

6
fürs
GRÜN

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

Since more than 30 years
successful in green roofs

Our Green Roof Systems



6 fürs GRÜN

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Planning Guide

Schedule of Layer Compositions



Height in cm



Weight in kg/m²



Water Retention in l/m²

		Height in cm	Weight in kg/m ²	Water Retention in l/m ²
HYDROTEX – The Simple Solution	page 4 / 5	9	132 - 155*	34 - 42*
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* depending on substrate utilised ** depending on utilisation *** retention-volume

The Multifunction Fleece HYDROTEX

The multifunctional fleece HYDROTEX has a weight of about 850 g/m². It serves as protection layer for the roof waterproofing and as water storage at the same time. It has a storage capacity of up to 6 litres per m².

HYDROTEX is chemically resistant and physiologically harmless.

Application

- Water storage and protection layer for extensive green roofs
- Also applicable for inverted roofs
- For extensive green roofs with a pitch of $\geq 2^\circ$



Data Sheet

Subject	Unit	HYDROTEX
Raw material	---	PET
Weight according EN ISO 9864	g/m ²	850
Thickness according EN ISO 9863-1	mm	10
Water drainage rates	---	> DIN 4095
Water storage capacity	l/m ²	6
Fire protection classification according DIN 4102 part 1	---	B2
Permeability horizontal on a load up to 2 kPa i = 1.0 i = 0.02 according EN ISO 12958	l/sm l/sm	2.310 0.174
Classification according to FGSV 1994	GRK	3

Dimensions

Subject	Unit	HYDROTEX
Length	m	20
Width	m	2.00
m ² / roll	m ²	40
Weight / roll	kg	35

*all values are average results; technical changes remain reserving.

02/2025

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Layer Composition



Height
9 cm



Weight
132 - 155 kg/m²*



Water Retention
34 - 42 l/m²*

* depending on substrate utilised

Our Green Roof System

HYDROTEX - The Simple Solution



- 1 Planting: Sedum
- 2 Growing medium: Mineral substrate Hydrotop-M, application height 8 cm
- 3 Protection and water storage layer: HYDROTEX

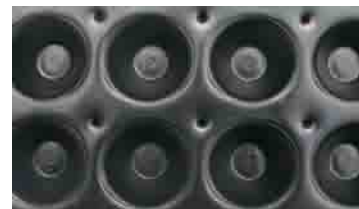
With our HYDROTEX-system you can easily install a green roof: Our multifunctional fleece HYDROTEX with ribbed structure is laid on the root resistant roof waterproofing. The substrate is placed above and the sedum cuttings on top. Your green roof is ready ...

Drainage and Water Storage Board NE 20

NE 20 is made of HDPE. It is 20 mm high. The NE 20 boards are crush resistant up to 240 kN/m². They are chemically neutral, rot-proof and resistant to moulds and algae. The fire behaviour meets the requirements of fire protection classification B 2 in accordance with DIN 4102.

Application

- Drainage and water storage element for extensive green roofs
- Water diversion in tunnel construction
- Diversion of percolation and ground water
- Also applicable for inverted roofs
- For extensive green roofs with a pitch of $\geq 0^\circ$



Data Sheet

Subject	Unit	NE 20
Raw Material	---	HDPE
Weight (Tolerance +/-10%)	g/m ²	1000
Colour	---	black
Height	mm	20
Crush Resistance unfilled (according DIN EN ISO 25619-2)	kN/m ²	240
Temperature Resistance	°C	-40 bis +80
Water Storage Capacity (unfilled)	l/m ²	6.0
Drainage Capacity (i=1) hard/hard on 20 kPa load (DIN EN ISO 12958 : 1999)	l/sm	10.61
Fire Protection Classification (acc. DIN 4102)	---	B2

Data: certificated concerning ISO 9001; technical data are liable to a constant outside control according DIN 18200

Dimensions

Subject	Unit	NE 20
Length	m	2.40
Width	m	1.20
m ² / Board	m ²	2.88
Weight / Board	kg	2.88

*all values are average results; technical changes remain reserving.

07/2020

6 fürs GRÜN

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Layer Composition



Height
8 cm



Weight
95 - 127 kg/m²*



Water Retention
21 - 36 l/m²*

* depending on substrate utilised

Our Green Roof System

NE 20 - The Speedy Solution



- 1 Planting: Sedum cuttings
- 2 Growing medium: Extensive substrate Hydrotop-E, application height 6 cm
- 3 Filtering layer: Quality fleece PP 100 g/m², GRK 2
- 4 Drainage and water storage board: NE 20
- 5 Protection layer: Geotextile Standard PES/PP 300 g/m²

The system NE 20 - The Speedy Solution - our system for beautiful extensive green roofs and a quick installation! With a size of 2.88 m² the boards of NE 20 are quickly laid out. NE 20 allows to bridge puddles up to a height of 20 mm on flat roofs.

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Drainage and Water Storage Board NE 20 V

NE 20 V is made of a HDPE drainage and water storage board and a laminated PP filter layer on top. The NE 20 V boards are crush resistant up to 240 kN/m². They are chemically neutral, rot-proof and resistant to moulds and algae.

Application

- Drainage and water storage element for extensive green roofs
- Water diversion in tunnel construction
- Diversion of percolation and ground water
- Also applicable for inverted roofs
- For extensive green roofs with a pitch of $\geq 0^\circ$



Data Sheet

Subject	Unit	NE 20 V
Raw Material Drainage Layer Raw Material Filter Layer	---	HDPE PP
Weight (Tolerance +/-10%)	g/m ²	1140
Colour of Drainage Layer Colour of Filter Layer	---	black grey
Height	mm	20
Crush Resistance unfilled (according DIN EN ISO 25619-2)	kN/m ²	240
Temperature Resistance	°C	-40 bis +80
Water Storage Capacity (unfilled)	l/m ²	6.0
Drainage Capacity (i=1) hard/hard on 20 kPa load (DIN EN ISO 12958 : 1999)	l/sm	10.61

Data: certificated concerning ISO 9001; technical data are liable to a constant outside control according DIN 18200

Dimensions

Subject	Unit	NE 20 V
Length	m	12.50
Width	m	2.00
m ² / Roll	m ²	25.00
Weight / Roll	kg	28.50

*all values are average results; technical changes remain reserving.

