

# 6 fürs GRÜN

- Green Roofs
- Artificial Turf
- Natural Ponds
- Garden Lighting
- Flat Roofing
- Road Construction

Since more than 25 years  
successful in green roofs

## Our Products



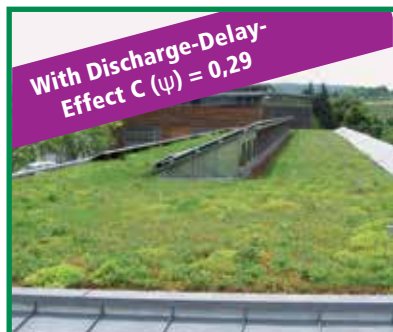
## Drainage and Water Storage Elements



### NE 20 – The Speedy Solution

The drainage and water storage element NE 20 is 20 mm high and is made of PE-HD. NE 20 is resistant to compression up to 240 kN/m<sup>2</sup> and it stores up to 6.0 litres of water per square metre. It is the cost-efficient solution for simple extensive green roofs. With a size of 2,88 m<sup>2</sup> per board NE 20 is laid out very quickly.

**Application:** extensive green roofs with a slope of  $\geq 0$  degree



### WE 25 – The Pressure-Resistant Solution for Combined Extensive Green Roofs

The drainage and water storage element WE 25 is 25 mm high and is made of recycling polystyrene. With infill WE 25 is resistant to compression up to 322 kN/m<sup>2</sup>, it stores up to 11.8 litres of water per square metre and has a filling volume of 13.5 l/m<sup>2</sup>. It is a stable base for flagging as well as drainage and water storage element for sedum plants and perennial herbs.

**Application:** extensive green roofs with walkable flagging; for roofs with a slope of  $\geq 0$  degree



### WE 40 – The Water-Storing Solution for Intensive Green Roofs

The drainage and water storage element WE 40 is 40 mm high and is made of high impact recycling polystyrene. Unfilled WE 40 is resistant to compression up to 338 kN/m<sup>2</sup> and it stores up to 19.59 litres of water per square metre.

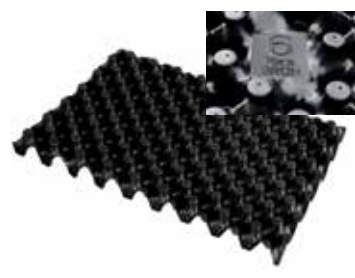
**Application:** intensive green roofs with walkable flagging and a slope of  $\geq 0$  degree



### NE 60 – The Multi-Purpose Solution for all Kind of Planting

The drainage and water storage element NE 60D is 60 mm high and is made of recycling polystyrene. NE 60D has a water storage capacity of 17.7 l/m<sup>2</sup>. Intensive green roofs with a wide range of plants can be realised with NE 60D.

**Application:** intensive green roofs with a slope of  $\geq 0$  degree



## Drainage Boards



### HD 10 – The Accessible Solution for Subterranean Garages with Above-Ground Parking Spots

The drainage HD 10 is made of a highly pressure-resistant drainage layer made of PE-HD laminated to a non-woven filter layer. The HD 10 drainage is ideal for the use in drainage of above-ground parking spots on subterranean garages, roof parking or fire lanes as it is extremely resistant to compression. HD 10 is 10 mm thick.

**Application:** accessible subterranean garages with a high demand to compression (HGV traffic) and drainage capacity and a slope of  $\geq 0$  degree







### NE 10 – The Accessible for Patios and Balconies

The drainage NE 10V is a geocomposite made of a PE-HD drainage layer and a geotextile laminated on the top side. NE 10V is 10 mm thick. It has a drainage capacity of 3.5 l/ms.

**Application:** drainage of patios and balconies with a slope of  $\geq 0$  degree



## Water Storage Elements



### Hydrotex - The Simple Solution for Uncomplicated Extensive Green Roofs

Hydrotex enables you to install a green roof quickly and easily. The multi functional fleece protects the roof membrane and stores also the water for the plants. Hydrotex has a weight of 850 g/m<sup>2</sup> and stores up to 6 litres of water per square metre.

**Application:** extensive green roofs with a slope of  $\geq 2$  degree



### LDW 35 – The Light Solution for Green Roofs with a Small Load

The water storage element LDW 35 is made of compound cellular foam and is due to its structure excellent in use on flat green roofs that can only bear small loads. LDW 35 can store up to 17 litres of water per square metre and is also root zone for the plants.

