

# GREEN

## SOLUTIONS FOR LANDSCAPE MANAGEMENT AND NURSERIES



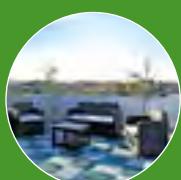
### GRASS PAVERS



### GREEN ROOFS



### GREEN FACADES



### PERMEABLE PAVERS



### GREEN URBAN AREAS



### NURSERY PLANTERS

- ✓ RESISTANCE
- ✓ DURABILITY
- ✓ SUSTAINABILITY

# INDEX

## SOLUTIONS FOR LANDSCAPE MANAGEMENT AND NURSERIES

### GRID PAVERS



RUNFLOOR

pag. 8 1



GEOGRAVEL

pag. 40 6



GEOFLOL

pag. 16 2



GEOROAD

pag. 46 7



GEOGREEN

pag. 24 3



GEOCROSS

pag. 50 8



SALVAVERDE

pag. 28 4



GEOCELL

pag. 58 9



GEOGRASS

pag. 34 5

## GREEN ROOFS AND FACADES



DRAINROOF

pag. 74 10



COMPLETA

pag. 92 11



WALL-Y

pag. 104 12

## TREE PLANTERS



ELEVATOR ROOT

pag. 108 13



ROOTBOX

pag. 110 14

## OUTDOOR PAVERS



PLASTONELLA

pag. 114 15

## CONTAINERS



WATER BUTTS

pag. 118 16



TUBS

pag. 122 17



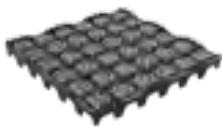
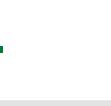
DEMETRA POTS

pag. 124 18

# PRODUCT SELECTOR

## GRIDS - Permeable paving grids for grass or gravel

MATERIAL	SOLUTIONS	FREQUENCY OF TRANSIT	TYPE VEHICLES	PAG.		
<b>RUNFLOOR</b>		Gralene LD (Recycled Polyethylene Compound)	Lanes for fire fighting vehicles, high frequency parking lots for buses and cars, lay-by for trucks, heliports.			<b>8</b>
<b>GEOFLOOR</b>		Gralene LD (Recycled Polyethylene Compound)	Lanes for fire fighting vehicles, high frequency parking lots for buses and cars, lay-by for trucks, heliports.			<b>16</b>
<b>GEOGREEN</b>		Gralene HD (Recycled Polyethylene Compound)	Driveways, driveway lawns, pedestrian walkways.			<b>24</b>
<b>SALVAKERDE</b>		Gralene HD (Recycled Polyethylene Compound)	Private driveways, car and camper parking, lay-bys, pedestrian walkways.			<b>28</b>
<b>GEOGRASS</b>		Gralene HD (Recycled Polyethylene Compound)	Private driveways, car and camper parking, lay-bys, pedestrian walkways.			<b>34</b>
<b>GEOGRAVEL</b>		Gralene HDVN (Polietilene Compound)	Private driveways, car and camper parking, lay-bys, pedestrian walkways.			<b>40</b>
<b>GEOROAD</b>		Gralene LD (Recycled Polyethylene Compound)	Roadside, bicycle paths, access areas.			<b>46</b>
<b>GEOCROSS</b>		Gralene HD (Recycled Polyethylene Compound)	Car Parks, access roads, soft and unstable ground, runways, landing strips and taxiways for airports.			<b>50</b>
<b>URBAN GREEN - Stormwater drainage</b>						
<b>GEOCELL</b>		Graplene (Recycled Polypropylene Compound)	Drainage of permeable pavers, horizontal drainage, geotechnical works, green roof.			<b>58</b>

URBAN GREEN - Green roof and vertical garden									
	MATERIAL	SOLUTIONS		FREQUENCY OF TRANSIT		TYPE VEHICLES		PAG.	
<b>DRAINROOF</b>									
	Graplene (Recycled Polypropylene Compound)	Flowerbeds, roof gardens, patio canopies						<b>74</b>	
<b>COMPLETA</b>									
	Graplene (Recycled Polypropylene Compound)	Terraces, roof gardens.						<b>92</b>	
<b>WALL-Y</b>									
	Gralene HDVN (Polietilene Compound)	Green wall.						<b>104</b>	
URBAN GREEN - Tree planters									
<b>ELEVATOR ROOT</b>									
	<b>NEW</b> Graplene (Recycled Polypropylene Compound)	Reinforced concrete system roots management, plazas and parking lots, tree-lined avenues.						<b>108</b>	
<b>ROOTBOX</b>									
	<b>NEW</b> Graplene (Recycled Polypropylene Compound)	Roots management, tree-lined avenues, plazas and parking lots, dry installation						<b>110</b>	
HOME & LEISURE - Outdoor pavers									
<b>PLASTONELLA</b>									
	Graplene (Recycled Polypropylene Compound)	Temporary flooring terraces, porches, camping, swimming pool edges.						<b>114</b>	
NURSERY PLANTERS									
<b>WATER BUTTS</b>									
	Gralene / Graplene	Water butts for stormwater collection						<b>118</b>	
<b>TUBS</b>									
	Gralene (Recycled Polyethylene Compound)	Gardening pots for trees						<b>122</b>	
<b>DEMETRA</b>									
	Gralene HD (Recycled Polyethylene Compound)	Gardening pots						<b>124</b>	

**KEY:**

FREQUENCY OF TRANSIT	PEDESTRIAN	WHEELCHAIRS	GOLFCAR	CAR	PICK UP	VAN	EMERGENCY VEHICLES	TRUCK	ULTRALIGHT AIRCRAFTS
									

# PERMEABLE PAVERS BENEFITS



Geoplast provides countless solutions for turf protection, grass or gravel driveways, soil reinforcement and landscaping and amenity areas.

Geoplast paving systems, as an alternative to concrete surfaces, are able to provide an immediate and sustainable solution capable of adapting to any type of soil and any climatic condition.



## VERSATILE

Each Geoplast grid is able to meet different construction needs. It can be used to create access roads, parking lots, driveways, paving for the reinforcement of soil, construction site roads or runways for ultralight take-offs.

All areas subject to environmental constraints can become paved and vehicular areas where the grid becomes invisible after greening.



## INNOVATIVE

Geoplast flooring is produced with recycled plastic.

They have no impact on our ecosystem and at the end of their life cycle follow the circular economy model.

The plastic is then recycled and reprocessed to create new finished products.



## RESISTANT

Polyethylene is a very flexible and resistant to loads (static and dynamic), compressions, torsions and abrasion.

Particular additives ensure excellent stability of the products to temperature fluctuations and atmospheric agents.

# PERMEABLE PAVERS BENEFITS



We are committed to the sustainable management of stormwater by contributing directly to the preservation of the territory with the twofold objective of relieving the pressure of the sewer system and increasing the permeable surfaces in our urban centers, always favoring optimal drainage.



## CONVENIENT

Low weight, modularity and easy of installation thanks to the quick and intuitive locking system. These three features make all Geoplast grids easy and quick to install even without the aid of equipments.



## DRENING

Each Geoplast grids always guarantees an excellent drainage capacity in the driveway area, always guaranteeing perfectly permeable surfaces. In fact, they are installed to improve urban resilience in all territories subject to frequent and heavy rainfall.



## FLEXIBLE

The grids hooking system is designed to be installed in any climatic season and adapts over the years to the shape of the ground.

# RUNFLOOR



**HIGH STRENGTH GRID  
FOR DRIVEWAYS  
AND PERMEABLE AREAS**



# THE SOLUTION

Runfloor is the solution for the realization of high performance green and gravel draining parking lots. Thanks to the reinforced structure, Runfloor has a high resistance to the typical stresses of vehicles movement, such as braking and steering, even in case of heavy vehicles.

The particular design of the cells and the thickness of the ribs grant a high load capacity compared to traditional systems.

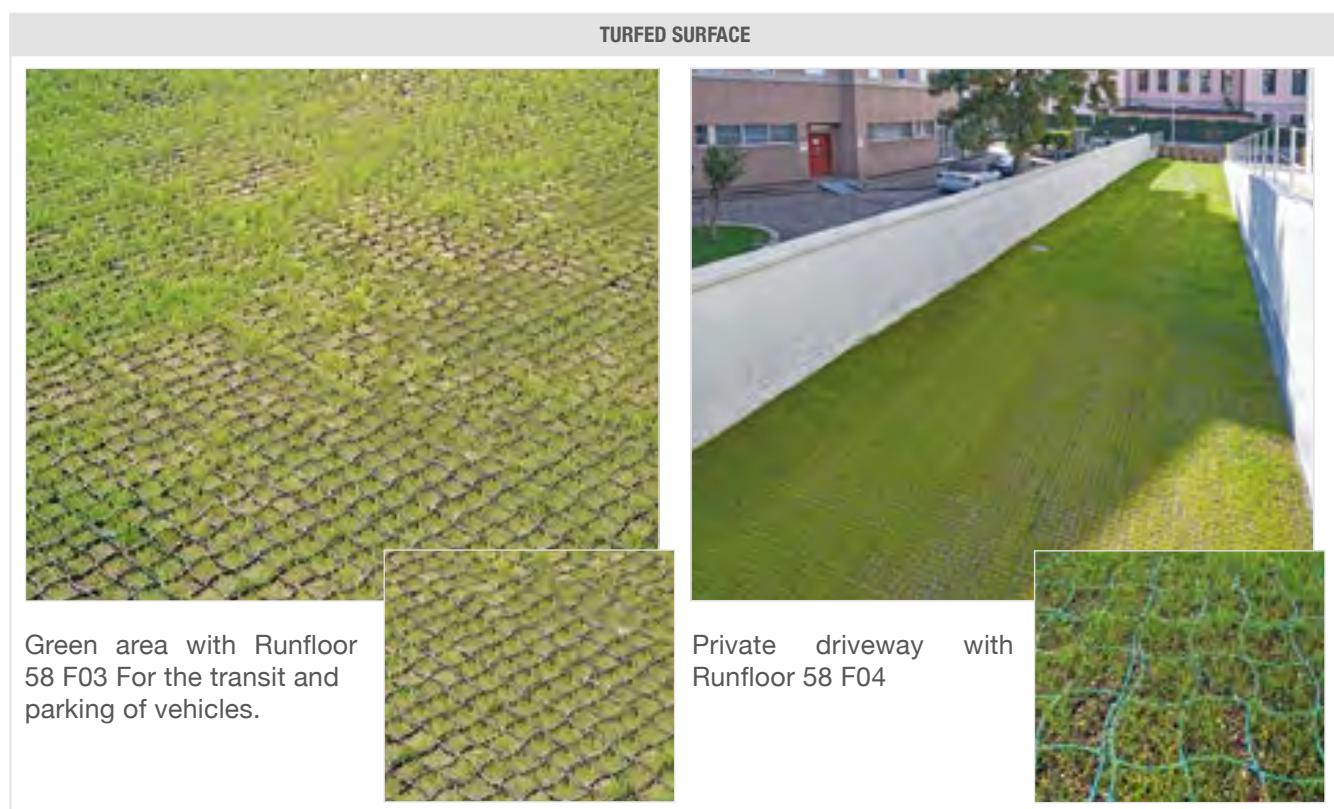
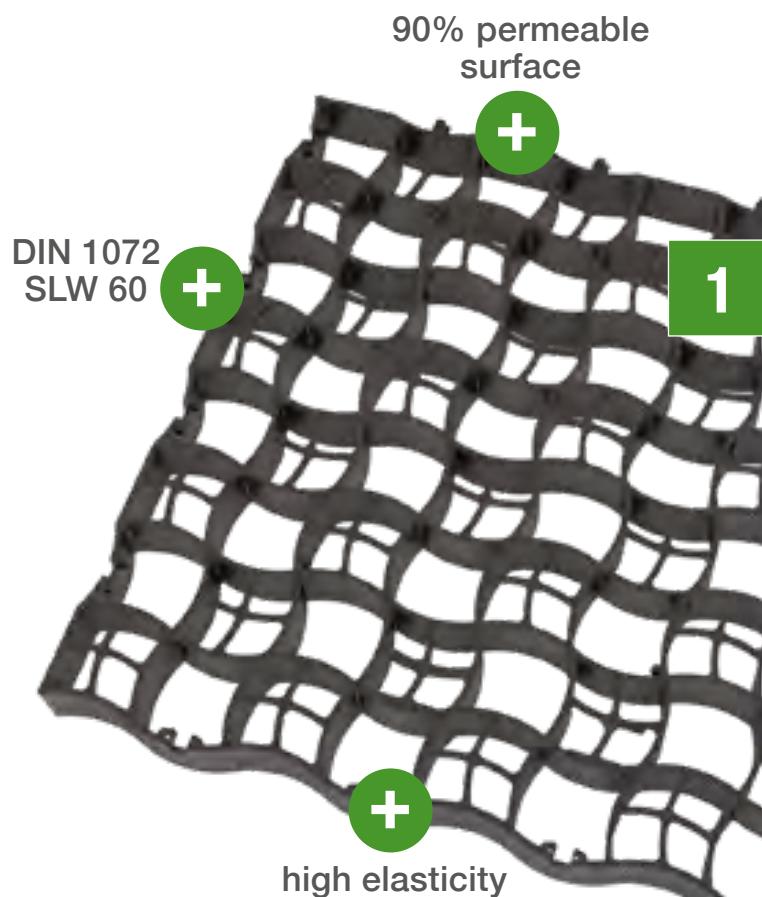
The grids are made of regenerated plastic material (Gralene LD Black) and, thanks to the flexibility of the material, provide excellent performance even with low temperatures.

## PUBLIC PARKING LOTS

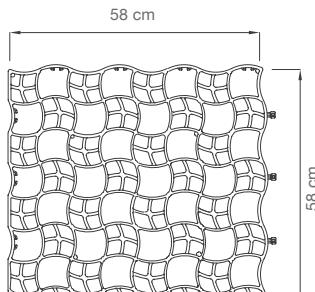
## HIGH FREQUENCY AREAS

## HEAVY TRUCKS STOP AREAS

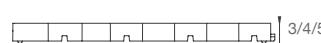
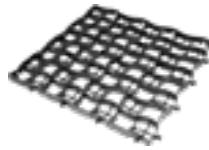
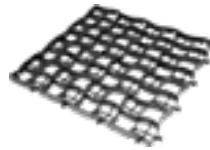
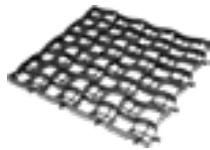
## BOATS ACCESS RAMPS



# TECHNICAL DATA



## RUNFLOOR 58

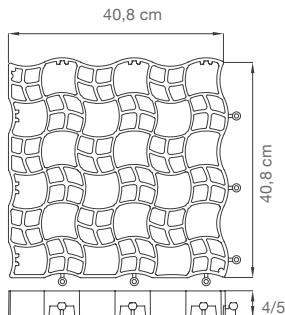


### RUNFLOOR 58-F03

### RUNFLOOR 58-F04

### RUNFLOOR 58-F05

Dimensions (cm)	58 x 58 x H3	58 x 58 x H4	58 x 58 x H5
Material	Gralene LD (Recycled Polyethylene Compound)	Gralene LD (Recycled Polyethylene Compound)	Gralene LD (Recycled Polyethylene Compound)
Rib thickness (mm)	4	4	4
Load capacity (t/m <sup>2</sup> )	400	400	500
Weight per piece (kg)	1,29	1,67	1,92
Packaging size (cm)	120 x 120 x H240	120 x 120 x H242	120 x 120 x H240
N° of pieces	300	228	180
m <sup>2</sup> per pallet	100	76	60
Colour	Black - Green	Black - Green	Black - Green
Permeability	89%	89%	89%



## RUNFLOOR 40



### RUNFLOOR 40-H04

### RUNFLOOR 40-H05

### RUNFLOOR 40-S05

Dimensions (cm)	40,8 x 40,8	40,8 x 40,8	40,8 x 40,8
Material	Gralene LD (Recycled Polyethylene Compound)	Gralene LD (Recycled Polyethylene Compound)	Gralene LD (Recycled Polyethylene Compound)
Rib thickness (mm)	4	4	5
Load capacity (t/m <sup>2</sup> )	400	500	600
Weight per piece (kg)	0.76	0.90	1.19
Packaging size (cm)	85 x 125 x 220	85 x 125 x 235	85 x 125 x 235
N° of pieces	300	270	270
m <sup>2</sup> per pallet	50	45	45
Colour	Black	Black	Black
Permeability	89%	89%	89%

## CAP



### MATERIAL

Graplene  
(Polipropilene Compound)

### COLOR

White   
Yellow

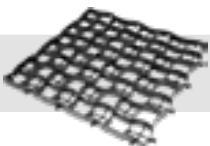
The cap allows you to mark parking areas, any reserved areas, driveways, etc.. It has an anti-slip surface and a pin for anchoring in the ground.