09/2021

6 fürs GRÜN

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Layer Composition



Height
8 cm



Weight
95 - 127 kg/m²*



Water Retention
21 - 36 l/m²*

* depending on substrate utilised

Our Green Roof System

NE 20 V - The very Speedy Solution



- 1 Planting: Sedum cuttings
- 2 Growing medium: Extensive substrate Hydrotop-E, application height 6 cm
- 3 Drainage und water storage board: NE 20 V with laminated Filtering layer PP 136 g/m² GRK 2
- 4 Protection layer: Geotextile Standard PES/PP 300 g/m²

The system NE 20 V – The very Speedy Solution – our system for beautiful extensive green roofs and a very quick installation! With a size of 25 m² and a laminated filter layer on top the rolls of NE 20 V are extremely speedily laid out. NE 20 V allows to bridge puddles up to a height of 20 mm on flat roofs.

Drainage and Water Storage Board Water Retention Element WE 25/15

The water retention element WE 25/15 reduces due to its discharge delay effect the top discharge coefficients of extreme rain. It discharges the public sewerage system thus it redounds to flood prevention.

The three-level drainage system with integrated branch drains cares for a high drainage capacity. The water storage and drainage board WE 25/15 is thus also suitable for vacuum sewer systems.

Application

- Without infill as drainage and water storage board for extensive green roofs
- For green roofs with intention of flood prevention by the effect of discharge delay
- Also suitable for vacuum sewer systems
- With infill as drainage board under flagging
- With an appropriate overfill also applicable as drainage under vehicle accessible areas
- Also applicable for inverted roofs
- For extensive green roofs with a pitch of $\geq 0^\circ$



Data Sheet

Subject	Unit	Tolerance	WE 25/15
Raw material	---	---	Recycling-Polystyrene (high impact)
Weight	gr/m ²	± 100	1360
Colour	---	---	black
Height	mm	± 3	25
Crush resistance unfilled <small>(EN ISO 25619-2)</small>	kN/m ²	± 20%	335
Crush resistance with infill on 2 mm compression <small>(EN ISO 25619-2)</small>	kN/m ²	± 10%	397
Crush resistance overfilled with 20 mm of chippings <small>(EN ISO 25619-2)</small>	kN/m ²	± 10%	480
Filling volume	l/m ²	± 0.8	13
Water storage capacity (without infill)	l/m ²	± 0.8	13
Drainage capacity on 20 kPa load <small>(EN ISO 12958)</small>			
on 1 % incline	l/m·s	± 10%	0.35
on 2 % incline	l/m·s	± 10%	0.42
Overlap	%	---	2
Storage	protected against UV radiation; has to be covered within 24 hours after installation		

1213-CPR-7716 CE

Dimensions

Subject	Unit	Tolerance	WE 25/15
Length	m	± 0.01	1.995
Width	m	± 0.01	1.003
m ² /board	m ²	± 0.03	2.000
Weight/board	kg	± 0.20	2.720

* all values are average results; technical changes remain reserving.

05/2024

6 fürs GRÜN

- Green Roofs
- Artificial Turf
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Layer Composition



Height
9 cm



Weight
102 - 135 kg/m²*



Water Retention
28 - 43 l/m²*

* depending on substrate utilised



Our Green Roof System

WE 25/15 - The Pressure-Resistant Solution



- 1 Planting: Sedum, modest perennials
- 2 Growing medium: Extensive substrate Hydrotop-E, application height 6 cm
- 3 Filter layer: Quality fleece PP 100 g/m², GRK 2
- 4 Drainage and water storage board: WE 25/15
- 5 Protection layer: Geotextile Standard PES/PP 300 g/m²

Our system WE 25/15 – The Pressure-Resistant Solution – is the ideal alternative to a simple sedum green roof. Modest perennials from one of our diverse plant assortments can be chosen instead. In addition paths can be designed or patios can be build. WE 25/15 – The Pressure-Resistant Solution – is a stable underground for flagging; likewise WE 25/15 functions as water storage for sedum and perennials.

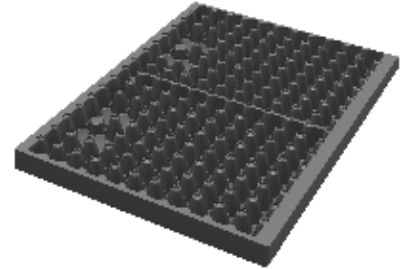
Drainage and Water Storage Board Water Retention Element WE 40/23

The drainage and water storage board WE 40/23 is made of high impact recycling polystyrene. It stores up to 23.3 l/m² of water. It thus exceedingly guarantees the water supply for the plants of an intensive green roof. Due to the extreme crush resistance of 600 kN/m² green surfaces can easily be combined with patios and paths.

The three-level drainage system with integrated branch drains cares for a high drainage capacity. The water storage and drainage board WE 40/23 is thus also suitable for sewer systems.

Application

- As drainage and water storage board for intensive green roofs
- Also suitable for vacuum sewer systems
- With infill as drainage board under flagging
- With an appropriate overfill also applicable as drainage under vehicle accessible areas
- Also applicable for inverted roofs
- For intensive green roofs with a pitch of $\geq 0^\circ$



Data Sheet

Subject	Unit	Tolerance	WE 40/23
Raw material	---	---	Recycling-Polystyrene (high impact)
Weight	gr/m ²	± 100	1920
Colour	---	---	black
Height	mm	± 4	40
Crush resistance unfilled (EN ISO 25619-2)	kN/m ²	$\pm 20\%$	328
Crush resistance with infill on 2 mm compression (EN ISO 25619-2)	kN/m ²	$\pm 10\%$	384
Crush resistance with infill on 10 % compression (EN ISO 25619-2)	kN/m ²	$\pm 10\%$	600
Filling volume	l/m ²	± 0.8	23.3
Water storage capacity (without infill)	l/m ²	± 0.8	23.3
Drainage capacity on 20 kPa load (EN ISO 12958)			
on 1 % incline	l/m · s	$\pm 10\%$	1.33
on 2 % incline	l/m · s	$\pm 10\%$	2.04
Overlap	%	---	2
Storage	protected against UV radiation; has to be covered within 24 hours after installation		