**Application:** special solution for extensive green roofs which can only bear a small load and have a slope up to 2 degrees



### DWS 80 – The Intensive Solution for Subterranean Garages und Inverted Roofs

The water storage board DWS 80 is due to its high resistance to compression of 204 kN/m<sup>2</sup> ideal for the use of plantations on subterranean garages and roof parkings. With the high water storage capacity of 27 l/m<sup>2</sup> it is possible to realise all kind of plantations. DWS 80 is vapour permeable and thus also applicable on inverted roofs.

**Application:** walkable and drivable intensive green roofs with a high demand to plantation and a slope starting from 0 degree



## Protection- and Filter-Layers



### Separation-Sliding-Protection-Layer TGL 550

The special fleece TGL 550 is used as separation, sliding and protection layer under green roofs and vehicle accessible roofs on subterranean garages. It is composed of a PP geotextile made of a high tenacity PP staple fibres and a PE-HD foil laminated to the geotextile.

Available: as geotextile 350 g/m<sup>2</sup> with 200  $\mu$ m foil, in 2 m rolls as well as tailored on demand.





### Standard Fleece PES/PP

The standard protection fleece PES/PP is used for protection of waterproofing membranes without high demands to tensile strength. The fleece is made of 100 % synthetic fibres, it is free of organic parts, long-term resistant against water, mould and algae and is thus rotproof.

Available: from 200 g/m<sup>2</sup> to 1000 g/m<sup>2</sup>, in 2 m or 4 m rolls as well as tailored on demand



### Standard Fleece PES/PP, Type FLL+

The standard protection fleece PES/PP type FLL+ is used for an optimal protection of waterproofing membranes. As this fleece is extremely needle punched it is also in case of high demands to tensile strength the ideal choice. The fleece is made of 100 % synthetic fibres, it is free of organic parts, long-term resistant against water, mould and algae and is thus rotproof.

Available: Available: from GRK 2 to GRK 5 and in 300 g/m<sup>2</sup> until 1000 g/m<sup>2</sup>, in rolls as well as tailored on demand



### Quality Fleece PP

The quality fleece PP is made of 100 % first choice polypropylene fibres. It is applicable for different load classes. The quality fleece PP 100 g/m<sup>2</sup> GRK 2 is excellent in use as filter layer for green roofs with a multi-layer structure.

Available: from GRK 2 until GRK 5 and in 100 g/m<sup>2</sup> until 320 g/m<sup>2</sup>, in rolls as well as tailored on demand



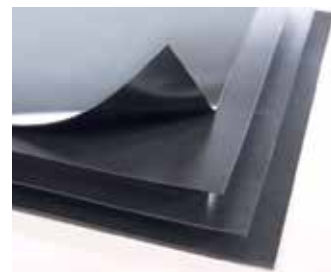
## Membranes – Root Protection



### PE-LD – PVC

The root protection membranes made of PE-LD or PVC installed loosely or welded protect the waterproofing against aggressive roots. PVC membranes are more easily to install whereas PE-LD membranes are more environmentally friendly as they are produced without plasticisers.

Available: from 0.5 mm to 2.00 mm thickness, in rolls or pre-cut on demand



## Substrata according to FLL or RAL



### Drainage-Lava

Drainage Lava 2/8 or 8/16 is available in silo trucks, loosely piled, in big bags or bags.

### Mineral-Substrate Hydrotop-M and Hydrotop-M light

The mineral-substrate Hydrotop M consists of a mixture of lava stone and pumice thus it is a pure mineral substrate. It is suitable for green roofs with a mono-layer structure.

Available: in silo trucks, loosely piled, in big bags or bags

### Extensive-Substrate Hydrotop-E and Hydrotop-E light

The extensive-substrate Hydrotop E consists of a mixture of lava stone and pumice as well as a small humus-content. It is suitable for green roofs with a multi-layer structure.

Available: in silo trucks, loosely piled, in big bags or bags

### Intensive-Substrate Hydrotop-I and Hydrotop-I light

The intensive-substrate Hydrotop I consists of a basis of lava stone and pumice as well as a high humus-content. It is suitable for intensive green roofs with a multi-layer structure of at least 15 cm and a high demand to the plantation. Available: in silo trucks, loosely piled, in big bags or bags



## Plants



### Mixture of Grass and Herbage Seeds for Green Roofs

The grass-herbage-seed-mixture consists of 25 sorts of grass seeds and 8 sorts of herbage seeds. In order to allow an easy and even bring-out of the seeds on the green roof bran is added to the mixture.