# RANGE



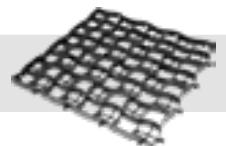
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## F03 > FLEXIBLE



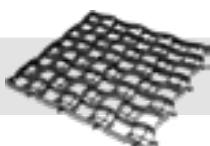
With 3 cm high cells and reduced thickness, Runfloor F03 is the convenient choice that maintains unchanged the technical performance.

## F04 > STANDARD



With a height of 4 cm, Runfloor F04 meet the dimensional requirements of traditional driveway grids, but guarantees greater solidity and strength, characteristics required by all types of parking.

## F05 > UNIVERSAL



Runfloor F05 is the perfect result between performance and quality. The grid that responds positively to the needs of frequent carriageway, guaranteeing a perfect and safe performance.

## S05 > STRONG



Compact and strong, Runfloor S05 is characterized by the thickening of the internal ribs between the cells. Ideal in areas of heavy traffic especially public parking and transit areas.

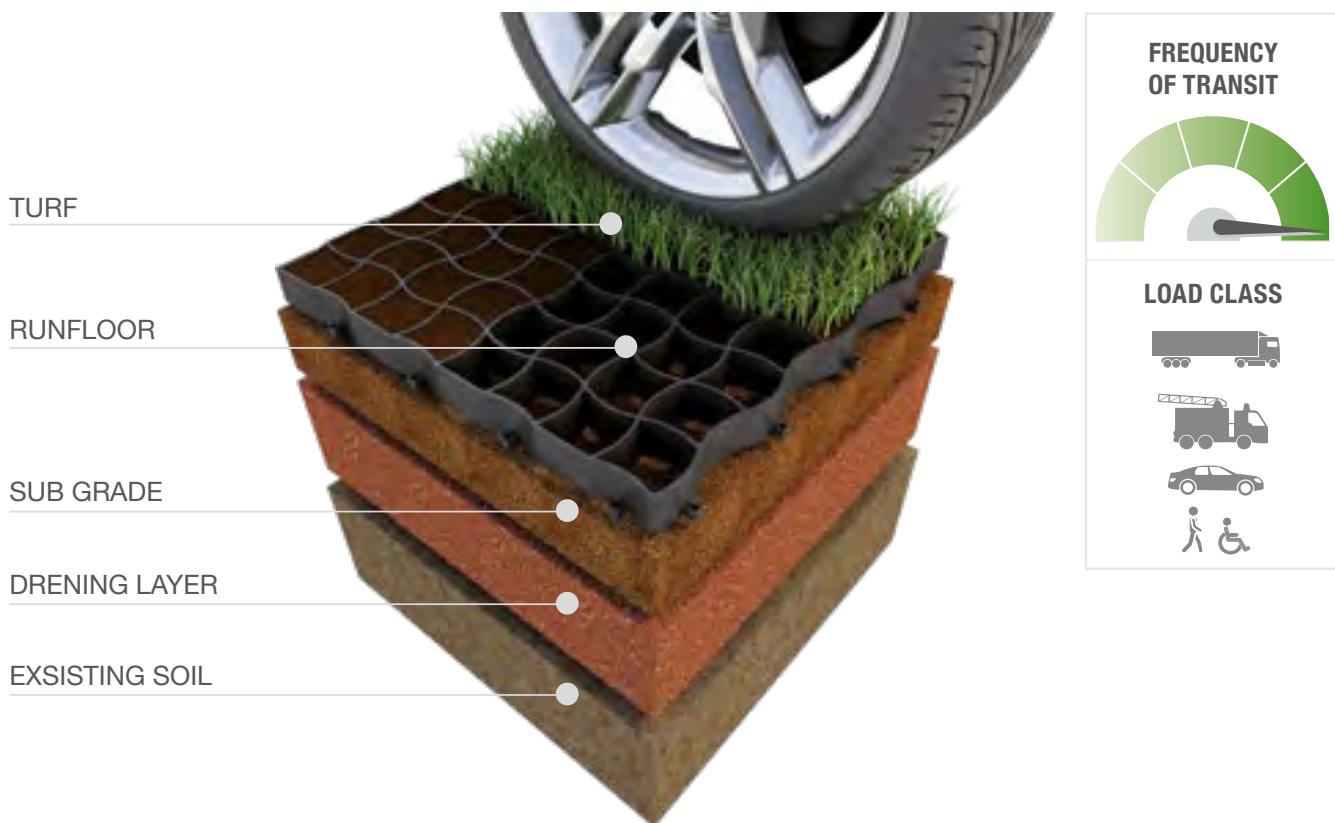
## INNOVATIVE LOCKING SYSTEM

The innovative hooking (male-female) simplifies the installation and guarantees a perfect coupling between the grids. The typical "Click" indicates that the joint has been made correctly.

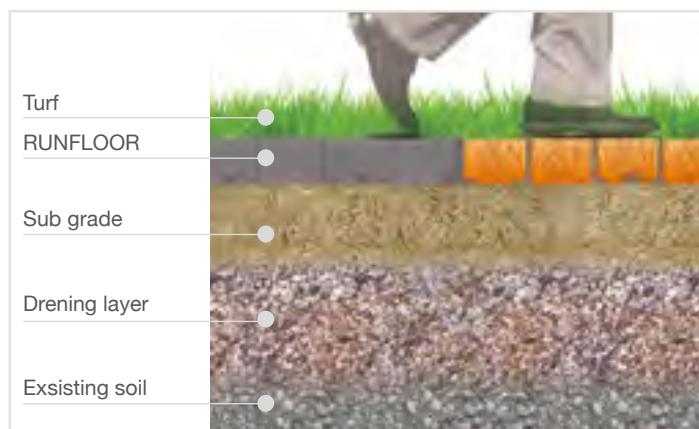


**ESTIMATED  
INSTALLATION TIME  
100M<sup>2</sup>/H/MAN**

# RUNFLOOR STRATIGRAPHY

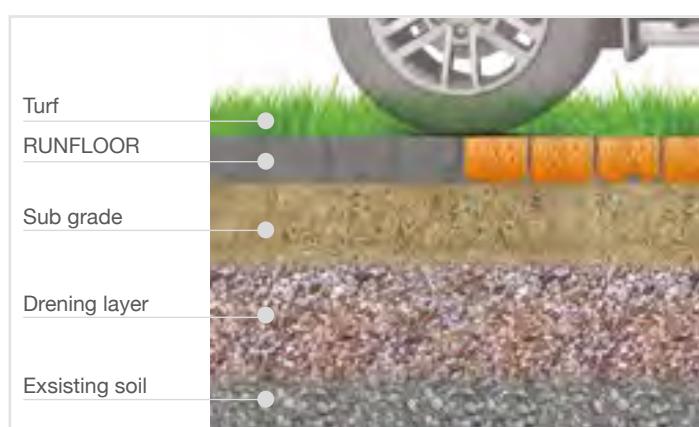


## INSTALLATION REQUIREMENTS



### WALKWAYS, BIKE LANES, LANES FOR THE DISABLED

- 10-15 cm of drening layer made of volcanic stone (size 5-20 mm)
- 20 cm of bedding layer made of volcanic sands (size 0-5mm)
- Runfloor
- Fill the grids with volcanic sands
- Seeding



### CARS

- 25-35 cm of drening layer made of volcanic stone (size 5-20mm)
- 20cm of bedding layer made of volcanic sands (size 0-5mm)

### HEAVY GOODS VEHICLES

- 35-45 cm of drening layer made of volcanic stone (size 5-20 mm)
- 20 cm of bedding layer made of volcanic sands (size 0-5 mm)

# INSTALLATION



## ① DRENING LAYER

Draining layer made of volcanic stone (size 5-20mm) with high water detention capacity and crushing resistance of 35 N/mm<sup>2</sup> (UNI 754917). The thickness of this layer can change from 10-15cm for pedestrian loads to 35-40 cm for heavy goods vehicles.



## ③ RUNFLOOR

The laying of Runfloor guarantees the drainage of the rainwater and the protection of the grass from crushing of the root system caused by vehicular transit.



## ⑤ SEEDING

Finishing and seeding. For a good result, before transiting over the area, wait for 2-3 mowings, so the root system is complete developed.



## ② SUB GRADE

Bedding layer 20 cm thickness made of mixed volcanic sand, soil and organic fertilizers (size 0-5 mm). It will have to be well compacted to get a leveled surface.



## ④ FILLING WITH SAND

Fill the grids with volcanic sand enriched with soil and organic fertilizers (size 0-5 mm). Alternatively fill with mixture of silica sand and soil, enriched with peat and humus.



## ⑥ MARKER CAPS

Marker caps for the delimitation of parking lots, reserved areas, pedestrian walkways, etc.. For a good signaling of parking spaces we recommend 4 caps per linear meter.

# PUBLIC AND PRIVATE PARKING LOTS

Runfloor is suitable for the realization of any driveway area. The low density polyethylene, grant high flexibility, which makes the grid resistant even when exposed to the sun avoiding the phenomena of crystallization typical of elements made with other polymers.

For this reason Runfloor is used to create public parking lots, areas suitable for heavy vehicles and for all surfaces where constant maintenance is not required. surfaces where constant maintenance is not required, always guaranteeing the drainage of the surfaces.



# BOATS RAMPS

Thanks to the elasticity of the low density polyethylene, Runfloor ensures maximum resistance to the passage of heavy vehicles, such as cars, trucks and lorries. Installed on a draining base with sand or gravel filling, allows to create consolidated and comfortable surfaces with high carriageability.

Thanks to the UV resistant treatment, Runfloor guarantees maximum durability.



# CAMPING AREA

Runfloor is ideal for creating draining green surfaces with passage and parking of heavy vehicles. The material and the structure of Runfloor guarantee maximum load capacity and resistance to the typical stresses of vehicles, such as braking and steering, even in areas characterized by low temperatures, without incurring the phenomena of crystallization typical of the traditional grids.

Once the turf has grown, the surface offers the natural effect of a simple lawn.



# EQUESTRIAN SURFACES

The thickness of the ribs, the size of the cells and the elasticity of the material make Runfloor the optimal solution for the creation of equestrian floors dedicated to training and competitions, for paddocks or rides. Runfloor contributes to the protection of tendons and joints of the animal and the high drainage capacity avoids the formation of mud keeping the surface always dry.

Realizing a layer of separation from the draining bottom, Runfloor avoids the remixing of the material, allowing over time savings in terms of both in terms of material and manpower.



# GEOFLOL



## GRID FOR THE PROTECTION OF EXISTING LAWNS



# THE SOLUTION

Geoflor is the grid for the realization of driveway lawns adaptable to any type of situation.

Thanks to the large cells, which characterize the geometry of the grid, and the flexible and elastic material, Geoflor can be installed directly on the existing lawn.

It guarantees immediate protection to the root system, allowing immediate driveability.

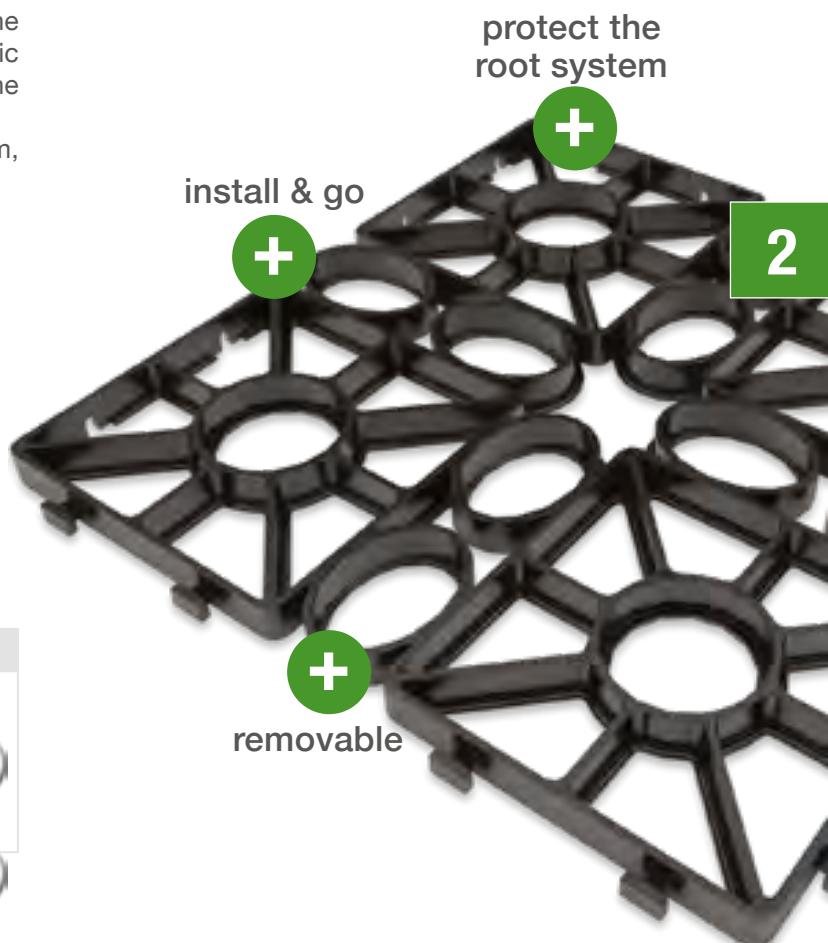
## EXISTING LAWNS

## SOWN TURFS

## LAWN ROLLS

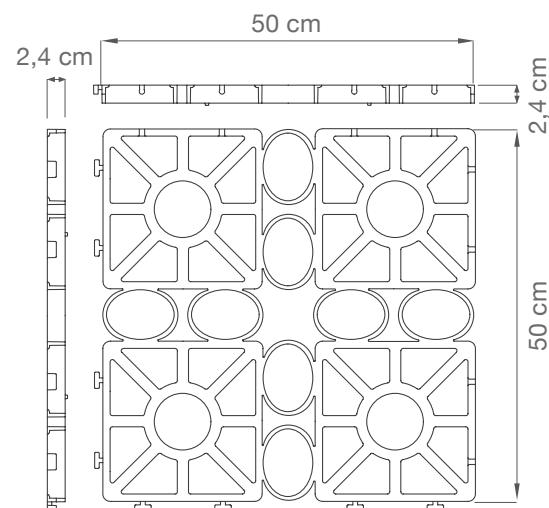
## TEMPORARY PROTECTION

The caps allow to mark the parking areas and any reserved areas. It has a anti-slip surface and a peg for anchoring to the ground.