1213-CPR-7716 CE

Dimensions

Subject	Unit	Tolerance	WE 40/23
Length	m	± 0.01	1.995
Width	m	± 0.01	1.003
m ² /board	m ²	± 0.03	2.000
Weight/board	kg	± 0.20	3.840

6 fürs GRÜN

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Layer Composition



Height
16 cm



Weight
238 - 275 kg/m²*



Water Retention
83 - 89 l/m²*

* depending on substrate utilised



Our Green Roof System

WE 40/23 - The Water-Storing Solution



- 1 Planting: Bushes, grass, herbs, perennials, sedum
- 2 Growing medium: Intensive substrate Hydrotop-I, application height 12 cm
- 3 Filter layer: Quality fleece PP 150 g/m², GRK 3
- 4 Drainage and water storage board: WE 40/23
- 5 Protection layer: Geotextile Standard PES/PP 300 g/m²

With our WE 40/23 system - The Water-Storing Solution - you can realise intensive green roofs with a high variety of perennials and bushes. With a water storage capacity of 23.3 l/m² WE 40/23 provides a considerable rain water retention. It thus exceedingly guarantees the water supply of the plants.

As WE 40/23 is made of pressure-resistant HIPS it is also applicable as drainage under paths and patios. WE 40/23 – a real all-rounder!

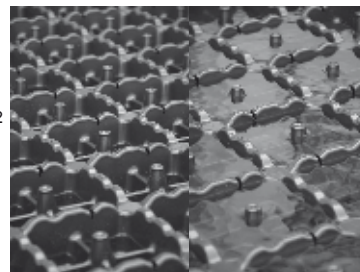
Drainage and Water Storage Board WE 60 and WE 60 UG

The drainage and water storage board WE 60 is made of high impact recycling polystyrene. It guarantees the drainage in accordance with DIN 4095. WE 60 has a filling and water storage volume of up to 39.6 l/m². It is chemically neutral, rot-proof, and resistant to moulds and algae. The big diffusion slots in the division bars of WE 60 allow for a long-term aeration without hinderance and improve the microbiological conditions for the plants.

WE 60 UG has in addition diffusion slots in the bottom of the board. With an appropriate overfill it can be applied under accessible areas. On a green roof with integrated accessible areas, WE 60 and WE 60 UG can be combined perfectly.

Application

- Drainage and water storage board for intensive green roofs *1
- With infill as drainage board under flagging *2
- With an appropriate overfill also applicable as drainage under vehicle accessible areas*2
- Rain water accumulation possible*1
- Applicable as retention element for green roofs with rain water accumulation
- Also applicable for inverted roofs
- For green roofs with a pitch of $\geq 0^\circ$



Data Sheet

Subject	Unit	Tolerance	WE 60
Raw material	---	---	Recycling-Polystyrene (high impact)
Weight	gr/m ²	± 100	2200
Colour	---	---	black
Height	mm	± 5	60
Crush resistance unfilled (EN ISO 25619-2)	kN/m ²	± 20%	150
Crush resistance with infill on 2 mm compression (EN ISO 25619-2)	kN/m ²	± 10%	176
Crush resistance with infill on 20 % compression (EN ISO 25619-2)	kN/m ²	± 10%	1360
Filling volume	l/m ²	± 0.8	39.6
Water storage capacity *1 (without infill)	l/m ²	± 0.8	39.6
Drainage capacity on 20 kPa load (EN ISO 12958)			
on 1 % incline	l/m·s	± 10 %	1.91
on 2 % incline	l/m·s	± 10 %	2.19
Overlap	%	---	2
Storage	protected against UV radiation; has to be covered within 24 hours after installation		

*1 slotted on top (type WE 60) *2 slotted in the bottom (type WE 60 UG)

1213-CPR-6067

Lieferform

Subject	Unit	Tolerance	WE 60
Length	m	± 0.01	1.940
Width	m	± 0.01	0.940
m ² /board	m ²	± 0.03	1.820
Weight/board	kg	± 0.20	4.012

6 fürs GRÜN

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

Layer Composition



Height
32 cm



Weight
486 - 564 kg/m²*



Water Retention
165 - 177 l/m²*

* depending on substrate utilised



Our Green Roof System WE 60 - The Versatile Solution



- 1 Planting: Trees, bushes, grass, herbs, perennials
- 2 Growing medium: Intensive substrate Hydrotop-I, application height 25 cm
- 3 Filter layer: Quality fleece PP 200 g/m², GRK 3
- 4 Drainage and water storage board: WE 60
- 5 Protection layer: Geotextile Standard PES/PP 800 g/m²

Our WE 60 system makes it easy to realise intensive green roofs with trees, shrubs, perennials or grasses. Also in combination with temporary car accessible green areas such as parking places or emergency access roads you can let your imagination run wild. Thanks to the extremely high water storage capacity WE 60 cares for an optimal supply of the plants. Combined with the quick water-evacuation underneath of the boards you have free choice among all kinds of plantations. WE 60 – The Versatile Solution.

Water Storage Board WASA 25

The WASA 25 water storage board is made exclusively of natural materials. Due to its structure it is perfectly suitable for green roofs with small load capacity.

Application

- Water storage board and rooting space for extensive green roofs
- Extensive green roofs with total weight up to 50 kg/m²
- Extensive green roof with a pitch until 2°



Data Sheet

Subject	Unit	WASA 25
Raw material	---	Cellulose, plant starch, mineral aggregates
Height	mm	25
Weight	kg/m ²	2.5
Water storage capacity	l/m ²	12.0

Dimensions

Subject	Unit	WASA 25
Length	m	0.80
Width	m	0.60
m ² /board	m ²	0.48
Weight/board	kg	1.20

* all values are average results; technical changes remain reserving.

07/2024

6 fürs GRÜN

- Green Roofs
- Artificial Turf
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- Garden Lighting
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Layer Composition



Height
6 cm



Weight
42 kg/m²



Water Retention
17 l/m²

Our Green Roof System WASA 25 – The Natural Solution



- 1 Planting: Sedum blankets
- 2 Growing medium: WASA 25, about 2.5 cm high
- 3 Protection layer: Geotextile Standard PES/PP 1200 g/m²

With our WASA 25 system – The Natural Solution - you can create a lightweight green roof with a water saturated total weight of less than 50 kg/m². WASA 25 is made from renewable raw materials and is therefore particularly sustainable.