### Sedum Shots

Our sedum shot mixture consists of 5 to 6 sorts of sedum. The shots are heavily stress-conditioned and thus very firm. They are supplied in small bags so that they can be spread out easily on the roof.



### Perennials for Green Roofs 4 / 5-6

Our shallow rooted perennials are cultivated in multi-trays with extensive substratum. They are thus extremely stress-resistant. Available in sizes of 4 cm or 6 cm root balls.

### Blankets

Pre-cultivated blankets are available as sedum blankets or as sedum-herb blankets in different colour varieties. They are used for immediate cover with plants und permit also plantations on roofs that can only bear a small load. Blankets are available with a decomposable or a rotproof base. They are supplied in rolls on pallets.



### Fertilizer for Green Roofs

Organic or mineral-organic long-term fertilizer with ecological recommendation is supplied in bags of 10 kg.

## Dewatering



### Foldable Inspection Chamber

Our foldable inspection chamber is easy in use for inspection and cleaning of drains. As it is supplied as angular sheet and top-cover it is very space-saving on stock as well as during the transport. On the construction side it has only to be stick together. In case of need additional extension chambers are available. Inspection chambers are also in other dimensions available.



### Drainage Channels/Gully Top Frames

The height adjustable drainage channels are made of galvanised steel with super corrosion protection. It steadily helps to dewater flat roofs, green roofs and patios.

The drains are available in width of 100 – 150 – 200 and 250 mm. The height adjustable gully top frame protects drains on patios against obstruction. Both are also available in stainless steel.



### Gravel Stops

The gravel stops are available in aluminium or in stainless steel. They are used for a clear boundary of green roofs. The different heights of the journals allow to use each gravel stop for two different construction heights. The gravel stops are available in 50/80, 80/120 and 100/150 mm. Special sizes are available on demand.



# Artificial Turf for Gardens



## Garden Pro – The High Quality Artificial Turf

Garden Pro is made of PE monofilaments and a PP basis. With a pole height of 36 mm, a weight of 2 821 g/m<sup>2</sup> and 18 900 tufts/m<sup>2</sup> Garden Pro meets highest demands to optics and haptics. The surface feels nice and soft to the touch and is perfectly in use as barefoot-zone around the pool. Also for a balcony, a patio or a roof garden Garden Pro is always the right choice.

Available: in 4 m wide rolls or pre-cut to the desired length



## Garden Perfect – The Perfect Artificial Turf

Garden Perfect is made of PE monofilaments and a PP basis. With a pole height of 36 mm, a weight of 2 858 g/m<sup>2</sup> and 17 325 tufts/m<sup>2</sup> Garden Perfect meets high demands to quality and comfort. The self-erecting piles give a natural appearance to Garden Perfect. It is the perfect solution for balcony, patio and garden.

Available: in 4 m wide rolls or pre-cut to the desired length



## Garden Basis – The Beautiful Artificial Turf

Garden Basic is made of PE monofilaments and a PP basis. With a pole height of 23 mm, a weight of 2 247 g/m<sup>2</sup> and 16 798 tufts/m<sup>2</sup> Garden Basic meets high demands to optics and haptics. It is a beautiful solution for balconies, patios and gardens.

Available: in 4 m wide rolls or pre-cut to the desired length



## Garden Essential – The Competitive Artificial Turf

Garden Essential is made of PE monofilaments and a PP basis. With a pole height of 28 mm, a weight of 2 046 g/m<sup>2</sup> and 14 700 tufts/m<sup>2</sup> Garden Essential is a favourable option for balcony, patio or garden. Due to its bicoloured structure Garden Essential is very close to the natural garden scenery.

Available: in 4 m wide rolls or pre-cut to the desired length



## Garden Economy – The Economical Artificial Turf

Garden Economy is made of PE and PP monofilaments and a PP basis. With a pole height of 15 mm, a weight of 1 250 g/m<sup>2</sup> and 14 698 tufts/m<sup>2</sup> Garden Economy is the economical alternative to usual lawn.