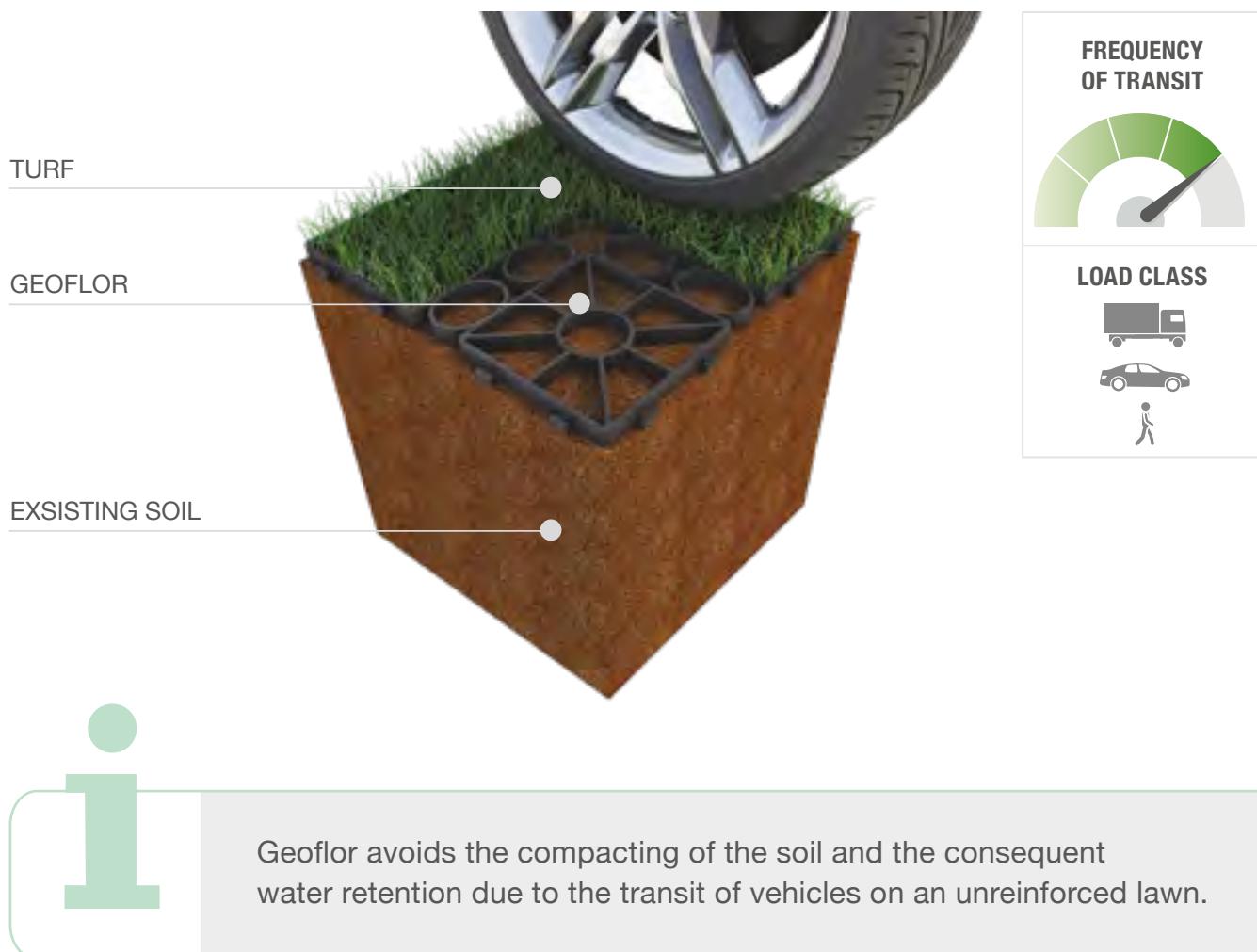


## TECHNICAL DATA

Dimensions (cm)	50 x 50 x H2,4
Material	Gralene LD (Recycled Polyethylene Compound)
Rib thickness (mm)	5
Load capacity (t/m <sup>2</sup> )	100
Weight per piece (kg)	1,01
Packaging size (cm)	100 x 112 x H230
N° of pieces	400
m <sup>2</sup> per pallet	100
Colour	Black
Permeability	95%

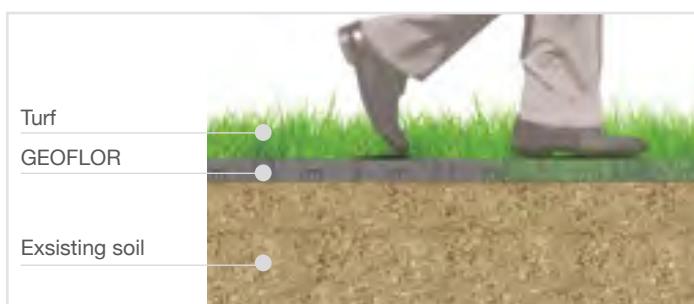


# EXISTING LAWN STRATIGRAPHY



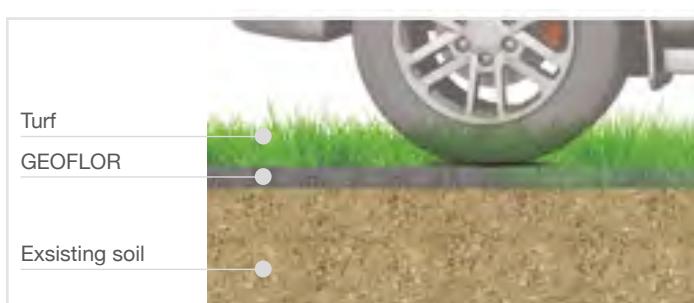
Geoflor avoids the compacting of the soil and the consequent water retention due to the transit of vehicles on an unreinforced lawn.

## INSTALLATION REQUIREMENTS



### WALKWAYS

- Laying of Geoflor on existing lawn.



### CARS

- Laying of Geoflor on existing lawn.

# INSTALLATION



## ① EXISTING LAWN



2

## ③ GEOFLOOR

Pre - assemble the grids and install on the turf surface.



## ③ STABILIZATION

Light compaction if on rolled lawn; otherwise not necessary



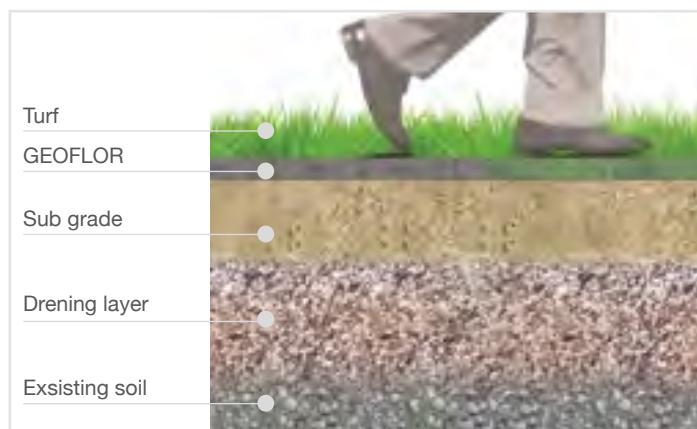
## ④ FINAL RESULT

Making 2/3 cuts in 15 to 20 days, until partial incorporation of Geoflor in the subsoil.

# NEW LAWN STRATIGRAPHY

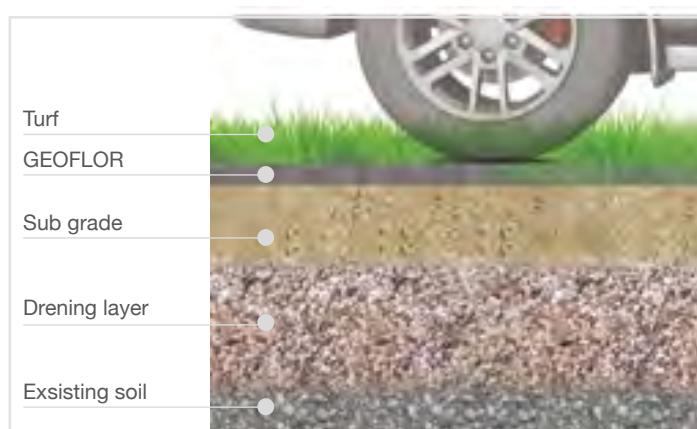


## INSTALLATION REQUIREMENTS



### WALKWAYS

- 10-15 cm of drening layer made of volcanic stone (size 5-20 mm)
- 20cm of bedding layer made of volcanic sands (size 0-5 mm)
- Geoflor.
- Fill the grids with volcanic sands
- Seeding.



### CARS

- 25-35 cm of drening layer made of volcanic stone (size 5-20mm)
- 20 cm of bedding layer made of volcanic sands (size 0-5 mm)

# INSTALLATION



## ① DRENING LAYER

Draining layer made of volcanic stone (size 5-20 mm). The thickness of this layer can change from 10-15 cm for pedestrain loads to 25-30 cm for cars.

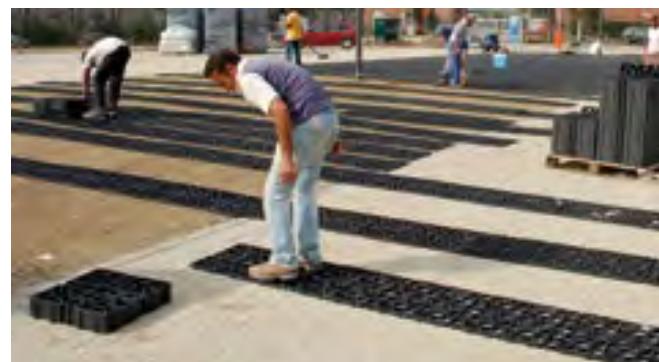


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## ② SUB GRADE

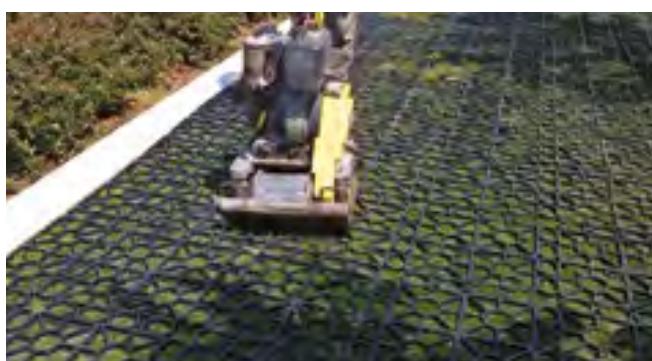
Bedding layer 20 cm thickness made of mixed volcanic sand (size 0-12 mm).

This layer is fundamental for the correct development of the root system. For pedestrians loads 10-15 cm, for cars 25-35 cm (variable according to the type of soil).



## ③ SEEDING

Seeding grass, or alternatively laying roll lawn.



## ④ GEOFLOR

Installation of Geoflor by pre-assembling the grids into more elements to speed up installation.



## ⑤ COMPACTING

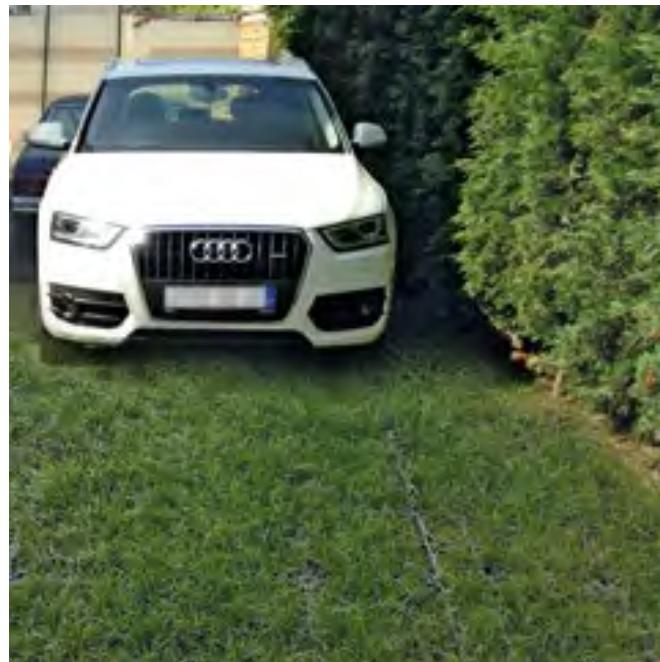
Rolling with light machinery (no more than 100 kg) if existing rolled lawn, if seeded operation not necessary.

## ⑥ FINAL RESULT

Execution of 2-3 mowings in the first month until the partial incorporation of Geoflor into the substrate.

# EXISTING LAWN

Geoflor is ideal in all areas where the lawn is already existing and well established. With small works (eventual levelling of the ground or the addition of a few centimeters of volcanic sands for rapid consolidation) it is possible to make every grassy mantle drivable.



In case of green areas of high artistic value or subject to environmental constraints and where it is required a permeable paving is required, the impact of the grid is zero because it becomes invisible after the greening guaranteeing functionality and aesthetics.



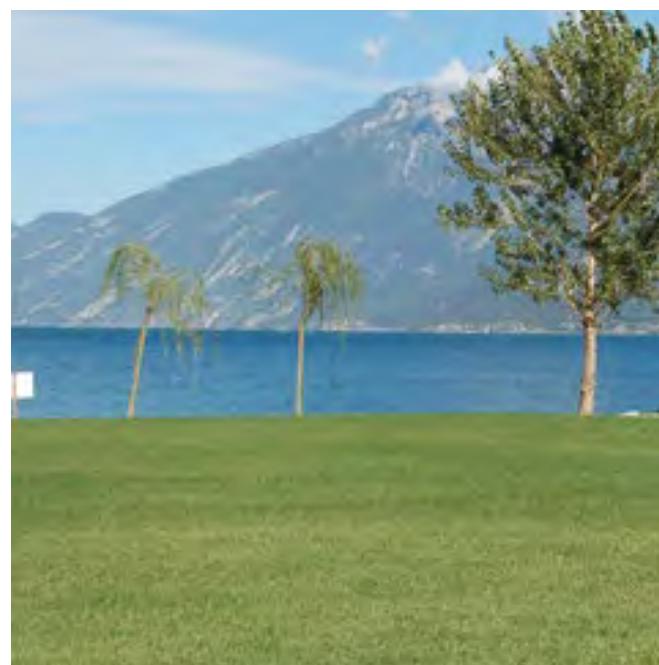
# LAWN PROTECTION

Suitable for creating driveway areas during temporary events such as concerts, short term events or short public events. It protects the turf and avoids the formation of mud and water retention.

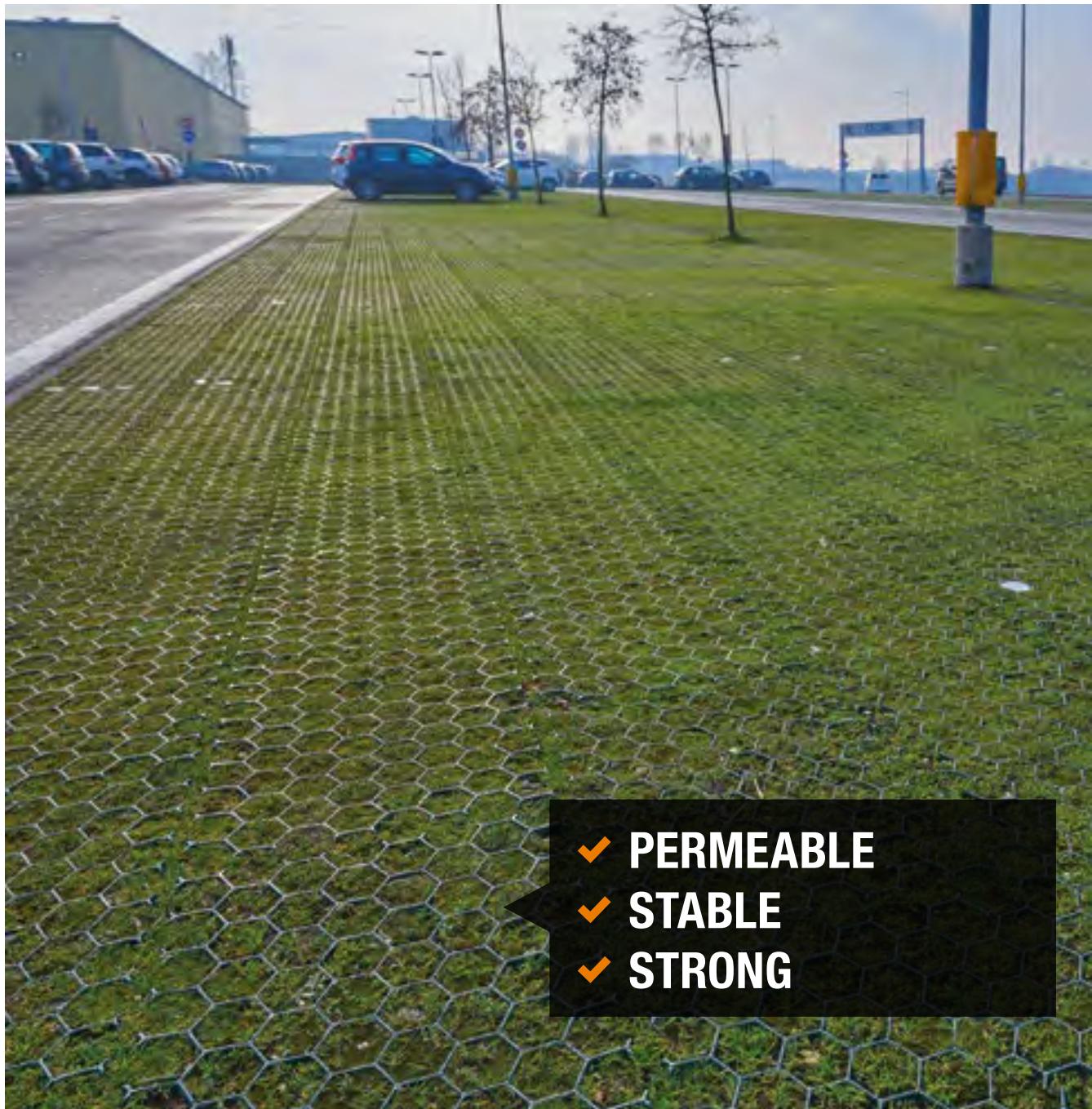


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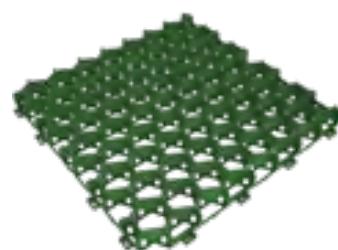
Geoflor enables the use of areas subject to the passage of vehicles during sporting events. In a short time and without the use of special equipment, it is possible to create large accessible surfaces that do not hinder the growth of the lawn and allow always the mowing operations.