Water storage board LDW 35

The water storage board LDW 35 consists of compound cellular material. Due to its structure it is very well applicable for green roofs with a small load capacity.

Application

- Water storage board and rooting space for extensive green roofs
- Extensive green roofs with total weight up to 70 kg/m²
- Also applicable for inverted roofs
- For extensive green roofs with a pitch until 2°



Data Sheet

Subject	Unit	LDW 35
Raw material	---	compound cellular material VB 80
Height	mm	35
Net density	kg/m ³	80
Water storage capacity	l/m ²	17.0
Hardness (DIN EN ISO 845)	kPa 40%	13.0
Certification	---	awarded according to "Öko-Tex Standard 100" TEXTILES VERTRAUEN pollutant-proofed textiles

Dimensions

Subject	Unit	LDW 35
Length	m	1.00
Width	m	1.00
m ² / board	m ²	1.00

*all values are average results; technical changes remain reserving.

02/2024

6 fürs GRÜN

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Layer Composition



Height
7 cm



Weight
63 - 74 kg/m²*



Water Retention
29 - 34 l/m²*

* depending on substrate utilised

Our Green Roof System LDW 35 – The Light Solution



- 1 Planting: Sedum blankets
- 2 Growing medium: Extensive substrate Hydrotop-E light, application height 2 cm
- 3 Filter layer: Quality fleece PP 150 g/m², GRK 3
- 4 Growing medium / water storage: LDW 35

With our LDW 35 system - The Light Solution – you can realise a green roof with a water saturated total weight of less than 70 kg/m². This is important for subsequent applications where the statics are not designed for the load of a green roof. The LDW 35 system is suitable for roofs with a pitch up to 2°.

Drainage NE 10 V with Geotextile

The drainage NE 10 V is made of dimpled PE-HD membrane with a laminated filter layer on top. Due to a crush resistance of up to 420 kN/m² it is highly versatile for example as drainage under patios and pavements. With an appropriate overfill it is as well suitable as drainage under vehicle accessible areas. Depending on the set-up of the layers, an impact sound reduction of up to 33 dB can be achieved.

The drainage NE 10 V with filter layer is harmless to drinking water, chemically neutral, root resistant, rot-proof and resistant to mould and bacteria.

Application

- as drainage on roofs with a pitch
- as drainage under roof patios
- as drainage under walkable areas
- with appropriate overfill as drainage under vehicle accessible areas
- for roofs with a pitch of $\geq 0^\circ$



Data

Subject	Unit	NE 10 V
Raw material membrane	---	PE-HD
Raw material geotextile	---	PP
Weight membrane		600
Weight geotextile	g/m ²	136
Total weight		740
Colour membrane	---	black
Colour geotextile	---	silver grey
Height of dimples	mm	10
Quantity of dimples	pro m ²	3 360
Drainage capacity (according to EN ISO 12958, i=1) on 20 kPa load	l/ms	3.8
Opening size geotextile (according to EN ISO 11058)	10 ³ m/s	50
Crush resistance (according EN ISO 25619-2)	kN/m ²	420 (42 t/m ²)
Temperature resistance	°C	-40 up to + 80
Impact sound reduction	db	up to 33

Dimensions

Subject	Unit	NE 10 V
Length	m	12.5
Width	m	2
m ² / roll	m ²	25
Weight / roll	kg	18.5

* All values are average values. Technical changes remain reserving.

11/2024

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Layer Composition



Height
20 cm



Weight
356 kg/m²



Water Retention
—

suitable for walkable areas

Our Green Roof System NE 10 – The Walkable Solution



- 1 Top layer: Concrete paving stones 6 cm
- 2 Bedding: Chippings (0/4), application height 3 cm
- 3 Base layer: Crushed stones (0/32), application height 10 cm
- 4 Drainage: NE 10 V, drainage with geotextile
- 5 Separation, sliding and protection layer: TGL 550, GRK 5

The system NE 10 – for walkable areas on green roofs and for patios
NE 10 – The Walkable Solution – is excellent in use as drainage under patios and balconies. It is as well the ideal solution under all kind of walkable areas on green roofs and other pavements that require a drainage underneath.

Drainage NE 12 VF with Geotextile and Foil

The drainage NE 12 VF is made of dimpled PE-HD membrane with a laminated filter layer on top and a sliding foil underneath. Due to a crush resistance of up to 1160 kN/m² it is eminent suitable as drainage and protective layer under car and lorry accessible areas. Depending on the set-up of the layers, an impact sound reduction of up to 33 dB can be achieved.

The drainage NE 12 VF with filter layer and sliding foil is harmless to drinking water, chemically neutral, root resistant, rot-proof and resistant to mould and bacteria.



Application

- as drainage under vehicle accessible areas
- for roofs with a pitch of $\geq 0^\circ$

Data

Subject	Unit	NE 12 VF
Raw material membrane	---	PE-HD
Raw material geotextile	---	PP
Weight membrane	g/m ²	1000
Weight geotextile		136
Weight foil		100
Total weight		1240
Colour membrane	---	black
Colour geotextile	---	silver grey
Height of dimples	mm	10
Quantity of dimples	pro m ²	3368
Drainage capacity on 20 kPa load (according DIN EN ISO 12958, rigid/soft)	i = 1.00	3.48
	i = 0.01	0.33
	i = 0.02	0.45
	i = 0.05	0.71
Opening size geotextile (according to EN ISO 11058)	10 ³ m/s	50
Crush resistance (according EN ISO 25619-2)	kN/m ²	1160 (116 t/m ²)
Temperature resistance	°C	-40 up to + 80
Impact sound reduction	db	up to 33

Dimensions

Subject	Unit	NE 12 VF
Length	m	12.5
Width	m	2
m ² / roll	m ²	25
Weight / roll	kg	31

6 fürs GRÜN

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Layer Composition



Height
24 - 29 cm*



Weight
431 - 532 kg/m²*



Water Retention

*depending on utilisation

Our Green Roof System

NE 12 - The Car-Accessible Solution



- 1 Top layer: Concrete paving stones 8 - 10 cm
- 2 Bedding: Chippings (0/4), application height 3 cm
- 3 Base layer: Crushed stones (0/32), application height 12 - 15 cm
- 4 Drainage: NE 12 VF with geotextile and sliding foil
- 5 Separation, sliding and protection layer: TGL 550, GRK 5
- 6 Sliding layer: Construction foil PE-LD 0.2 mm

The system NE 12 – for car-accessible areas on subterranean garages and parking decks
NE 12 – The Car-Accessible Solution shows an excellent drainage performance and a high crush resistance. On basis of the values it is suitable for any application whether for parking decks on subterranean garages, access roads to neighbouring buildings or emergency access roads.

