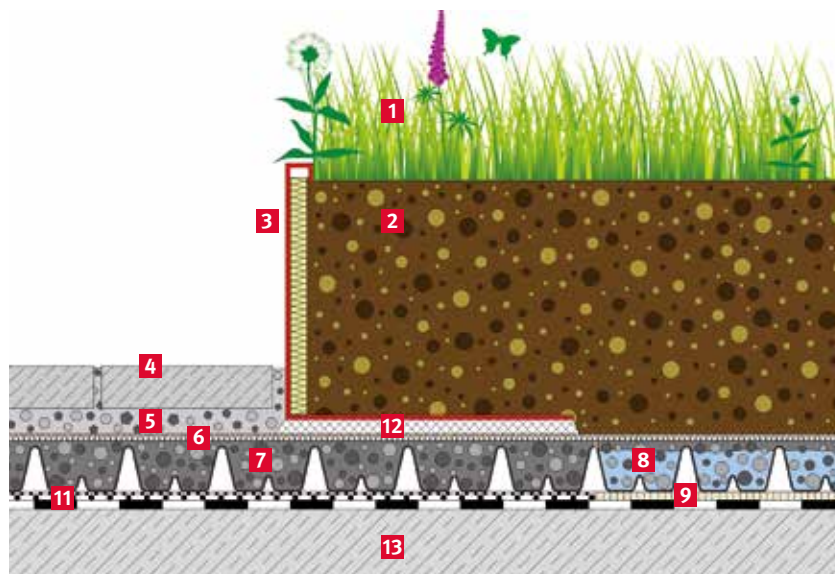
1. Install the water level indicator into the empty container which includes an integrated over flow pipe
2. Fill up with Optigrün Drainage Layer Perl, covering the overflow pipe by at least 30 mm
3. Lay out the Optigrün Filter Fleece and pull up the edges about 20–30 mm along the container walls. Anchor the mat by adding Optigrün Substrate
4. Fill up with Optigrün Substrate and compact thoroughly. When planting also compress the substrate against the plant and water up to the maximum mark of the water level indicator





## Optigrün System Build-up\*

- 1 Vegetation layer
- 2 Optigrün Intensive Substrate i
- 3 Optigrün Aluminium Edge Element (with frost and heat protection)
- 4 Paved or stone-plated footpaths
- 5 Suitable bedding material (30 – 50 mm)
- 6 Optigrün Filter Fleece FIL 105
- 7 Optigrün Protection and Drainage Board FKD 60BU combined with Optigrün Drainage Layer Perl 2/10
- 8 Optigrün Drainage and Storage Board FKD 60BO combined with Optigrün Drainage Layer Perl 8/16
- 9 Optigrün Protection and Storage Fleece RMS 500
- 10 Waterproofing membrane (root-proof according to FLL/GRO)
- 11 Optigrün HDPE sheets (0.2 and 1.0 mm)
- 12 Suitable substrate material / compensation layer
- 13 Suitable substructure



\* Further possible build-ups can be obtained from our system solutions at [www.optigrün.co.uk](http://www.optigrün.co.uk)

## Irrigation of Plant Containers and Edge Elements

### Plant Containers

Optigrün Plant Containers are closed systems that possess built-in water storage, which accumulates water from rain-fall. If there are long periods with no rain or if the plants are large, it may occur that the stored water is insufficient and additional watering of the container is required. There are several alternatives:

- Watering by hand from above, using a hose or watering can
- Automatic irrigation

When using automatic irrigation you can ensure that a minimum level of water will enter the container. This is achieved by means of an automatic mechanism controlled by a float device. To avoid failures, there is a security valve that allows water flow within certain periods and blocks it in the remaining ones. This system can be connected directly to the water mains and operated under normal water pressure. Precautions against frost should be taken in winter (draining the hoses, etc). In the next section ('Edge Elements') we describe drip irrigation and we will gladly put you in contact with an irrigation specialist.

Further information can be requested from [info@optigrün.co.uk](mailto:info@optigrün.co.uk)

### Edge Elements

Flower beds assembled with Edge Elements will only have water storage when this element is installed together with a System Metal Sheet and a foil lining. Otherwise, water is stored in the Drainage Element FKD 60. Additional watering may be necessary. For Edge Elements without storage, we recommend drip irrigation from above. This consists of a pressure-compensated hose with integrated drip feed. Water is supplied either from the side or from an integrated duct, open at the top. The recommended hoses should operate between 0.8 and 4 bar, so alongside the irrigation computer, pressure indicators and valves are provided to operate pressure regulators and valves, besides the irrigation computer, to operate the individual irrigation lines. The control system must be protected from frost.

We would be happy to put you in touch with an irrigation specialist.