# GEOGREEN



TURFED SURFACE  
FOR DRIVEWAYS  
AND PARKING AREAS



# THE SOLUTION

Geogreen is a grid made of high-density regenerated plastic material for the creation of driveway lawns. The structure of the cells is honeycombed and this prevents the soil from compacting. The design of the grid edges provides an homogeneous surface and a high degree of flexibility combined with a high mechanical resistance, which allows the grid to withstand the stresses caused by the transit of the heaviest transit.

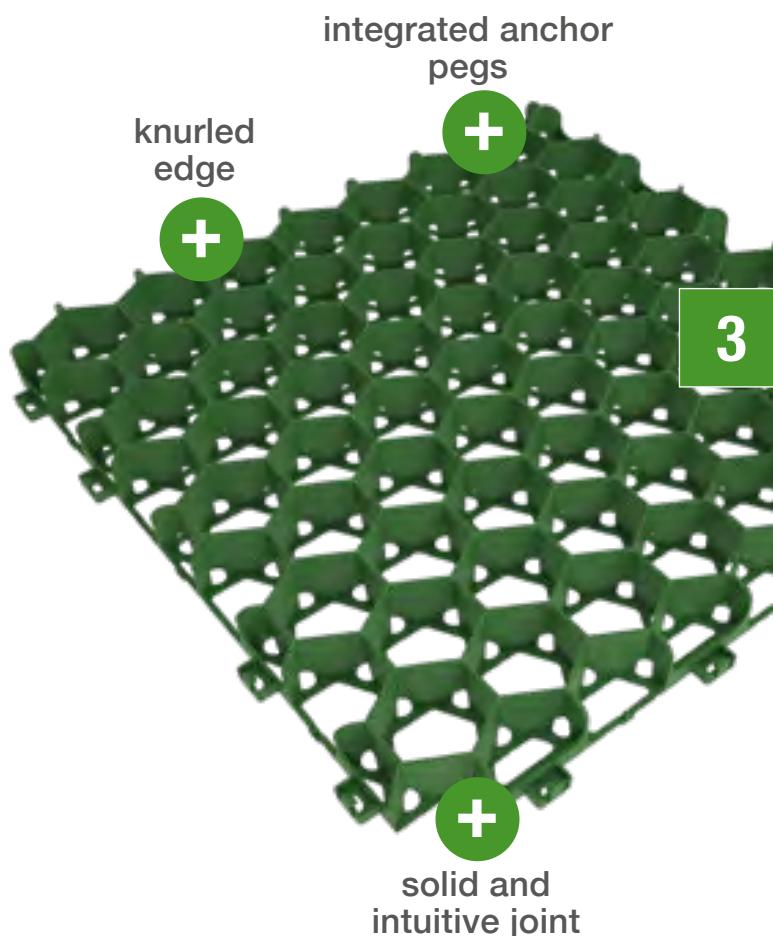
## TURFED PARKING

## GREEN PARKING AREAS

## DRIVEWAYS

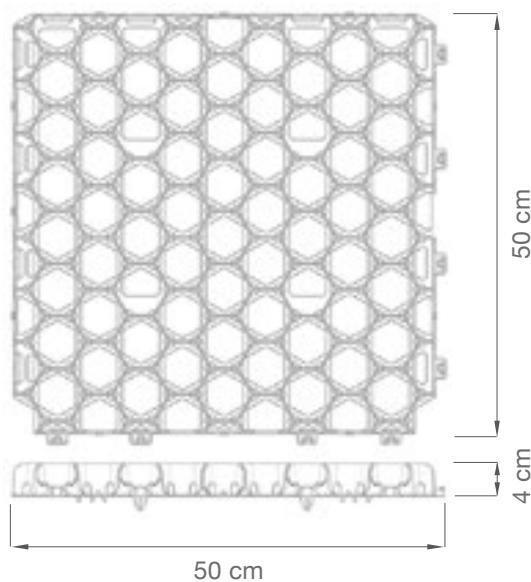
## REQUALIFICATION OF DRIVEABLE GREEN AREAS

For a good signaling of the parking areas we recommend the use of Geogreen marker caps.



## TECHNICAL DATA

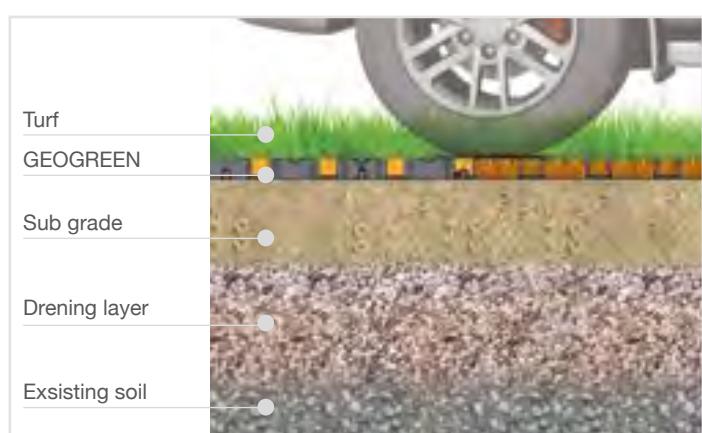
Dimensions (cm)	50 x 50 x H4
Material	Gralene LD (Recycled Polyethylene Compound)
Rib thickness (mm)	3
Load capacity (t/m <sup>2</sup> )	350
Weight per piece (kg)	0,88
Packaging size (cm)	100 x 120 x H230
Nº of pieces	240
m <sup>2</sup> per pallet	60
Colour	Green
Permeability	95%



# GEOGREEN STRATIGRAPHY



## INSTALLATION REQUIREMENTS



### PARKING LOTS

- 25-35 cm of drening layer made of volcanic stone (size 5-20 mm)
- 20 cm of bedding layer made of volcanic sands (size 0-5 mm)
- Geogreen.
- Fill the grids with volcanic sands
- Seeding

# INSTALLATION



## ① DRENING LAYER

Draining layer made of volcanic stone (size 5-20 mm) with high water detention capacity and crushing resistance of 35 N/mm<sup>2</sup> (UNI 754917). The thickness of this layer can change from 10-15cm for pedestrain loads to 35-40 cm for cars



3

## ② SUB GRADE

Bedding layer 20 cm thickness made of mixed volcanic sand, soil and organic fertilizers (size 0-5 mm). It will have to be well compacted to get a leveled surface



## ③ GEOGREEN

Proceed with the installation of the Geogreen grids, taking care to connecting the grids to each other.



## ④ FILLING WITH SAND

Fill the grids with volcanic sand enriched with soil and organic fertilizers (size 0-5 mm). Alternatively fill with mixture of silica sand and soil, enriched with peat and humus.



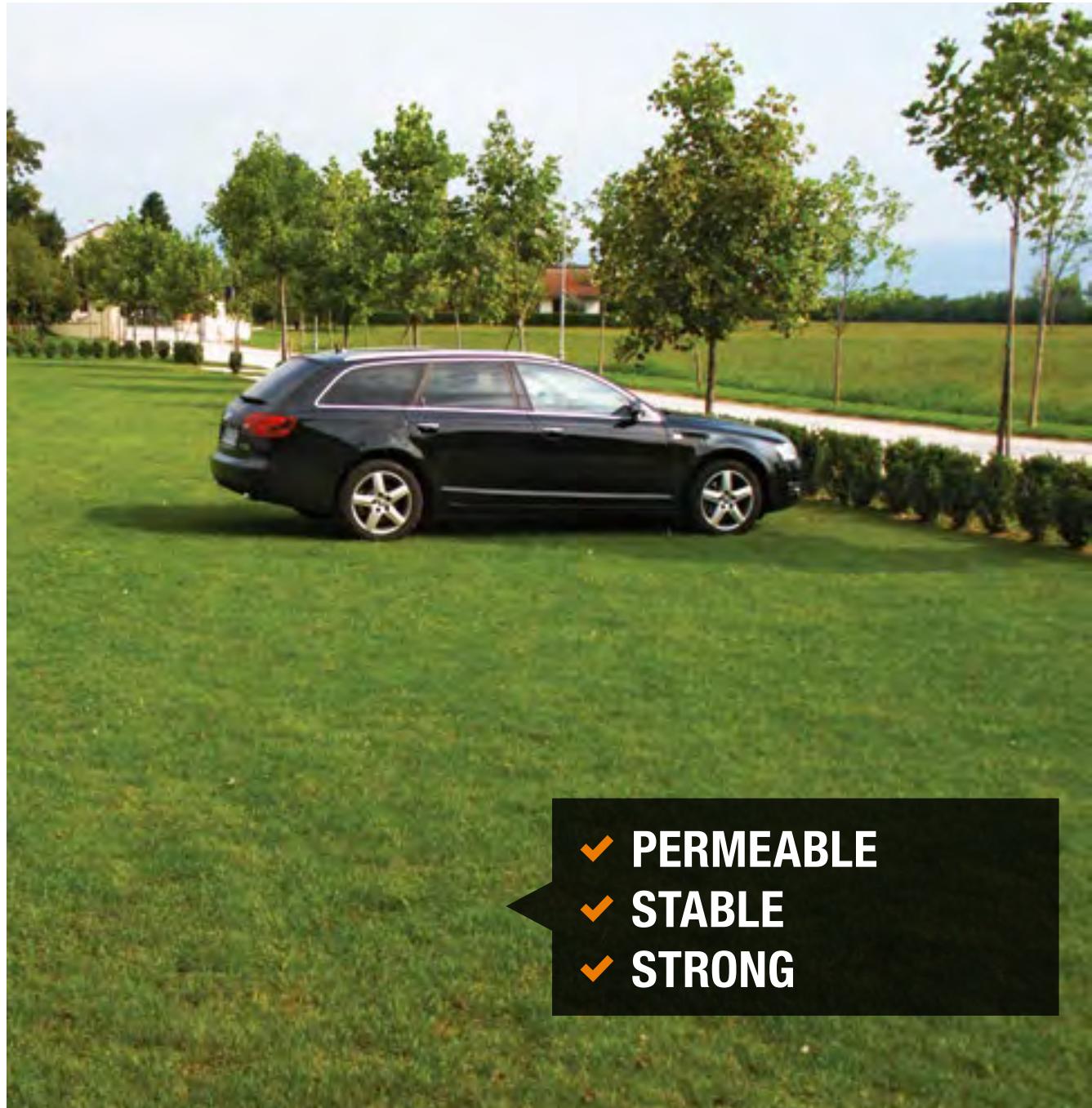
## ⑤ SEEDING

Finishing and seeding. For a good result, before transiting over the area, wait for 2-3 mowings, so the root system is complete developed

## ⑥ MARKER CAPS

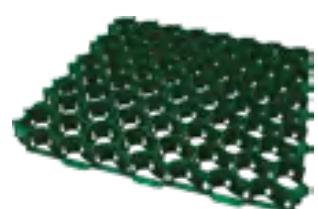
Marker caps for the delimitation of parking lots, reserved areas, pedestrian walkways, etc.. For a good signaling of parking spaces we recommend 4 caps per linear meter.

# SALVAVERDE



- ✓ PERMEABLE
- ✓ STABLE
- ✓ STRONG

GRID FOR WALKABLE  
AND DRIVABLE  
GREEN AREAS



# THE SOLUTION

Salvaverde is the grid for the realization of parking areas and turfed pedestrian or bicycle paths.

Designed specifically for the protection of green surfaces, the wide structure of the cells allows a quick rooting of the grass.

Salvaverde protects the grass root system from the passage of vehicles while the honeycomb structure and the anti-slip surface make the passage easy.

The permeability of 95% allows a correct regimen of rainwater in compliance the constraints of urbanization.

## PARKING AREAS

## WALKWAYS

## BICYCLE PATHS

## DRIVEWAYS

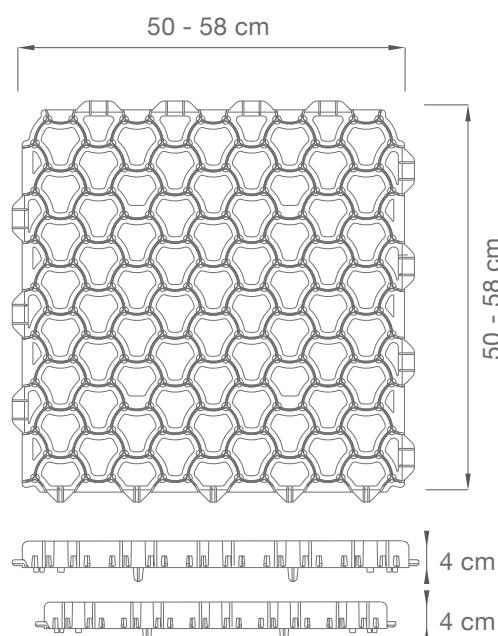
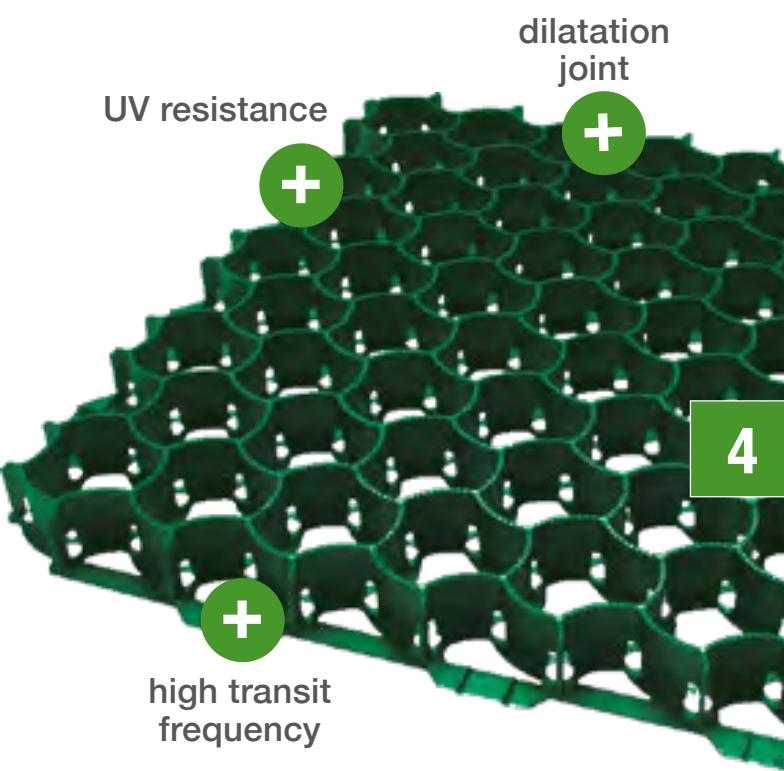
The cap allows to mark the parking areas, reserved areas, driveways, etc.

It has a non-slip surface and a peg for anchorage in the ground.