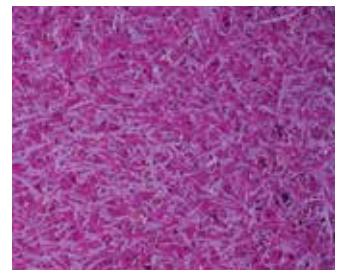
Available: in 4 m wide rolls or pre-cut to the desired length



## Garden Color - The Colorful Artificial Turf

Garden Color is made of PE monofilaments and a PP basis. With a pole height of 24 mm, a weight of 2 483 g/m<sup>2</sup> and 18 900 tufts/m<sup>2</sup> Garden Color belongs to the high-quality artificial turfs and thus suits ideally for installation on balconies or patios in private homes as well as in the gastronomy.

Available: in 4 m wide rolls or pre-cut to the desired length  
in 12 colours





## Artificial Turf for Playgrounds



### Play Pro - The High Quality Artificial Turf for Playgrounds

Play Pro is made of curled PE monofilaments and a PP basis. With a pile height of 24 mm, a weight of 2 547 g/m<sup>2</sup> and 22 572 tufts/m<sup>2</sup> Play Pro is of a very hard-wearing quality and belongs to the high-quality artificial turfs for playgrounds.

Available: in 4 m wide rolls or pre-cut to the desired length



## Artificial Turf with Fire Protection



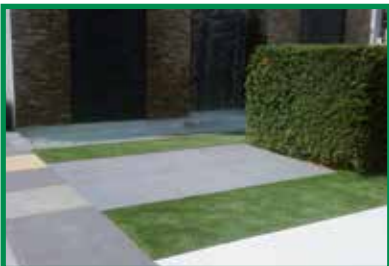
### Event Professional – The Event Turf

Event Professional is made of PE monofilaments and a PP basis. With a pile height of 25 mm, a weight of 2 378 g/m<sup>2</sup> and 13 650 tufts/m<sup>2</sup> Event Professional is the professional solution for objects in the gastronomy or in public areas if a fire protection according to DIN EN 13501-1 is required.

Event Professional can also be applied on green roofs in case of low construction heights or low load bearing capacities.



## Substructure/Elastic Layers for Artificial Turf



### GreenLastic Elastic Layer

GreenLastic is made of PU-bonded recycling rubber granule for use as buffer bed and/or as equalising layer under artificial turf. GreenLastic has fire protection classification B2.

Available: in 6 mm thickness as rolls or mats

### PlayLastic Elastic Layer

PlayLastic is an elastic layer made of 100 % polyethylene foam. The closed-cell structure of the foam prevents that water can be absorbed from the material. Thus it is absolutely frost-proof and allows a high elasticity all over the year. PlayLastic is highly water permeable, environmentally friendly, long-lasting and chemical resistant.

Available: in 1.50 m wide rolls or pre-cut to the desired length



### GreenFall Drop Protection Boards

GreenFall is a PU-bonded rubber granule board made of recycling rubber. It is applicable as buffer bed under artificial turf on playgrounds. With GreenFall drop protection boards 80 mm in connection with the system setup higher drop heights up to 2.40 m can be obtained in accordance to HIC (Head Injury Criteria).

Available: in boards of 40 mm or 80 mm thickness

## Accessories

**Drainage-Lava** Drainage-Lava 2/12 in stabilised condition builds the base course as well as the drainage course for artificial turf in gardens.

Available: in silos trucks, loosely piled, in big bags or bags

**Sand** Siliceous fire dried sand 0.3/0.8 is used as infill for artificial turf. It ensures the position permanence and the slip resistance of the turf.

Available: in big bags or bags

**Pins** For additional circumferential fixation of artificial turf

**Adhesive** Two-component adhesive for professional installation of artificial turf.

Available: in 3 kg or 13.2 kg casks

**Seam tape** For use under two-component adhesive in professional installation of artificial turf

**Adhesive tape** For use with smaller surfaces without any bigger demands

# POND/ SWIMMING POND CONSTRUCTION

## Protection Layers



### Protection Fleece Standard PES/PP

The standard fleece PES/PP is made of 100 % synthetic fibres and is thus rotproof. It builds the protection layer under the membrane of a smaller natural pond. This protection fleece is free of organic parts and it is long-term resistant against water, mould and algae. Available: from 200 g/m<sup>2</sup> to 1000 g/m<sup>2</sup>, in 2 m or 4 m rolls as well as tailored on demand