Drainage Board WE 25/15 UG for Car-Accessible Roofs

The drainage board WE 25/15 UG is made of high impact polystyrene. With an overfill WE 25/15 UG shows a crush resistance of 480 kN/m². Due to this fact WE 25/15 UG is also suitable for installation on car-accessible roofs.

The three-level drainage system with integrated branch drains cares for a high drainage capacity under the build-up.

Application

- With infill as drainage board under flagging
- With an appropriate overfill also applicable as drainage under vehicle-accessible areas
- Also applicable for inverted roofs
- Suitable for roofs with a pitch of $\geq 0^\circ$



Data Sheet

Subject	Unit	Tolerance	WE 25/15 UG
Raw material	---	---	Recycling-Polystyrene (high impact)
Weight	gr/m ²	± 100	1360
Colour	---	---	black
Height	mm	± 3	25
Crush resistance unfilled (EN ISO 25619-2)	kN/m ²	$\pm 20\%$	335
Crush resistance with infill on 2 mm compression (EN ISO 25619-2)	kN/m ²	$\pm 10\%$	397
Crush resistance overfilled with 20 mm of chippings (EN ISO 25619-2)	kN/m ²	$\pm 10\%$	480
Filling volume	l/m ²	± 0.8	13
Water storage capacity (without infill)	l/m ²	± 0.8	0
Drainage capacity on 20 kPa load (EN ISO 12958)			
on 1 % incline	l/m·s	$\pm 10\%$	0.35
on 2 % incline	l/m·s	$\pm 10\%$	0.42
Overlap	%	---	2
Storage	protected against UV radiation; has to be covered within 24 hours after installation		

1213-CPR-7716 CE

Subject	Unit	Tolerance	WE 25/15 UG
Length	m	± 0.01	1.995
Width	m	± 0.01	1.003
m ² /board	m ²	± 0.03	2.000
Weight/board	kg	± 0.2	2.720

* all values are average results; technical changes remain reserving.

05/2024

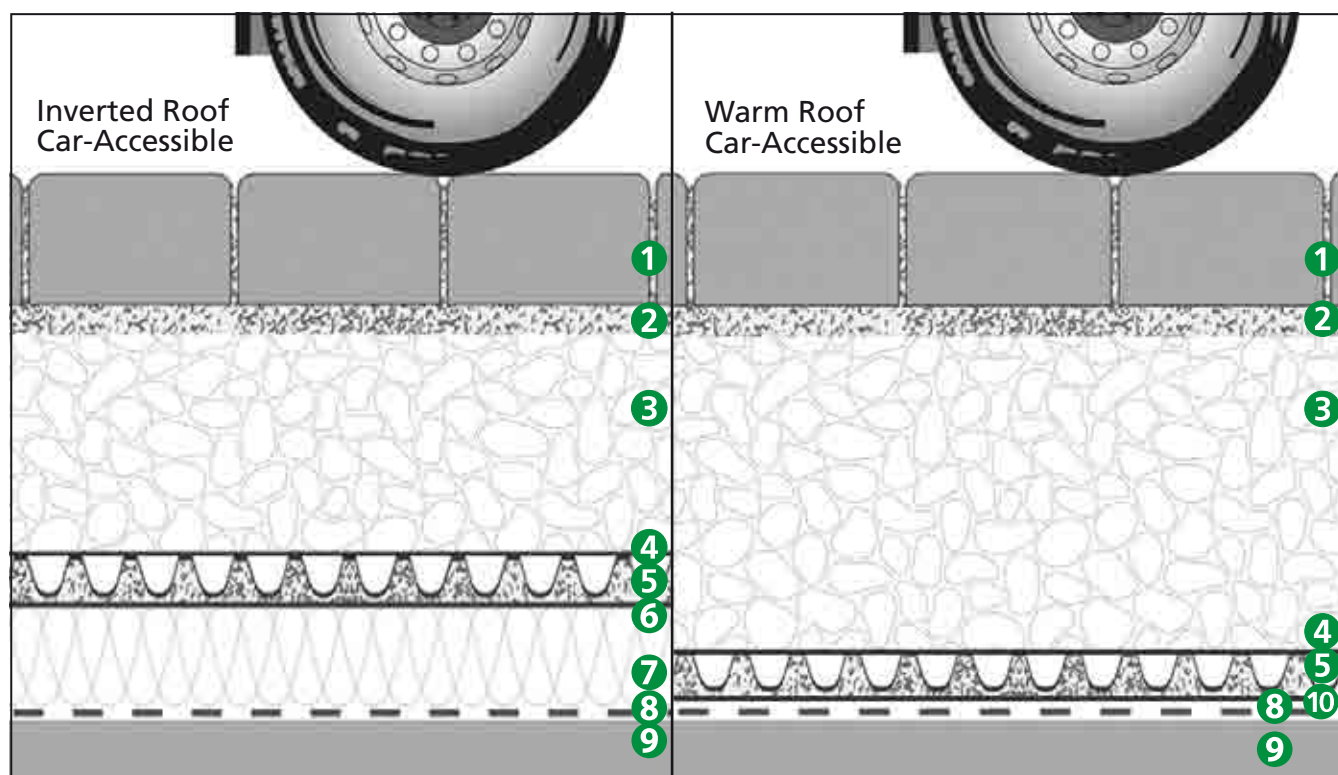
6 fürs GRÜN

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



Our Green Roof System

WE 25/15 UG – Drainage for Car-Accessible Roofs



- 1 Top layer: Concrete paving stones (at least 8 cm)
- 2 Bedding: Chippings (0/4), application height 3 cm
- 3 Base layer: Crushed stones (0/32), application height compacted 12 cm
- 4 Separation and filter layer: Quality fleece PP 150 g/m², GRK 3
- 5 Drainage: WE 25/15 UG, filled with chippings 2/8
- 6 Separation layer: Quality fleece PP 150 g/m², GRK 3
- 7 Insulation: Thermal insulation, pressure-resistant
- 8 Sliding layer: Construction foil PE-LD 0.2 mm (Inverted roof two layers, warm roof one layer)
- 9 Supporting structure including waterproofing
- 10 Separation, sliding and protection layer: TGL 550, GRK 5