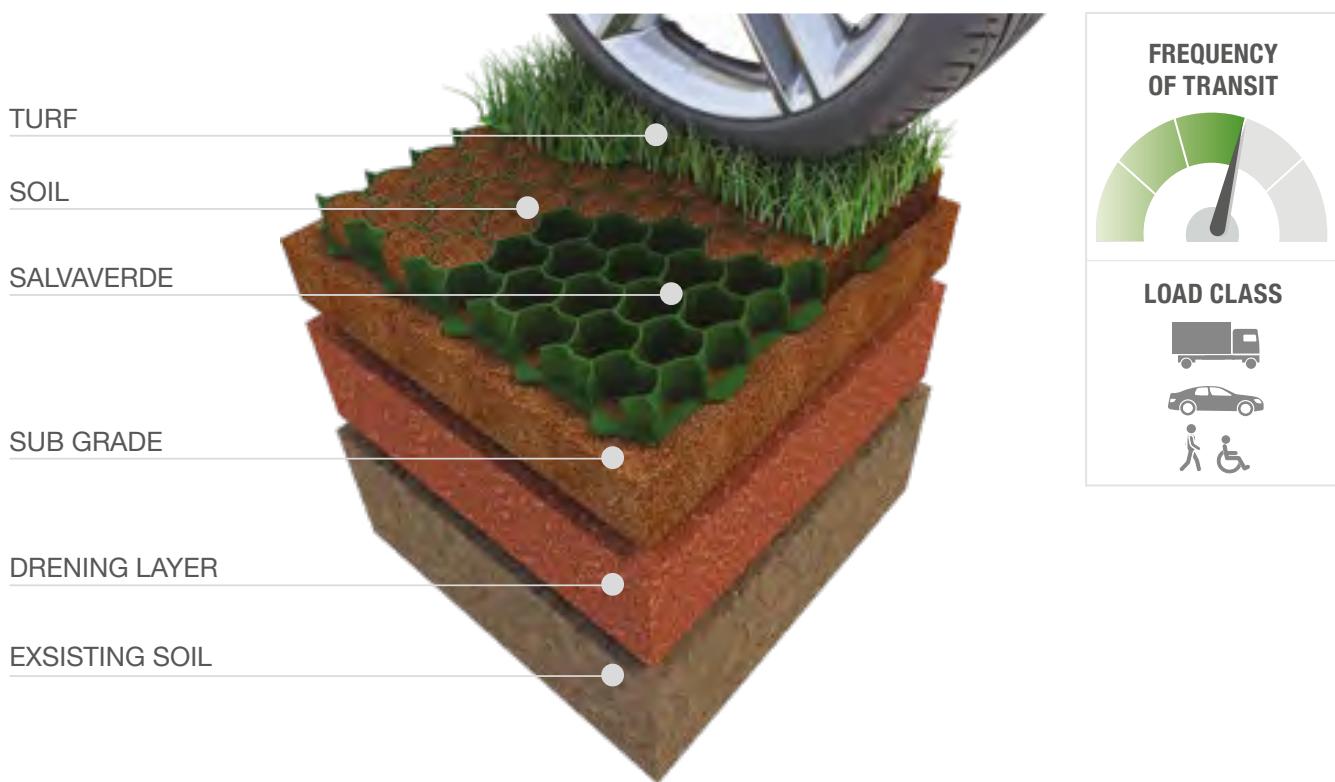


## TECHNICAL DATA

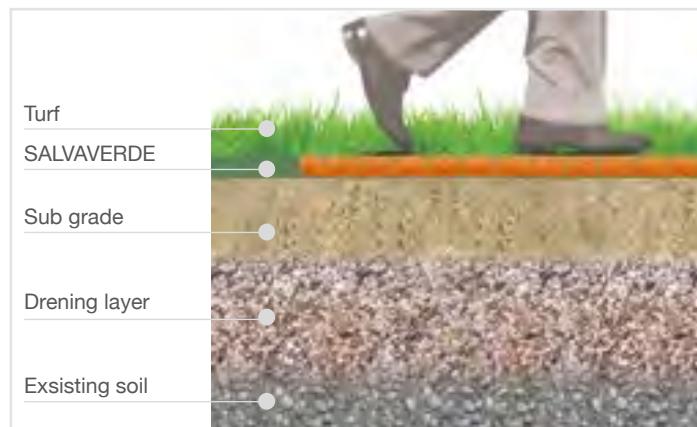
	SALVAKERDE A	SALVAKERDE B
Dimensions (cm)	50 x 50 x H4	58 x 58 x H4
Material	Gralene HD (Recycled Polyethylene Compound)	
Rib thickness (mm)	4	4
Load capacity (t/m <sup>2</sup> )	350	350
Weight per piece (kg)	0,92	1,22
Packaging size (cm)	100 x 120 x H230	120 x 120 x H240
N° of pieces	240	225
m <sup>2</sup> per pallet	60	75
Colour	Grey - Green	Grey - Green
Permeability	95%	95%



# SALVAVERDE STRATIGRAPHY

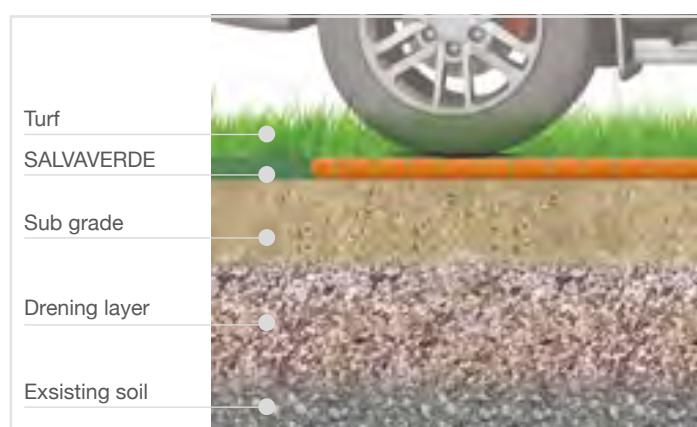


## INSTALLATION REQUIREMENTS



### WALKWAYS, BIKE LANES, LANES FOR THE DISABLED

- 10-15cm of drening layer made of volcanic stone (size 5-20 mm)
- 10-15cm of drening layer made of volcanic stone (size 5-20 mm)
- Salvaverde.
- Fill the grids with volcanic sands.
- Seeding.



### CARS

- 25-35 cm of drening layer made of volcanic stone (size 5-20 mm)
- 20cm of bedding layer made of volcanic sands (size 0-5 mm)
- Salvaverde.
- Fill the grids with volcanic sands.
- Seeding.

# INSTALLATION



## ① DRENING LAYER

Draining layer made of volcanic stone (size 5-20 mm) with high water detention capacity and crushing resistance of 35 N/mm<sup>2</sup> (UNI 754917). The thickness of this layer can change from 10-15 cm for pedestrain loads to 35-40 cm for cars.



## ③ SALVAVERDE

Proceed with the installation of the Salvaverde grids, taking care to connecting the grids to each other.



## ⑤ SEEDING

Finishing and seeding. For a good result, before transiting over the area, wait for 2-3 mowings, so the root system is complete developed.



## ② SUB GRADE

Bedding layer 20 cm thickness made of mixed volcanic sand, soil and organic fertilizers (size 0-5 mm). It will have to be well compacted to get a leveled surface.



## ④ FILLING WITH SAND

Fill the grids with volcanis sand enriched with soil and organic fertilizers (size 0-5 mm). Alternatively fill with mixture of silica sand and soil, enriched with peat and humus.



## ⑥ MARKER CAPS

Marker caps for the delimitation of parking lots, reserved areas, pedestrian walkways, etc.. For a good signaling of parking spaces we recommend 4 caps per linear meter.

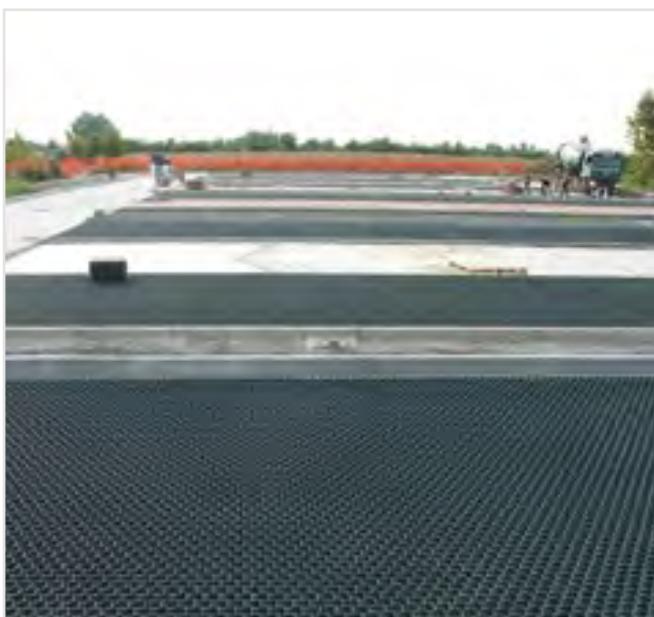
# DRIVEWAYS

The paving realized with Salvaverde allows the realization of lawn surfaces avoiding the problems related to the transit of engine vehicles.

The grid also protects the root system by ensuring homogeneity in the growth of the turf.



Salvaverde is a flooring that allows to create a durable grass parkin lots.



# GRASS PROTECTION

Salvaverde consolidates and stabilizes the surface, maintaining the same permeability as the natural terrain before urbanization. In this way, the drainage surface required by the municipality is guaranteed.



4

Thanks to the use of Salvaverde, furrows, sagging and damage to the grass surface are avoided. The wide structure of the cells, ensures maximum permeability, while ensuring excellent drainage of rainwater.



# GEOGRASS



## GRID FOR LAWN CONSOLIDATION



# THE SOLUTION

Geograss is a grid made of regenerated plastic, to create turfed and draining surfaces for parking lots or driveways.

The ring's structure, connected to each through a mesh, gives the product great flexibility, combined with high mechanical resistance, which allows the grid to resist the stresses caused by the transit of vehicles.

Moreover, the structure consolidates the bottom side, guaranteeing optimal rainwater drainage and root system protection, avoiding the crushing, for a guaranteed result over the time

## PARKING LOTS

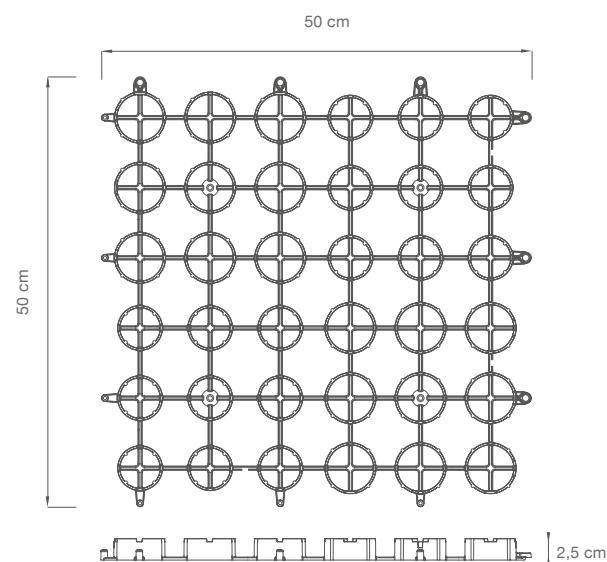
## MANEUVERING AREAS

## WALKWAYS



## TECHNICAL DATA

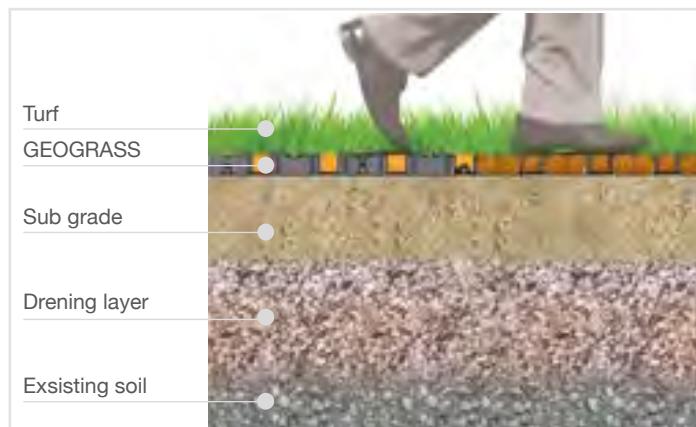
Dimensions (cm)	50 x 50 x H2,5
Material	Gralene HD (Recycled Polyethylene Compound)
Rib thickness (mm)	2,5
Load capacity (t/m <sup>2</sup> )	400
Weight per piece (kg)	0,47
Packaging size (cm)	100 x 120 x H240
Nº of pieces	800
m <sup>2</sup> per pallet	200
Colour	Black
Permeability	99%



# GEOGRASS STRATIGRAPHY

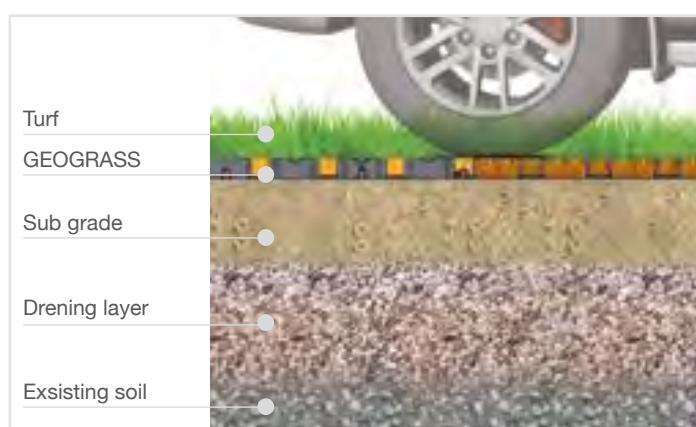


## INSTALLATION REQUIREMENTS



### WALKWAYS, BIKE LANES, LANES FOR THE DISABLED

- 10-15 cm of drening layer made of volcanic stone (size 5-20 mm)
- 20cm of drening layer made of volcanic stone (size 0-5 mm)
- Geogrid.
- Fill the grids with volcanic sands.
- Seeding.



### CARS

- 25-35cm of drening layer made of volcanic stone (size 5-20 mm)
- 20cm of bedding layer made of volcanic sands (size 0-5 mm)
- Geogrid.
- Fill the grids with volcanic sands.
- Seeding.

# INSTALLATION



## ① DRENING LAYER

Draining layer made of volcanic stone (size 5-20 mm) with high water detention capacity and crushing resistance of 35N/mm<sup>2</sup> (UNI 754917). The thickness of this layer can change from 10-15 cm for pedestrain loads to 35-40 cm for cars.



## ③ GEOGRASS

Proceed with the installation of the Geograss grids, taking care to connecting the grids to each other.



## ⑤ LAYING THE LAWN ROLL



## ② SUB GRADE

Bedding layer 20 cm thickness made of mixed volcanic sand, soil and organic fertilizers (size 0-5 mm). It will have to be well compacted to get a leveled surface

5



## ④ FILLING WITH SAND

Fill the grids with volcanis sand enriched with soil and organic fertilizers (size 0-5 mm). Alternatively fill with mixture of silica sand and soil, enriched with peat and humus.



## ⑥ FINAL RESULT

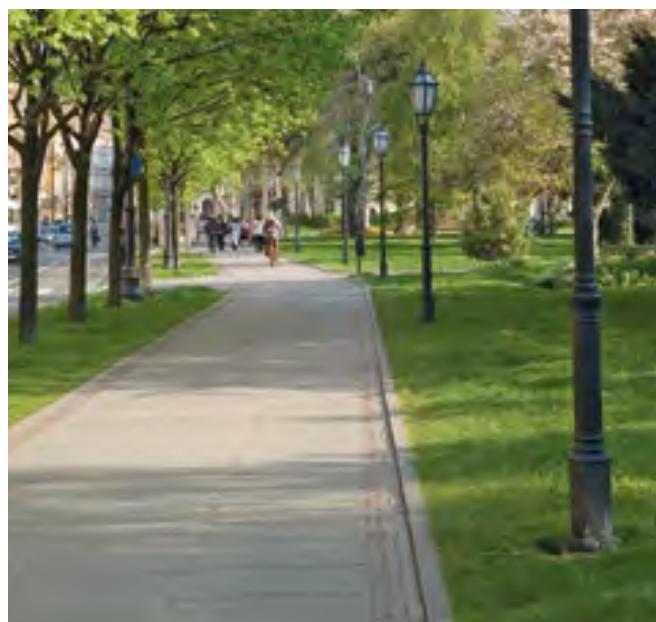
Execution of 2-3 mowings in the first month.

# PARKING LOTS

Geograss is a grid with a high mechanical resistance that allows to realize grassy parking lots. The particular structure prevents the compaction of the substrate, allowing the grow of the root system.



The shape of Geograss ensures maximum permeability, allowing for rapid disposal of rainwater and avoiding the creation of stagnation and furrows.



# GRASS PROTECTION

Geograss is a universal grid that can be applied on soils with different characteristics. After installation, the grid becomes practically invisible and is completely incorporated into the ground.