### Protection Fleece Standard PES/PP, Type FLL+

The protection fleece standard PES/PP type FLL+ is made of 100 % synthetic fibres and is thus rotproof. It builds the protection layer under a middle-sized or bigger natural pond. The protection fleece standard PES/PP, type FLL+ meets highest demands to tensile strength and it is long-term resistant against water, mould and algae. Available: from GRK 2 to GRK 5 and in 300 g/m<sup>2</sup> until 1000 g/m<sup>2</sup>, in rolls as well as tailored on demand



### Swimming Pond Fleece PES B2 Drillable

The swimming pond fleece is made of 100 % polyester. It is thermally solidified and thus applicable for fixation at the swimming pond or pool wall. It builds the protection layer on as well as under the membrane and meets highest demands to tensile strength. It is free of organic parts, long-term resistant to water, mould and algae and thus rotproof. Available: from 200 g/m<sup>2</sup> to 800 g/m<sup>2</sup>, in 2 m rolls as well as tailored on demand



### Stabilisation Mat for Shore Area

The stabilisation mat is especially made for use in shore areas of ponds. It is made of green and black polypropylene fibres (PP) which are needle punched to a non-woven fibre mix. It protects the pond membrane from UV-rays and enables amphibians to exit the pond also at slippery precipitous slopes. Available: in 750 g/m<sup>2</sup>, in 1 m or 1.50 m rolls

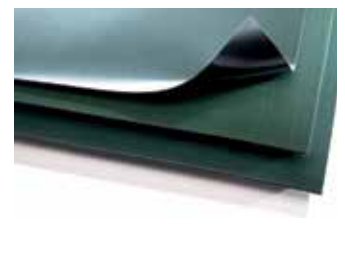


## Pond Liner



### PE-LD

PE-LD membranes build a flexible lining for a near to nature creation of a garden pond. Pre-cut to the requested size it facilitates the installation. PE membranes are free of plasticisers and thus absolutely environmentally friendly. Available: from 0.5 mm to 2.0 mm thickness, in rolls of 4/6/8 m width or pre-cut on demand



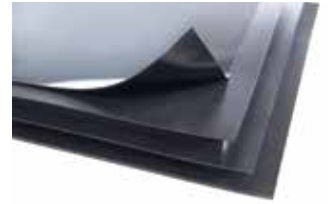




### PVC

PVC membranes build a flexible lining for a near to nature creation of a garden pond. Pre-cut to the requested size or in sheets it is easily applicable. The use of solvent welding compounds and liquid films will save from heat-welding.

Available: from 0.5 mm to 1.5 mm thickness, in rolls of 2 m width or pre-cut on demand



### Pond Liners for Swimming Ponds

Membranes for swimming ponds made of PVC, PE-LD or FPO whether with or without fabric-reinforcement ensure an optimised lining of a swimming pond. For the demanding requirements to a swimming pond we offer a wide range of coloured swimming pond liners.

Available: from 1.0 mm to 2.0 mm thickness, in rolls of 2 m width or pre-cut on demand



## Plants



### Pond Plants

From acorus calamus to veronica beccabunga we offer a wide range of pond plants for the different habitats and pond zones.

## Pond Accessory



### Pond Planting Bag "Duo"

The planting bag "Duo" is made of a green UV-resistant fleece with two attached planting bags. They are excellent for use in holding plants also on steeper shore areas of the pond.

## ROAD CONSTRUCTION

### Road Construction



### Quality Fleece PP

The quality fleece PP for road construction is made of 100 % polypropylene virgin fibres. It is certified and thus of first class quality. According to the requirements this fleece is available in load class GRK 2, 3, 4 or 5. Colour: white.