Further information can be requested from [info@optigrün.co.uk](mailto:info@optigrün.co.uk)



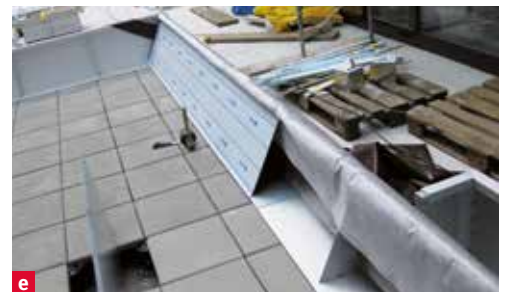
# Installation instructions for Optigrün Edge Elements

1. Install the Optigrün Protection and Storage Fleece RMS
2. Install the Optigrün Drainage Element FKD 40 or 60 (combined with Perl 8/16). These must be able to pass under the Edge Element, so that water may flow to the roof drainage
3. Mount the Edge Elements onto a layer of mortar. Then screw together the individual Edge Elements using connectors. Here it is important to create a shadow gap of 5–10 mm so that possible heat expansions can be dealt with. See photos a and b. In the case of Stone Fibre Edge Elements, these screwed connections are not necessary
4. Once the Edge Elements have been aligned and screwed together, you may still correct any deficiencies. It is important that the mortar should be sufficiently hard before filling up the flower beds
5. Now is the moment to start with the well-proven Optigrün System Solution Greening Structure for Roof Greening, with drainage, Filter Fleece and substrate. See photo c
6. It may be necessary to use an Optigrün Inspection Chamber within the flower bed, according to the flower bed's size and position of the drain. See photo d
7. If you are considering the use of drip irrigation, then it is recommended that the hoses should be placed 30–40 mm below the surface of the substrate

Alternatively, a raised bed can also be equipped with an automatic flooding system, but in this case you should also install root protection and a waterproof System Metal Sheet, as well as a water overflow in the flower bed. The installation of such a water-retention tray should be considered in point 5. See photos e and f.

Complete instructions for this installation can be requested from [info@optigreen.co.uk](mailto:info@optigreen.co.uk)

We are pleased to offer our cost-free project-oriented consulting service performed by our regional managers. They will support you in the use of Edge Elements and the corresponding build-up: [info@optigreen.co.uk](mailto:info@optigreen.co.uk)





# Many reasons for an Optigrün System Solution

As a result of several years of experience obtained by Optigrün and its Partner Companies in the development of many projects, the following advantages can be derived from a System Solution (= materials and greening from a single source):

## Experience and references

The Optigrün Group has been installing plant containers and flower beds for nearly 30 years and can provide multiple references. Optigrün also uses this experience to continue developing its products and System Solutions, as well as to extend its product range.

## Consulting

Consulting about projects and customised System Solutions is only possible if your consultant has gained ample experience and has access to a wide range of products. Optigrün offers the suitable solution for your project – the corresponding Optigrün regional manager will gladly give you project-oriented advice, free of charge.

## Different solutions

Optigrün can offer you two different product lines: apart from the Standard Containers and Edge Elements, competitively priced project-oriented customised products are also possible. This allows individual planning, great flexibility and a high level of client satisfaction.

## Knowledge about plants

The main objective in all the offered solutions the long-term success of the greening measures. Optigrün is one of the market-leading roof greening companies and integrates the needs of the plants into its System Solutions.

## Total package

Optigrün offers the complete package, everything from a single source: apart from the Optigrün Plant Containers and Edge Elements, Optigrün also offers the corresponding filling and build-up with drainage, Filter Fleece and substrates as supporting materials for the well-proven Optigrün roof greening structures.

Plants and, depending on the project, an automatic irrigation system complete the System Solutions. To round off the package, there are specialised companies trained in gardening and landscaping (Optigrün Partner Companies) at your service. These companies perform quick, clean and professional gardening jobs.

## Materials & Logistics

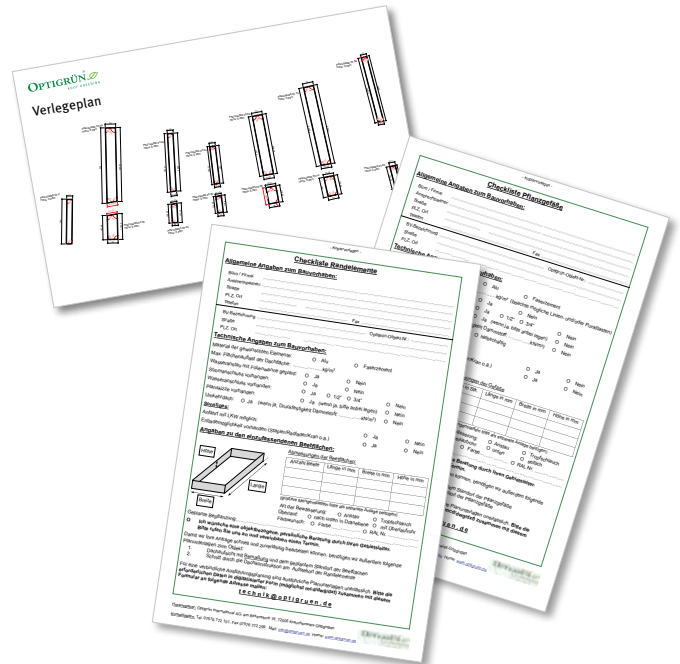
Ordered products, including the corresponding greening, are delivered exactly on time at the building site. Due to the fact that everything comes from the same source, the construction process will be trouble- and delay-free. This is an important aspect in large complex construction sites and decisive to their success.

## Customised products

Optigrün Plant Containers and Edge Elements are delivered exactly to plan. There is no need to perform additional cuttings or adjustments on the construction site, and this enables you to work quickly, without loss of time or quality.

## Planning and tender aids

Apart from CAD drawings of the different Plant Containers, Edge Elements and build-ups, Optigrün also provides the corresponding specification templates. The Optigrün regional manager will also support you when issuing your tender and he can recommend suitable gardening companies.



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