**Recommendation of a system for car-accessible inverted and warm roofs
(SWL 30 = axle weight rating 10 to or vehicles with a total weight of 30 to)**

Retention-Elements RE 50B, 80B and 120B

The retention-elements RE 50B, 80B and 120B consist of a basic-element and a top-element. Both elements are placed on top of one another. The dimples of the boards interlock and care for stable connection.

In combination with a dam-up element the boards can be used for retention of precipitation under extensive green roofs.

Application

- Retention-elements for extensive green roofs
- For roofs with a pitch of $\geq 0^\circ$
- Not suitable for accessible areas
- Suitable for maintenance walk ways



Technical Data

Subject	Norm	Tolerance	Unit	RE 50B	RE 80B	RE 120B
Raw material	---	---	---	Recycling-Polystyrene (high impact)		
Colour	---	---	---	black		
Weight	---	± 0.1	kg/m ²	2.72	3.84	4.40
Height	---	± 2	mm	50	80	120
Pressure-resistance	EN ISO 25619	$\pm 20 \%$	kN/m ²	275	225	118
Retention-volume	---	---	l/m ²	46	76	116
Retention-volume	---	---	%	92	95	97
Storage	---	---	Protected against UV radiation, has to be covered within 24 hours after installation			
Installation	---	---	to be placed on top of one another, installation with butt-joints, blue control line always shows to the top			

Dimensions

Subject	Norm	Tolerance	Unit	RE 50B	RE 80B	RE 120B
Length	---	± 10	mm	2360	2360	2360
Width	---	± 10	mm	540	540	540
m ² / element	---	± 0.02	m ²	1.25	1.25	1.25
Weight / element	---	± 0.2	kg	3.40	4.80	5.50

* all values are average results; technical changes remain reserving.

*07/2024

6 fürs GRÜN

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



Layer Composition

System	Height	Weight	Water Retention
RE 50B	14 cm*	184 - 207 kg/m ² *	74 - 82 l/m ²
RE 80B	17 cm*	217 - 240 kg/m ² *	104 - 112 l/m ²
RE 120B	21 cm*	258 - 281 kg/m ² *	144 - 152 l/m ²

* depending on substrate utilised

Our Green Roof System RE 50B, 80B and 120B - The Blue Solution



- 1 Plants: Sedum, modest perennials
- 2 Growing medium: Extensive substrate Hydrotop-M, application height 8 cm
- 3 Separation layer: Quality fleece PP 150 g/m², GRK 3
- 4 Retention-element: RE 50B*/ RE 80B/ RE 120B* (*not shown)
- 5 Protection layer: Standard fleece PES/PP 800 g/m²

The systems RE 50B, RE 80B and RE 120B – The Blue Solution are in combination with a dam-up element suitable for a large rainwater retention volume under an extensive green roof. Especially in case of heavy rainfall the retention roof cares for an efficient relief of the public sewerage system.

Retention-Element RE 80

The retention-element RE 80 is made of recycling polypropylene. Combined with a dam-up element it can be used for the retention of precipitation on green roofs. Due to its high pressure-resistance of more than 1000 kN/m² RE 80 is also perfectly suitable for installation on subterranean garages and on car-accessible areas of green roofs.

Application

- Retention-element for green roofs
- For intensive green roofs with a pitch of 0°



Technical Data

Subject	Unit	RE 80
Raw material	---	recycling polypropylene
Height of base-element	mm	40
Height of top-element	mm	40
Colour	---	black
Pressure-resistance	kN/m ²	>1000
Retention-volume	l/m ²	Up to 74
Retention-volume	%	92

Dimensions

Subject	Unit	RE 80
Length	mm	800
Width	mm	400
Height (Base- and top-element)	mm	80
m ² / element	m ²	0.32
Weight / element (Base- and top-element)	kg	2.4

* all values are average results; technical changes remain reserving.

*07/2020

6 fürs GRÜN

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

Layer Composition



Height
29 cm



Weight
444 - 507 kg/m²*



Water Retention
174 - 184 l/m²*

* depending on substrate utilised

Our Green Roof System RE 80 – The Sustainable Solution



- 1 Plants: trees, bushes, perennials, grass
- 2 Growing medium: Intensive substrate Hydrotop-I, application height at least 20 cm
- 3 Filter layer: quality fleece PP 150 g/m², GRK 3
- 4 Water storage: retention element RE 80
- 5 Protection layer: standard fleece PP/PES 800 g/m²

The system RE 80 – The Sustainable Solution is in combination with a dam-up element suitable for a sustainable retention of excess water on roofs. In case of heavy rainfall the big storage volume of RE 80 cares for an efficient relief of the sewerage system. The retained water can be stored for a long supply of trees, bushes, perennials and grass on an intensive green roof.

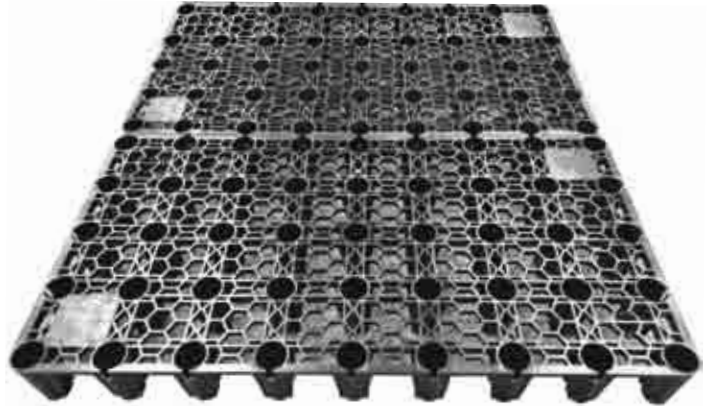
The high compression strength of RE 80 – The Sustainable Solution - makes it also applicable on walkable or car accessible roofs.