5

It is ideal for creating high strength driveway lawns. The wide ring structure allows the grass to grow easily, reinforcing the turf, in order to allow the development of the root system.



# GEOGRAVEL



## GRID FOR CONSOLIDATION OF GRAVEL SURFACES



# THE SOLUTION

Geogravel is the ideal solution for draining gravel parking lots because it ensures the same functionality and performance of an asphalt surface while maintaining the drainage capacity of the soil.

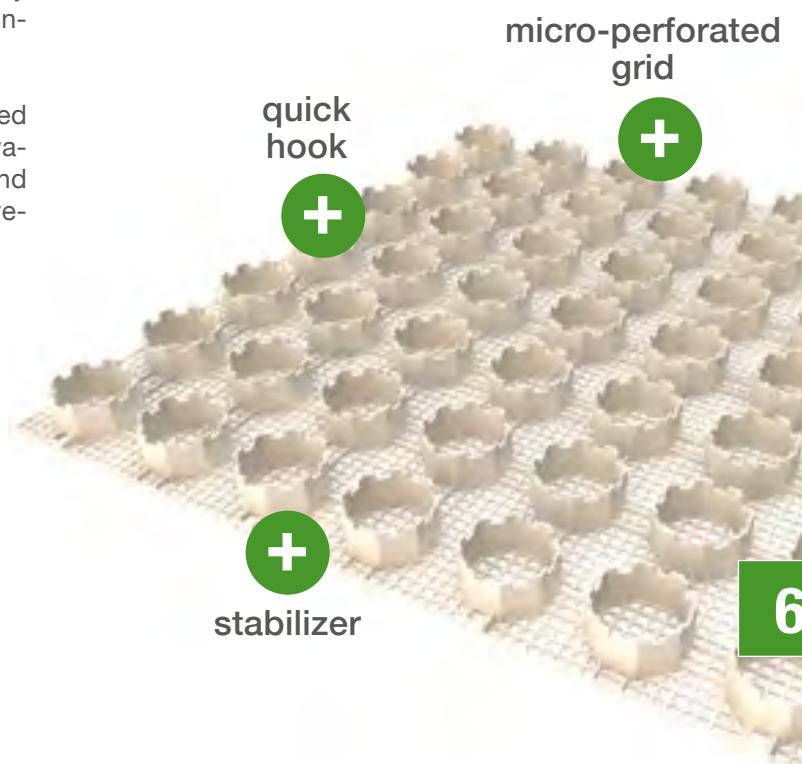
The microperforated base of Geogravel, connected with the cells that contain the gravel, allow the water to drain into the ground and provides stability and strength to the surface during passage of heavy vehicles.

## PARKING LOTS

## WALKWAYS

## BIKE LANES

## ACCESS AREAS FOR DISABLED



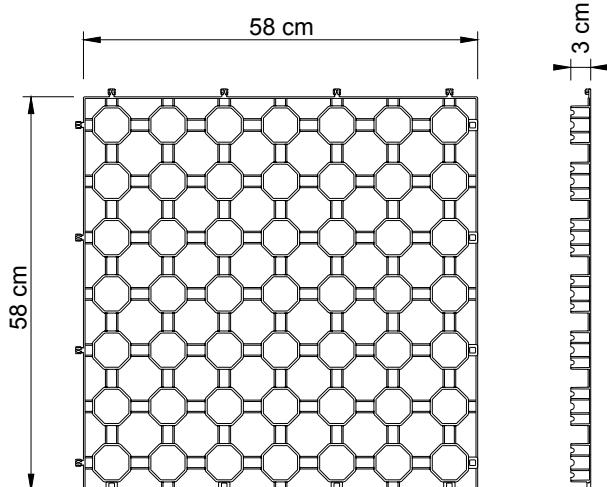
The cap allows to mark the parking areas, reserved areas, driveways, etc.

It has a non-slip surface and a peg for anchorage in the ground.

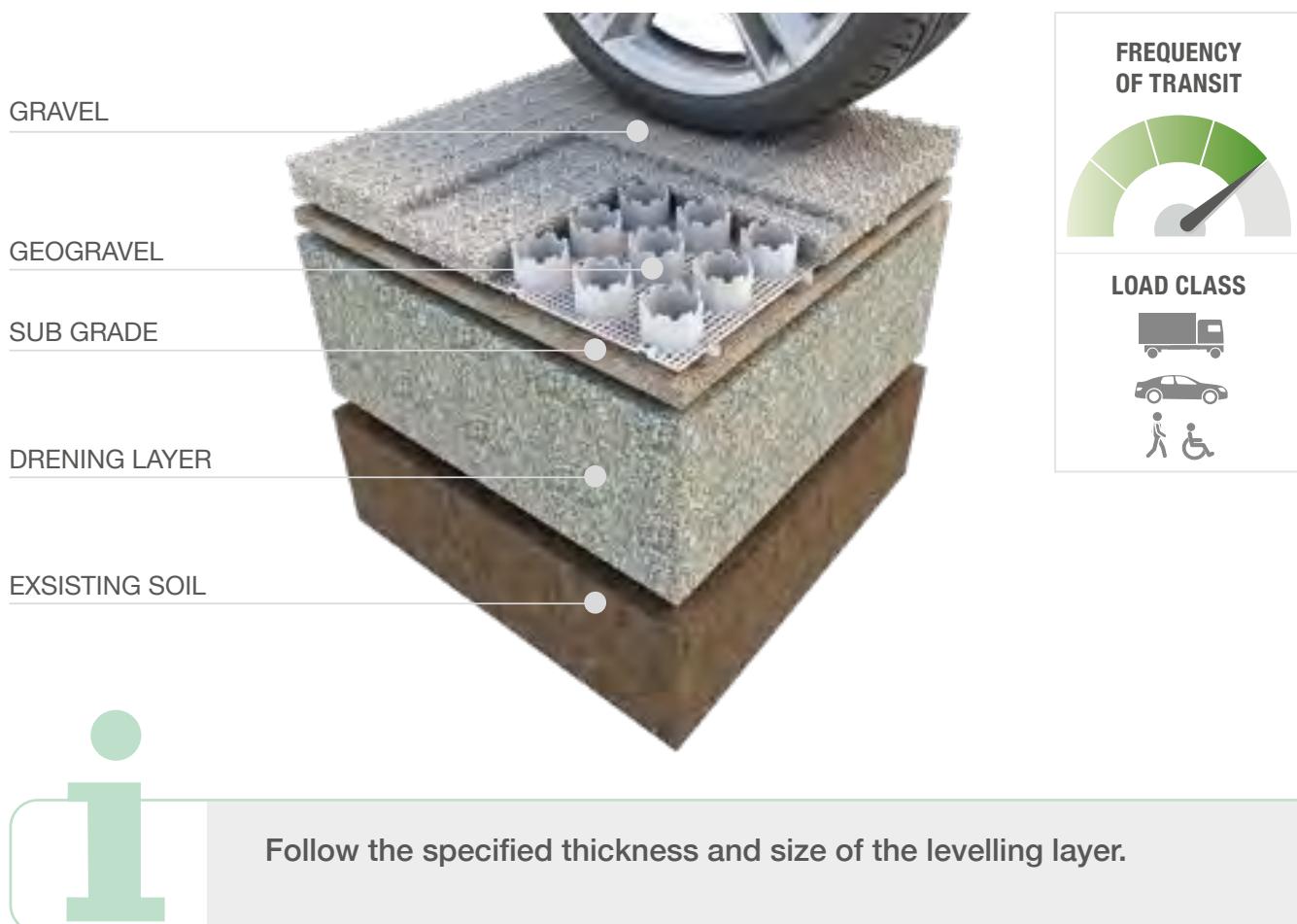


## GEOGAVEL CAPS

Dimensions (cm)	58 x 58 x H3
Material	Gralene HDVN (Polyethylene Compound)
Rib thickness (mm)	18 583
Load capacity (t/m <sup>2</sup> )	400
Weight per piece (kg)	0,85
Packaging size (cm)	120 x 120 x H240
Nº of pieces	300
m <sup>2</sup> per pallet	100
Colour	Semi-transparent White
Permeability	61%

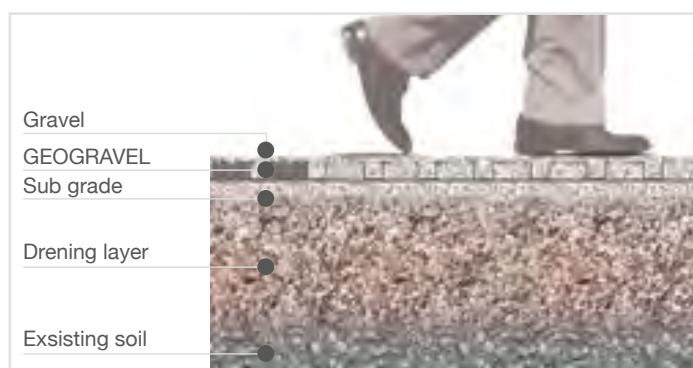


# GEOGRAVEL STRATIGRAPHY



Follow the specified thickness and size of the levelling layer.

## INSTALLATION REQUIREMENTS

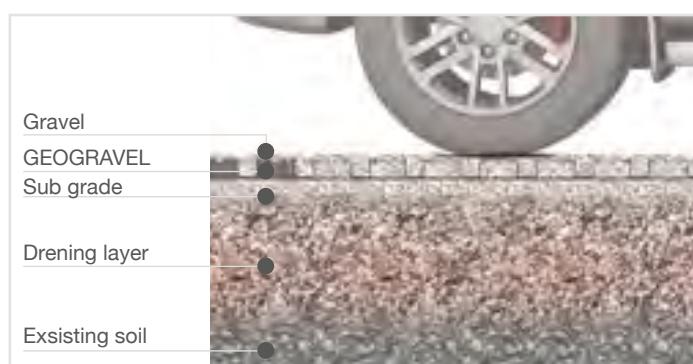


### WALKWAYS, BIKE LANES, LANES FOR THE DISABLED

- Draining subgrade of 10-15 cm with crushed stone well compacted (limestone crushed stone, porphyry or crushed concrete), grain size 5-20 mm\*.
- Laying bed of 2 cm thick gravel fine unwashed gravel with grain size 0-5 mm.
- Geogrid.
- Laying bed of 2 cm thick gravel fine unwashed gravel with grain size 0-5 mm.

### CARS

- Draining subgrade of 20-25 cm for cars or 30-40 cm for heavy vehicles with crushed stone well compacted (limestone crushed stone, porphyry or crushed concrete), grain size 5-20 mm\*.
- Laying bed of 2 cm thick gravel fine unwashed gravel with grain size 0-5 mm.
- Geogrid.



\* Thickness may change depending on the load-bearing capacity of the existing subsoil.

# INSTALLATION



## ① EXCAVATION

Cleaning excavation and realization of a gravel draining base 5 - 20 mm well compacted, alternatively a sub-grade if the soil has a high drainage capacity.



## ③ GEOGRAVEL

Proceed with the installation of the Geogravel grids, taking care to connecting the grids to each other.



## ⑤ GRAVEL LAYING

Ensure proper gravel laying.



## ② LEVELLING

Laying of a levelling layer made of unwashed fine gravel 0 - 5 mm well compacted.



## ④ FILLING

It is recommended to fill the grid with gravel 7-12 mm up to max 2 cm above the cells.

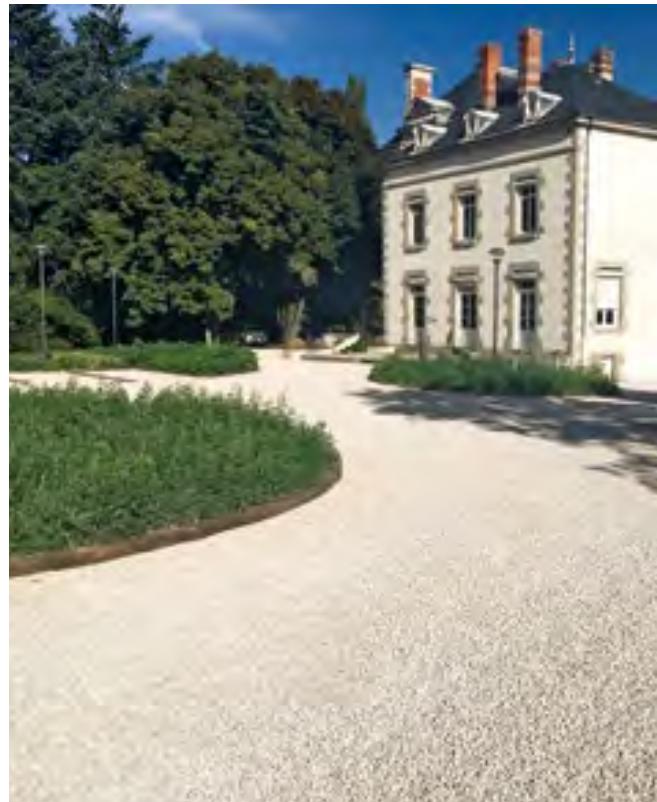


## ⑥ FINAL RESULT

At the end of the procedure, Geogravel will be installed properly and ready to use.

# BENEFITS AND TIPS

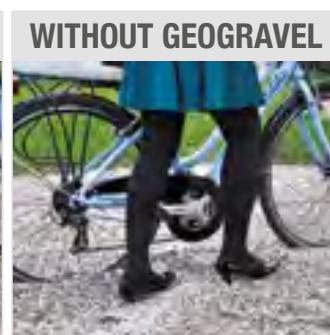
- The bedding layer must be well compacted and leveled, to avoid lifting of the elements over time.
- Leave an expansion joint of about 3-5 centimeters from the curbs.
- In case of large areas, it's recommended to divide in areas of about 30 sqm each, by providing expansion joints. It consists in placing the grids side by side without hooking them (leaving about one centimeter).
- Geogravel can be easily shaped near curbs or manholes.
- If the filler material drops, add more material so that the grids are always covered.
- Fill the cells with gravel 1-2 cm beyond the level, so that the grids are always covered by gravel.



# SAFE AND COMFORTABLE

Geogravel provides stability to the gravel base, preventing lateral movement or any drop in material.

With Geogravel the transit of any vehicle is guaranteed by the high quality standard of the material. Furthermore, the passage of people and vehicles is safe and comfortable (no lifting of stones and dust).



## GEOGRAVEL ADVANTAGES



EASY TO MANTAIN



PERMEABLE



NO DIP



HIGH STABILITY

# WALKWAYS

Geogravel is the ideal solution for creating gravel surfaces such as courtyards, pedestrian and bicycle paths, driveways, etc.

Geogravel gives stability to the surface and eliminates any possibility of collapse, making it easy and safe the passage of baby carriages and bicycles. Thanks to the high permeability, water drains quickly to the subsoil avoiding the formation of puddles.



# PARKING AREAS

Geogravel is the ideal solution for creating permeable parking surfaces that ensure maximum comfort of use and maintain the drainage capacity of the ground.

The cells of Geogravel retain the gravel and thus eliminate all restoration and maintenance operations, typical of green parking lots.



# GEOROAD



GRID FOR  
THE CONSOLIDATION  
OF ROAD EDGES



# THE SOLUTION

Georoad is a regenerated plastic grid designed to consolidate road benches subject to problems of subsidence. Its rhomboidal structure in fact, allows to significantly reduce the forces of lateral pressure caused by the passage of vehicles.

The reduced width allows an easy adaptation to any area at the edge of the roadway.

Georoad gratings feature a double elastic joint that compensate the effects of thermal expansion. It is also possible install in both straight and curved sections thanks to the frontal connection.

Alternatively, the grids can be laid side-by-side thanks to the lateral connection.