Available: from 100 g/m<sup>2</sup> to 320 g/m<sup>2</sup>, in 2 m or 4 m rolls as well as tailored on demand



# FLAT ROOF CONSTRUCTION / ROOFER

## Separation Fleece



### Glass Fibre Non-Woven A2/B2

The glass fibre non-woven with fire protection class A2 or B2 is primarily used as separation layer between the waterproofing sheets. Available: in 120 g/m<sup>2</sup>, in 1 m or 2 m rolls



## Protection Fleece



### Standard Fleece PES/PP

The standard fleece PES/PP is made of 100 % synthetic fibres and is thus rotproof. It builds an optimal protection of the waterproofing membrane under gravel or a green roof construction. This protection fleece is free of organic parts and it is long-term resistant to water, mould and algae. Available: from 200 g/m<sup>2</sup> to 1000 g/m<sup>2</sup>, in 2 m or 4 m rolls as well as tailored on demand



### Quality Fleece PES/B2 Drillable

This quality fleece is drillable and extremely tear-resistant. It is therefore optimal in use for protection of the waterproofing membrane as well as separation layer under the waterproofing or between the waterproofing sheets. It is made of 100 % polypropylene and can prove fire resistant class B2 freely suspended. Available: from 200 g/m<sup>2</sup> to 500 g/m<sup>2</sup>, in 2 m rolls as well as tailored on demand



## SPECIAL FLEECES



### Plantex® Pro – The Weed Control Fabric

Although Plantex® Pro is highly water permeable and allows the soil to breathe it prevents weeds to come out the ground! An application of herbicides is no longer necessary. When properly covered with mulch or gravel Plantex® Pro is guaranteed to last up to 25 years. Colour: grey  
Available: in 1 m or 2 m rolls as well as tailored on demand  
Accessory: steel-pins 19 cm for fixation of Plantex® to the ground



### Plantex® Gold – The Professional Weed Control Fabric

Plantex® Gold is the most effective weed control fabric. It actually prevents tough weeds such as horsetail or couch grass to come out in your garden. When properly covered with mulch or gravel Plantex® Gold is guaranteed to last up to 25 years. Even without coverage it lasts 3 to 5 years. Colour: brown  
Available: in 1 m or 2 m rolls as well as tailored on demand  
Accessory: steel-pins 19 cm for fixation of Plantex® to the ground







### Ground Cover Fleece

Our ground cover fleece is made of 100 % polypropylene fibres. Due to the thermal treatment it extremely hard-wearing but it is however permeable for air and water. It is suitable for application under bark mulch, wooden decks, flagging or synthetic turf. Colour: black.  
Available: in 1 m or 2 m rolls as well as tailored on demand



### RootBarrier® – The Rhizome Barrier and Root Protection Sheet

RootBarrier® cannot be penetrated by roots and rhizomes. It is very hard-wearing nevertheless it is flexible, light-weight and easily to install. It is suitable for vertical application.

Available: in 0.65 m or 1 m rolls

Accessory: butyl tape 25 mm or quick-joint Click Connection



### Klimax – Covering for Compost

Klimax the fabric for compost coverage guarantees well balanced moisture conditions in compost. It minimises nutrient losses and it is highly UV-resistant. Colour: green.

Available: in 1.21 m, 4 m and 5 m rolls



### ISOTHERM – Winter Protection Fleece

The winter protection fleece ISOTHERM offers optimum protection for your plants against cold wind, extreme fluctuation of temperature and too high insolation. Colour: white.

Available: in 2.20 m, 2.80 m or 4.90 m x 130 m rolls



### MoleBarrier®

MoleBarrier® avoids unsightly mole hills in your garden. It is impenetrable for moles but at the same time it is permeable to water, flexible and easy to install.

Available: in 2 m rolls

Accessory: steel-pins 19 cm for fixation of MoleBarrier® to the ground



## Jute/Kokosgewebe



### Jute fabric

Jute fabric is supplied in bolts. It is available in 500 g/m<sup>2</sup> and 700 g/m<sup>2</sup>. Mesh size 18 x 11 mm

### Coco fabric

Coco fabric is available from 400 g/m<sup>2</sup> to 900 g/m<sup>2</sup> and in mesh sizes of 8 x 12 mm to 18 x 21 mm.

### Pins made of steel or wood

For fixation of jute or coco fabrics to the ground

Available: in different sizes



# 6 fürs GRÜN

- Green Roofs
- Artificial Turf
- Natural Ponds
- Garden Lighting
- Flat Roofing
- Road Construction

Since more than 25 years  
successful in green roofs

For the provision of photos we thank the companies:

- Grünbau GmbH, Remagen (Photo 1)
- Grünes Dach Dachbegrünung und Teichbau GmbH, Viersen (Photo 2)
- Rootbarrier B.V., NL (Photo 5)
- APP Dachgarten GmbH, Ingolstadt (Photo 6)

Print September 2017