Retention-Element RE 85

The retention element RE 85 is made of polypropylene and can be used in combination with a retention valve for stormwater retention on green roofs. Due to its high load capacity of over 1000 kN/m², it is also well-suited for underground garages and trafficable areas of a green roof.

Main application areas:

- Retention element for green roofs
- Suitable for extensive/intensive greenings on roofs with $\geq 0^\circ$ inclination
- Under accessible areas
- Under trafficable areas



Technical data

Subject	Unit	RE 85	Tolerance
Raw material	---	Polypropylen	
Color	---	black	
General wall thickness	mm	2,5	+ 0 / -0,5
Compressive strength at 11% compression (EN ISO 25619-2):	kN/m ²	1137	$\pm 2\%$
Water retention volume	l/m ²	78,3	
Retention volume	%	92	
Accessories	3 plastic connection elements per unit		

Lieferform

Subject	Unit	RE 85	Tolerance
Length	mm	760	± 4
Width	mm	400	± 3
Height	mm	85	$\pm 0,75$
m ² per element	m ²	0,304	
weight / m ²	kg/m ²	5,98	$\pm 0,6$
weight / element	kg	1,8	$\pm 0,2$

All data are based on current production standards and are subject to customary tolerances. Technical modifications are reserved.

*01/2026

6 fürs GRÜN

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

Our Green Roof System RE 85 - The Stable Solution



- 1
- 2
- 3
- 4
- 5

RE 85 - The Stable Solution - intensive

RE 85 - The Stable Solution - extensive

Overall Structure

		
Height 29 cm	Weight 444-506 kg/m ² *	Water Retention 178-188 l/m ² *

* depending on substrate utilised

Overall Structure

		
Height 15 cm	Weight 175-207 kg/m ² *	Water Retention 93-108 l/m ² *

* depending on substrate utilised

- | | |
|---|--|
| <ol style="list-style-type: none"> 1 Plants: trees, shrubs, perennials, grasses, sedum 2 Vegetation Layer: intensive substrate Hydrotop-I, Installation height: at least 20 cm 3 Capillary and filter fleece PET/PA 150 g/m², GRK 3 4 Water retention: retention element RE 85 5 Protection layer: standard fleece PP / PES 500 g/m² | <ol style="list-style-type: none"> 1 Plants: Sedum cuttings in different species 2 Vegetation Layer: Extensive substrate Hydrotop-E, Installation height: at least 6 cm 3 Capillary and filter fleece PET/PA 150 g/m², GRK 3 4 Water retention: retention element RE 85 5 Protection layer: standard fleece PP / PES 500 g/m² |
|---|--|

Retention-Element RE 150

The retention-element RE 150 is made of recycling polypropylene. Combined with a dam-up element it can be used for retention of precipitation on green roofs. Due to its high pressure-resistance of more than 1000 kN/m² RE 150 is also perfectly suitable for installation on subterranean garages and on car-accessible areas of green roofs.

Application

- Retention-element for green roofs
- for intensive green roofs with a pitch 0°



Technical Data

Subject	Unit	RE 150
Raw material	---	recycling polypropylene
Height of base-element	mm	110
Height of top-element	mm	40
Colour	---	black
Pressure-resistance	kN/m ²	>1000
Retention-volume	l/m ²	Up to 138
Retention-volume	%	92

Dimensions

Subject	Unit	RE 150
Length	mm	800
Width	mm	400
Height (Base and top-element)	mm	150
m ² / element	m ²	0.32
Weight / element (Base- and top-element)	kg	3.90

* all values are average results; technical changes remain reserving.

*01/2022

6 fürs GRÜN

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

Layer Composition



Height
35 - 44 cm*



Weight
506 - 681 kg/m²*



Water Retention
138 l/m²

*depending on utilisation

Our Green Roof System RE 150 – The Strong Solution



- 1 Top layer: concrete paving stones, thickness 8 to 10 cm
- 2 Bedding: chippings 0/5, application height 3 to 5 cm
- 3 Base layer: crushed stones 0/32 or 0/45, application height 10 to 15 cm
- 4 Filter layer: quality fleece PP 350 g/m², GRK 5
- 5 Water storage: retention-element RE 150
- 6 Protection, separation and sliding layer: TGL 550, GRK 5
- 7 Sliding layer: construction foil PE-LD 0.2 mm

The system RE 150 – The Strong Solution is in combination with a dam-up element suitable for a sustainable retention of excess water on roofs. The big storage volume of RE 150 cares for an efficient relief of the sewerage system.

No matter if RE 150 – The Strong Solution is applied under a green roof or under accessible surfaces. RE 150 is a strong system – it bears high load-capacities, stores big quantities of water and relieves effectively the public sewerage system.

Keep it simple

The "Keep it Simple" system consists of a fully vegetated mat pre-cultivated with Sedum moss on an indestructible, highly tear-resistant claw fabric and a protective fleece made of PP/PES with a surface weight of 1,200 g/m² and up to 10 l/m² water storage capacity.

Main application areas:

- Extensive green roof with limited load reserve. Starting from 41 kg/m² saturated weight.
- Suitable for inverted roofs.
- Extensive green roofs on roofs with a slope of up to 2 degrees.
- Under solar substructures without requirements for increased load for ballast.