## ROAD BANKS

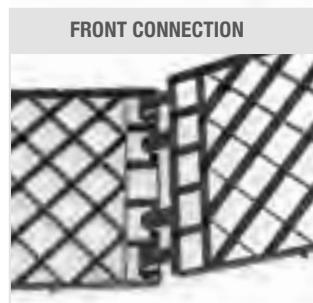
## ROUNDABOUT EDGES

## SERVICE LANES

## BICYCLE PATHS

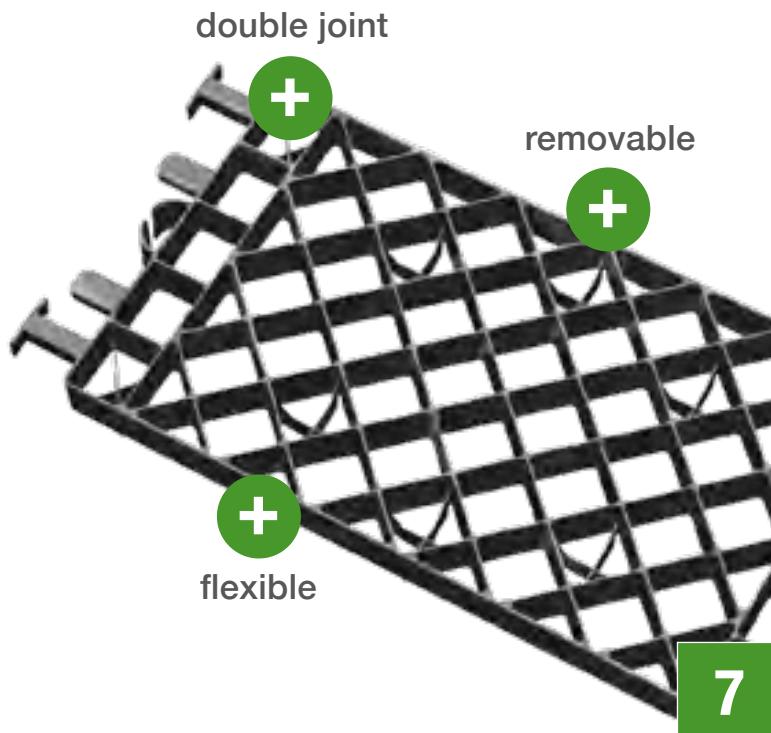
The Georoad's hoocking is designed to allow a fast connection between the elements.

It is resistant to stress and allows a 5° rotation between the elements during laying on curved road sections.

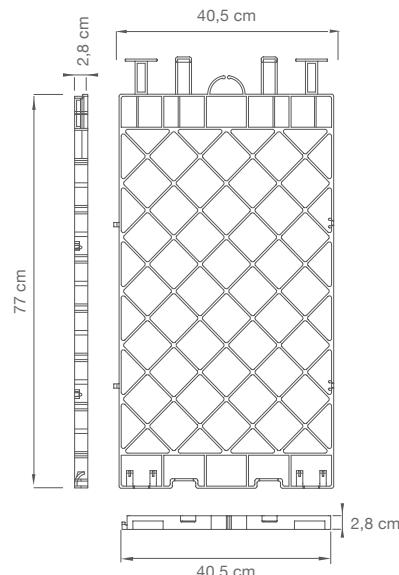


## TECHNICAL DATA

Dimensions (cm)	77 x 40,5 x H2,8
Material	Gralene LD (Recycled Polyethylene Compound)
Load capacity (t/m <sup>2</sup> )	500
Weight per piece (kg)	1,16
Packaging size (cm)	83 x 120 x H240
N° of pieces	240
m <sup>2</sup> per pallet	74.85
Colour	Black
Permeability	95%



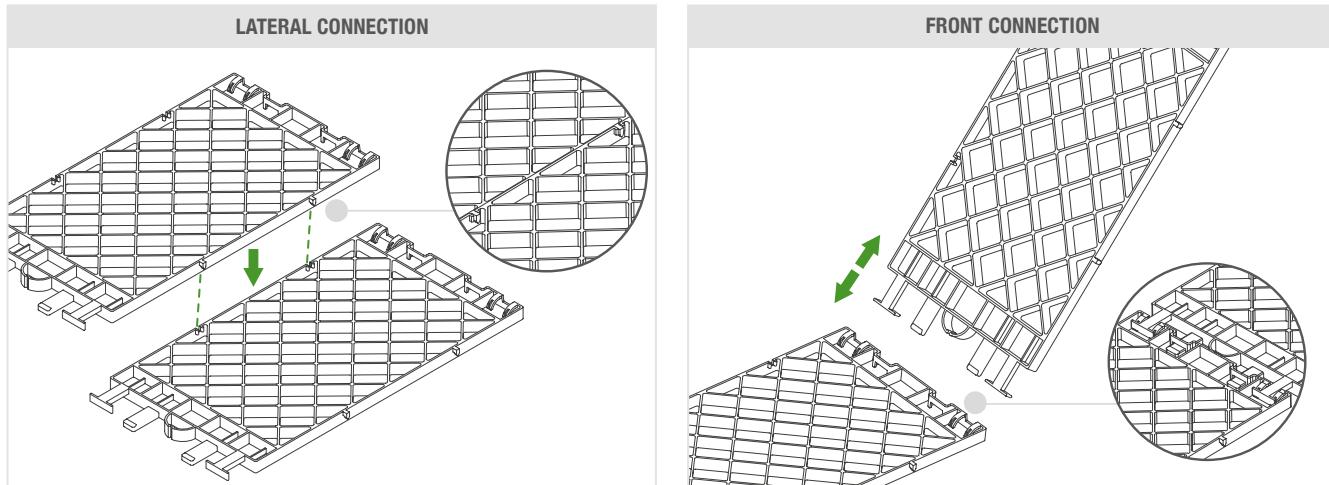
7



# GEOROAD STRATIGRAPHY

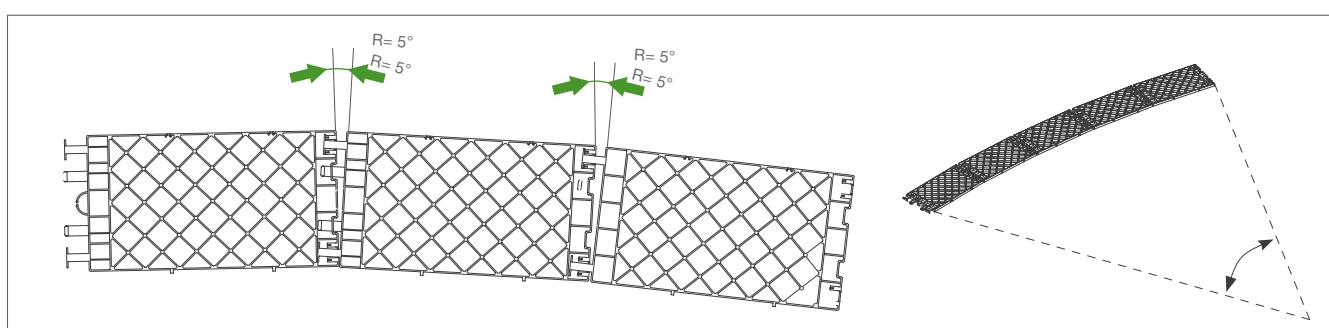


## INSTALLATION



## LAYING ALONG CURVED SURFACES

Thanks to the double elastic joint integrated in the panel, Georoad can also be laid on curved and rounded surfaces.



# INSTALLATION



## ① SUB BASE

Laying of a load-bearing base that can withstand the stresses of the vehicles.



## ② INSTALLATION

Proceed with the laying of Georoad on the road.



## ③ LEVELING

Level covering of Georoad with crushed stone or seeding, in case you want to obtain a grass cover of the surface.



7

## ④ FINAL RESULT

At the end of the installation Georoad will be installed correctly and immediately ready for use.



## GREATER SAFETY FOR THE PASSAGE OF CARS

With its strong structure and resistant to mechanical stress, Georoad allows to consolidate in an ideal way the parts of the roadway subject to failure, both in straight sections and in curved sections, thanks to the special coupling that allows partial rotation of the elements.

Georoad has a completely permeable surface, which allows the drainage of rainwater, eliminating any stagnation problems.

# GEOCROSS



PAVING TO REALIZE  
AIRFIELDS AND  
DRIVABLE SURFACES



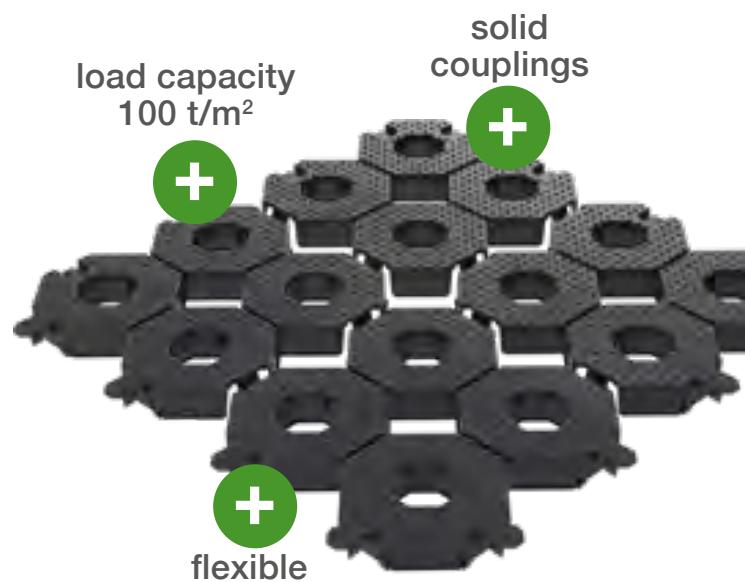
# THE SOLUTION

Geocross is a flooring made on regenerated plastic materials for the realization of airfields and drivable surfaces. It guarantees stabilization and support to grass surfaces already existing and is installed with a simple laying and rolling of the grids in the ground.

To ensure optimal performance it must be completely embedded in the ground and its embossed surface provides an excellent wheels grip.

When Geocross is well rolled in the ground it creates a surface that allows great stability and excellent rainwater permeability over time.

- AIRFIELDS
- PLEASURE FLIGHTS
- ULTRALIGHT RUNWAYS
- ACCESS TO SERVICE VEHICLES
- DRIVING AND TRANSIT AREAS



**PATENTED**

8

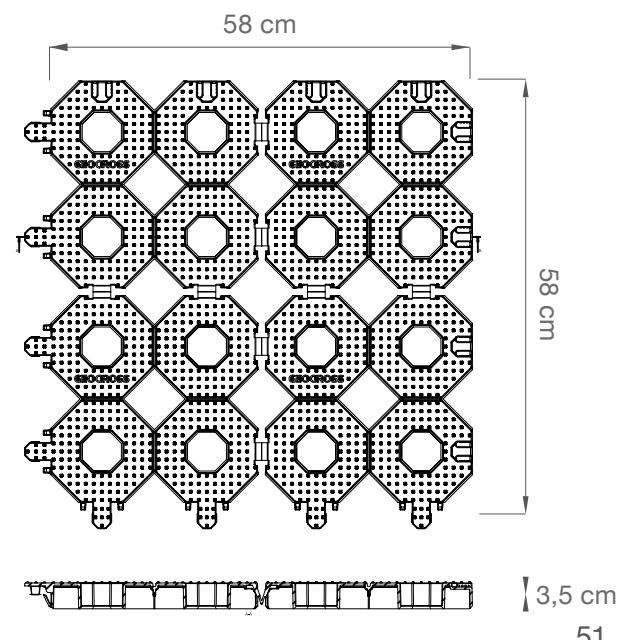
The 60% closed surface allows to Geocross to "float" on soft ground and distribute the load applied by the wheels of vehicles in transit preventing them from sinking into the soil.

In addition to giving the correct support to light aircraft during landing and take-off, it allows access to the runway for light road vehicles that can be used for maintenance, support and rescue.

## TECHNICAL DATA

Dimensions (cm)	58 x 58 x H3,5
Material	Gralene LD (Recycled Polyethylene Compound)
Load capacity (t/m <sup>2</sup> )	100*
Weight per piece (kg)	1,50
Packaging size (cm)	120 x 120 x H240
No. of pallet pieces	260
m <sup>2</sup> pallet	86
Colour	Black
Closed surface area	60%

\* The strength and condition of the soil can greatly influence the overall performance of the system.



# INNOVATION IS KNOWING THE HISTORY



During the Second World War the allies developed a system of perforated and modular steel grids, called "Marston Mats", which stretched on the ground and united to others were used for the rapid preparation of airports and roads. The Italians called them "perforated metal grids", neologism derived from the English term "grill" that means grid.

This paving system, among the most important idea of the Second World War, was equipped with large holes that allowed to take root perfectly to the ground and was also used by war vehicles to cross impervious and marshy areas.

Over the decades, technological evolution and the development of new materials have led to a slow decline of the grella, now too "bulky" and not very suitable for the new needs no longer war.

## THE CONCEPT

Geoplast, strong of the experience in the realization of flooring for the stabilization of green areas and soil consolidation, has redesigned the "grid" in a modern and sustainable way. He did it interviewing aviators, aircraft enthusiasts and engineers specialized in the design of runways.

The product has taken shape taking inspiration from the classic metal grid, following the different phases of the process of innovation with the aim of meeting the needs of modern airplanes.

Geocross is a modular tile with square dimensions (58x58 cm) for ground reinforcement and for aircraft runway area. Extremely light and easy to handle, it can be overturned, moved and installed by one man.

The octagonal holes made in every single grid facilitate the drainage of the rainwater, avoid water stagnation on the track and allow the grass to grow inside them. Furthermore they contribute to the elasticity and lightening of the element.

It can be used in all weather conditions because it is made of regenerated plastic material, UV and corrosion resistant.



# ADVANTAGES



Geocross is an innovative outdoor flooring that is installed to create take-off and landing runways that require high stabilization and ground permeability.

8

**100% GRIP** **NO-SLIP SURFACE**

The surface is provided with a stippled texture that guarantees greater grip and therefore greater adherence during vehicles transit, even in the presence of water or mud.

The surface of Geocross has been designed for a comfortable and safe transit.

 **HIGH LOAD CAPACITY**

The flooring distributes the loads and does not risk structural soil failure or breakage as it “floats” on the ground.

The hollow structure of the element allows it to fit firmly into the soil, creating a uniform and usable surface.

 **SOIL STABILIZATION**

Geocross is a non-invasive solution to improvement stagnant soils or with high silt rate. With the action of the rain, the loamy soils are crushed to create a muddy veil.

The temperature changes and the degree of saturation cause expansion and contraction movements in the soil. Geocross incorporates spring elements that allow it to follow these variations naturally without compromising the integrity of the flooring.

# GEOCROSS STRATIGRAPHY



FREQUENCY OF USE

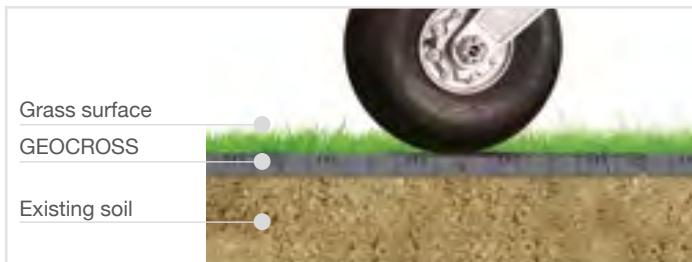


LOAD CAPACITY



A good taxiing, take-off and landing surface improves the runway safety, avoiding the projection of sludge from ground on the top airplane wings surface.

## INSTALLATION REQUIREMENTS



### AIRCRAFT

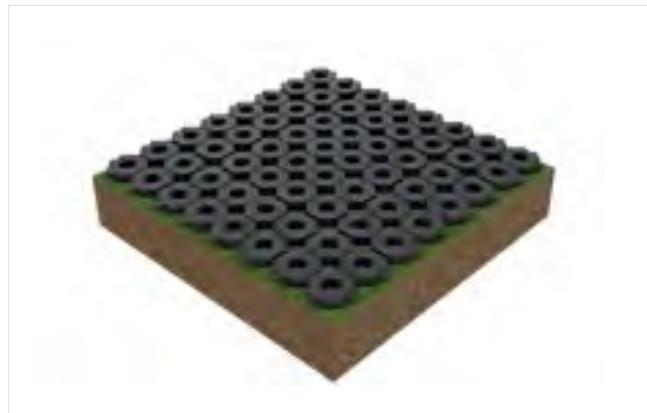
- Installation should only take place when the ground is soft enough to ensure that Geocross can be easily compacted.
- Cut the grass before laying geocross on the existing grass surface.

Geocross flooring has been designed as a non-slip tile system that guarantees a conservative intervention that is easily integrated in all green areas of our territory.

Geocross is aimed to a specific public, air tourism, with the mission to ensure a complete usability of the runways with the possibility to land and take off all year round in perfect safety, even in difficult weather conditions. In the event of disasters, the construction of airfields and airfields with Geocross can be used as an aid for the following means of transport rescue aircraft such as the military armed forces and civil protection.