Technical data of the vegetation mat:

Subject	Unit	vegetation mat Sedum-Moos Typ KG
Raw material carrier material		PA claw fabric with PES fleece
Substrate		Special cultivation substrate in accordance with FLL guidelines
Weight in saturated state	kg/m ²	30
Weight in dry state	kg/m ²	18
Mat thickness	mm	25
Tensile strength (carrier)	kN/m	7.0
Water storage	l/m ²	10.5
Fire behaviour		Meets DIN 4102 Part 4

Technical data of the standard protective fleece (FLL+ 1200):

Subject	EN ISO	Unit	Tolerance	FLL+ 1200
Raw material	---	---	---	PES/PP
Mass per unit area	9864	g/m ²	+/- 10 %	1200
Thickness at 2 kPa load at 2 kPa load	9683-1	mm	+/- 20 %	7,00
Puncture resistance:	12236	N	+/- 10 %	4.400
Classification according FGSV 1994	---	---	---	5
Highest tensile strength longitudinal Highest tensile strength transverse	10319	kN/m kN/m	+/- 13 % +/- 13 %	20,00 28,00
Elongation longitudinal Elongation transverse	10319	% %	+/- 10 % +/- 10 %	70 60
Water storage volume	---	l/m ²	ca.	10,0
Weather resistance	12224	%	---	< 60

Dimensions

Subject	Unit	FLL+ 1200	vegetation mat Sedum-Moos Typ KG
Length	m	15	PA claw fabric with PES fleece
Width	m	2	Special cultivation substrate in accordance with FLL guidelines
Area per roll	m ²	30	Approx. 28 mm thickness
Weight per roll	kg	36	Meets DIN 4102 Part 4

6 fürs GRÜN

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

Layer Composition



Height
29 cm



Weight
41 kg/m^{2*}



Water Retention
20 l/m^{2*}

Green roof without substrate Keep it simple



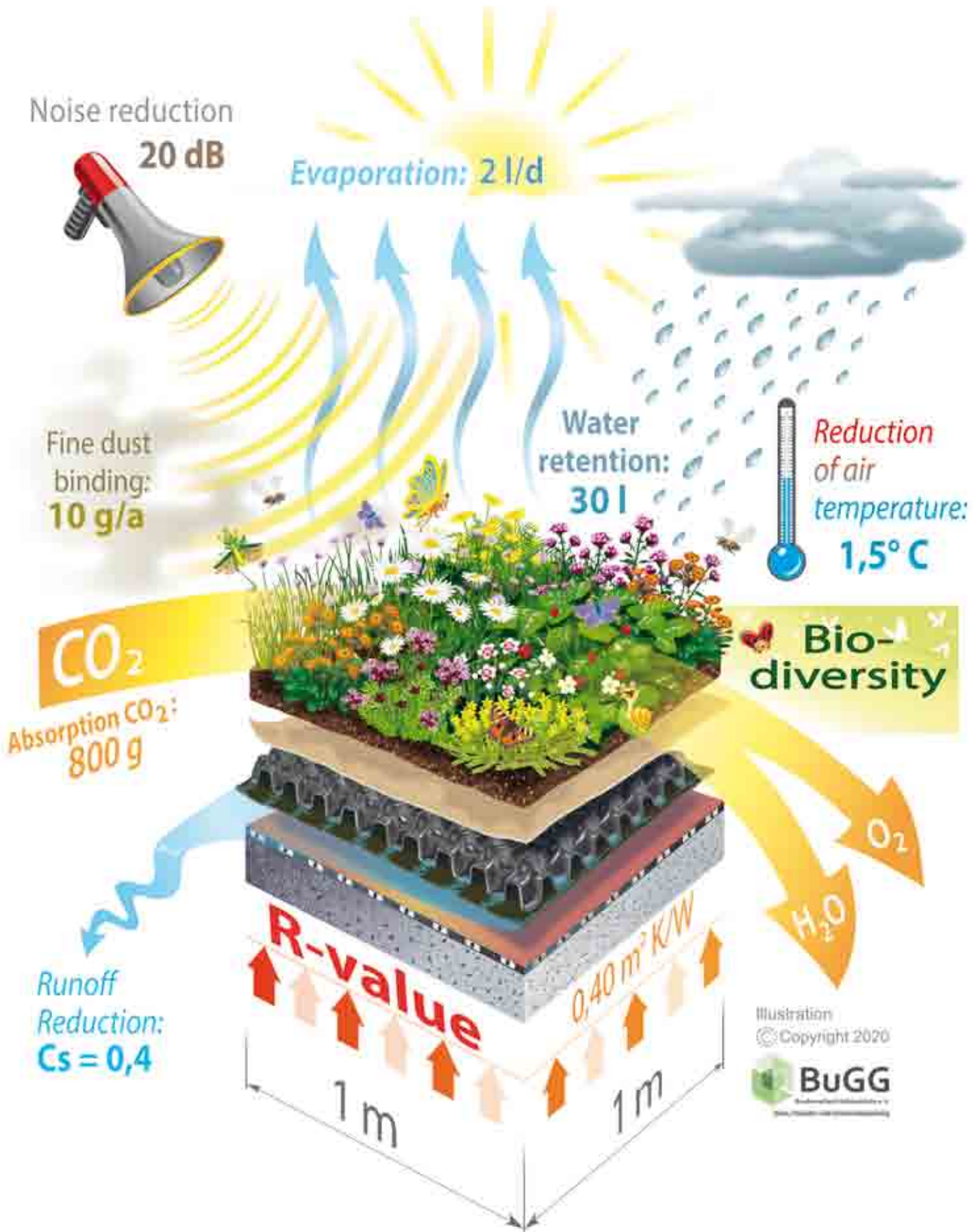
- 1 Planting: Vegetation mat with Sedum on high-tensile claw fabric
- 2 Protection/water storage layer: Standard fleece PES/PP 1200 g/m²

The "Keep it simple" green roof system consists of a pre-cultivated, fully vegetated mat with Sedum and moss on an indestructible carrier. This can be installed directly on the roof without an additional substrate layer. The standard fleece 1,200 g/m² serves as a protective layer for the roof membrane and simultaneously as a water reservoir for the plants, with a water storage volume of up to 10 l/m².

The "Keep it simple" system is used for extensive green roofs on various substructures. It is lightweight and easy to install without expensive tools. During installation, the pre-vegetated mats offer high installation efficiency and provide a cost-effective greening method with minimal labor. The system is especially suitable for solar green roofs, as the thin-layer construction results in less unwanted growth over the entire lifespan.

EXTENSIVE ROOF GREENING

PERFORMANCE OF ONE SQUARE-METRE



6 fürs GRÜN

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

Since more than 30 years
successful in green roofs



Print: 01/2026