# INSTALLATIONS PHASES

The installation of Geocross is innovative compared to the classic grassy grids as no excavation has to be carried out for the laying of the elements and neither preliminary preparations of the substrate.



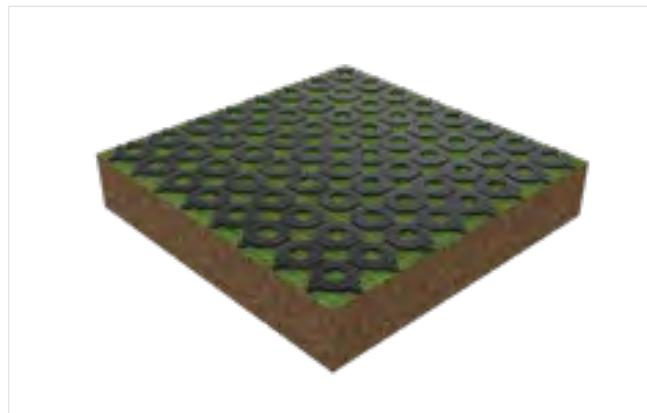
## ① LAYING THE FLOORING

Lay the grids on the existing lawn respecting the correct positioning of the hooks.



## ② HOOKING THE FLOORING

Once the affected area has been laid, proceed with the hooking of each individual grid.



## ③ ROLLING THE FLOORING

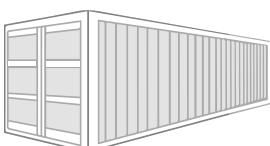
Press the flooring with a rammer roller (or vibro compacting roller) so that the grids penetrate into the existing soil.

8

## ④ FINISHED FLOORING

Homogeneous anti-slip surface with high bearing capacity for green areas.

# PACKAGING AND TRANSPORT

PALLET cm 120 x 120	LORRY (13,6 m)	CONTAINER 20 BOX	CONTAINER 40 HC
86 m <sup>2</sup> 	2080 m <sup>2a</sup> 	651 m <sup>2</sup> 	1620 m <sup>2</sup> 

# MANUAL HANDLING

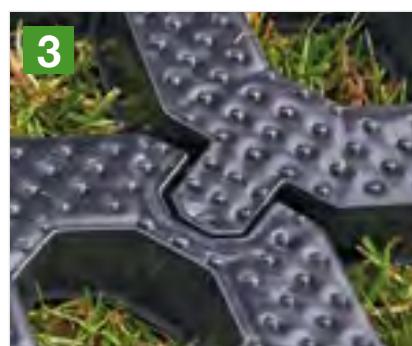
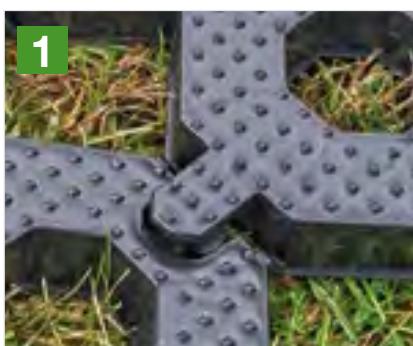


Geocross grids are stored in sheets of four pieces and stacked in classic 120x120 pallets.

They are easy to remove from the pallet due to their low weight.

The grids are then moved and laid in the ground very quickly and without the need for cranes or mechanical equipment.

# STRONG HOOKING



# ACCESS ROUTES AND PARKING



Geocross is aimed at a heterogeneous public that needs to develop a sustainable urban model and redevelop green areas that are disused and difficult to use.

Our focus is to convert green areas into usable and drivable areas while always maintaining the principles of permeability and biodiversity that nature imposes on us.

The stabilizing Geocross flooring has been designed as a system of no-slip tiles that ensures a conservative intervention and is easily integrated in all green areas subject to the more or less frequent passage of vehicles such as in public parks, camping, country roads, rural areas, etc.

8

## TECHNICAL SUGGESTION

The installation of Geocross is recommended for soil reinforcement in green areas or areas with low bearing capacity soils. It can be laid directly on the existing grass surface and the grass should be cut as short as possible.

Installation should only take place when the soil is soft enough to ensure the complete product penetration on the soil.



# GEOCELL



**DRAINAGE PANEL  
WITH HIGH HORIZONTAL  
FLOW RATE**



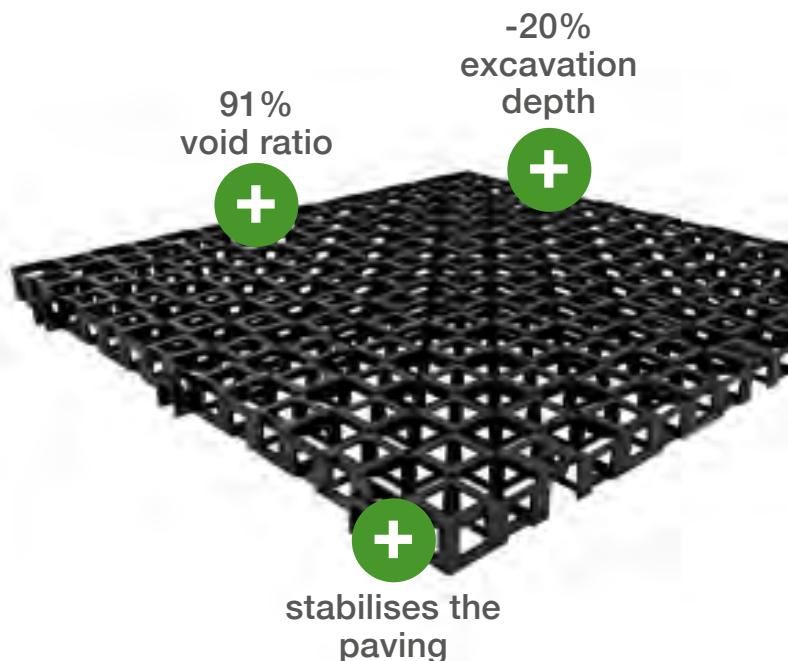
# THE SOLUTION

Geocell is a horizontal drainage panel made of recycled

plastic material used under paved or green surfaces.

Geocell solves the problems typically associated with interlocking pavers laid on a scarcely permeable base. By ensuring an effective and fast drainage, Geocell prevents saturation of the sand bedding layer, and the subsequent degradation of the paved surface due to lifting, especially if subjected to traffic.

The system is a considerable improvement in water flow capacity compared to traditional solutions, since it drastically shortens the time needed for rainwater evacuation. The thickness of a Geocell drainage system is thus considerably less than equivalent traditional systems.



## PAVED SURFACES

## SPORT COURTS

## GOLF COURTS

## GREEN ROOFS

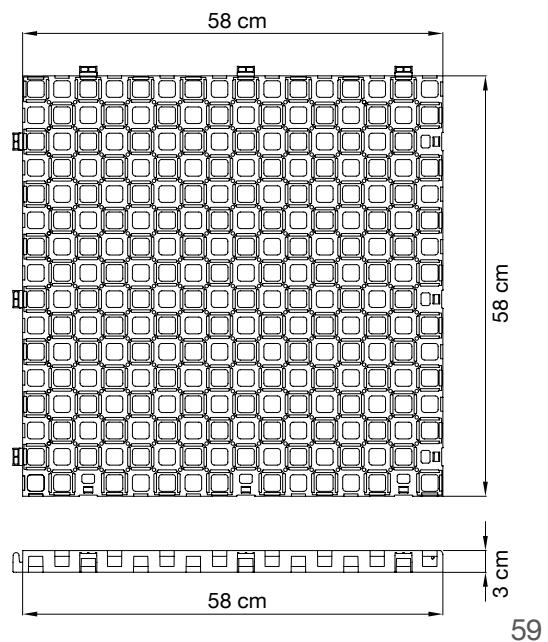
## GEOTECHNICAL WORKS

9

## TECHNICAL DATA

Dimensions (cm)	58 x 58 x H3
Material	Graplene (Recycled Polypropylene Compound)
Storage capacity (l/m <sup>2</sup> )	27,6
Package size (cm)	120 x 120 x H240
No. pieces	300
m <sup>2</sup> per pallet	100
Colour	Nero
Permeability	99%

\*Meets the requirements of DIN1072 for load class SLW60



# ADVANTAGES



Geocell is a high-strength grid made of regenerated polypropylene for wide-area water drainage underneath paved areas.



## STRONG

The specially engineered cellular structure gives Geocell a high flexural and compressive strength.

The ultimate rupture load is 95 t/m<sup>2</sup>: thanks to these properties it can be installed under areas with heavy traffic, thereby granting access to heavy vehicles as well.



## VERSATILE

Geocell can be used in different settings to effectively drain a variety of surface types.

The innovative coupling allows the elements to pivot up to an inclination of 90°, making it possible to follow variations in the substrate's course and give continuity to the drainage between vertical and horizontal surfaces.



## HIGH FLOW RATE

Thanks to the high void ratio of 91%, the Geocell drainage system is able to contain up to 27 litres of water per square metre of surface area.

This makes it possible to create a hollow space between the ground and the paving which is able to contain and drain away water from the substrate without it damaging the paving.

# THE CONCEPT

## LONGER IN-SERVICE LIFE

### CONVENTIONAL METHOD

Interlocking concrete paver surfaces risk decreasing their permeability to rainwater over time due to various factors (wear and tear, poor laying, water runoff effects, clogging).

This creates the conditions for water pooling and erosion of the sand bedding, which causes local subsidence as well as instability of the paving.



- greater depth of excavation;

- surface runoff and pooling;

- great risk of bedding saturation and erosion;

- instability of the interlocking paving;

- only vertical drainage.

### GEOCELL

Geocell creates a cavity beneath permeable paving surfaces, such as interlocking concrete pavers.

Thanks to its structure, Geocell improves vertical drainage performance, favouring the infiltration of rainwater into the subgrade, as well as a drastic increase of the horizontal drainage capacity.

The high compressive strength makes it suitable for trafficked surfaces.



- greatly reduced risk of bedding saturation;

- reduction of surface runoff;

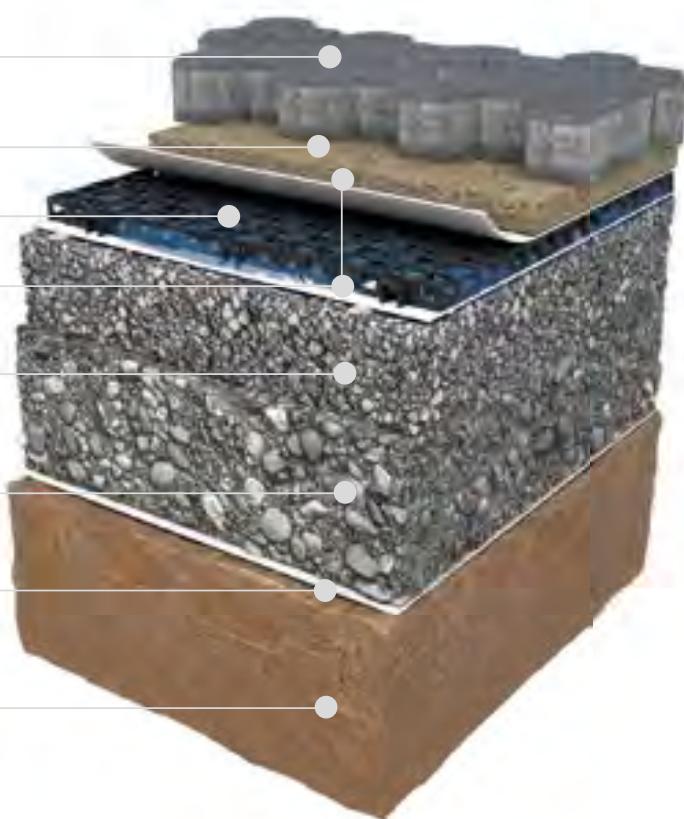
- faster and more efficient drainage towards the canalisation;

- stability of interlocking pavers;

- high compressive strength under traffic loads.

# GEOCELL STRATIGRAPHY

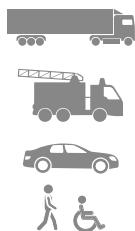
- INTERLOCKING CONCRETE PAVERS
- SAND BEDDING
- GEOCELL
- GEOTEXTILE
- AGGREGATE SUB-BASE COURS
- AGGREGATE FOUNDATION COURSE
- GEOTEXTILE
- NATURAL SOIL



## FREQUENCY OF USE



## LOAD CAPACITY



## LAYING STAGES

- 1 LAYING of lateral containment curbs;
- 2 LAYING of geotextile at the bottom of the excavation;
- 3 LAYING of base courses;
- 4 LAYING of geotextile over base courses;
- 5 LAYING of GEOCELL over geotextile;
- 6 LAYING of geotextile over Geocell panels;
- 7 SPREAD sand bedding;
- 8 LAYING of interlocking pavers as designed;
- 9 FILLING of joints with sand;
- 10 VIBRO-COMPACTION of pavers;
- 11 FINAL FILLING of the joints.

For further information please refer to the technical manual

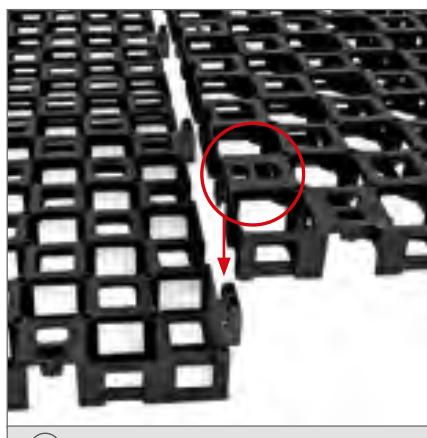
# LAYING



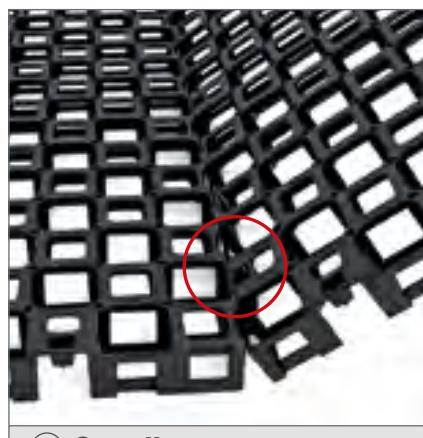
Geocell accepts any reasonably flat bedding. It is easy to lay as its coupling forgives slight unevenness. The modularity and the remarkable laying speed allow an agile and flexible workflow.

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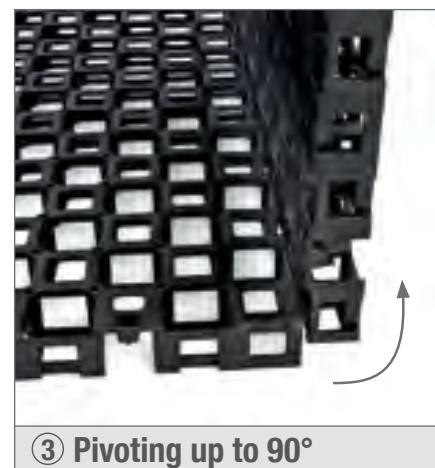
## COUPLING SEQUENCE



① Overlap



② Coupling



③ Pivoting up to 90°

Geocell is equipped with an innovative coupling that allows tilting of one panel with respect to the other up to a maximum inclination of 90°.

Even with the tilted panel the coupling ensures a stable connection of the elements.

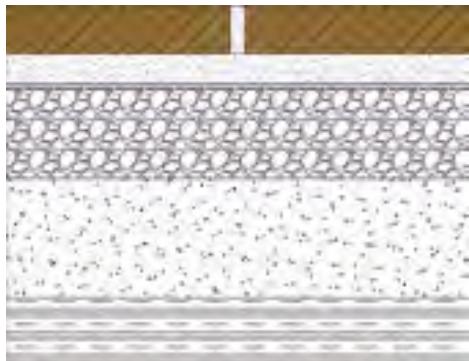
**ESTIMATED LAYING TIME: 100 M<sup>2</sup>/MAN-HOUR**

# COMPARATIVE ANALYSIS

## TRADITIONAL METHOD

Soil permeability =  $10^{-7}$  m/s

Speed of infiltration =  $10^{-7}$  m<sup>3</sup>/s



Storage volume of sand (100 mm) + sand (40 mm) =  $0,046 \text{ m}^3/\text{m}^2 = 46 \text{ mm}$

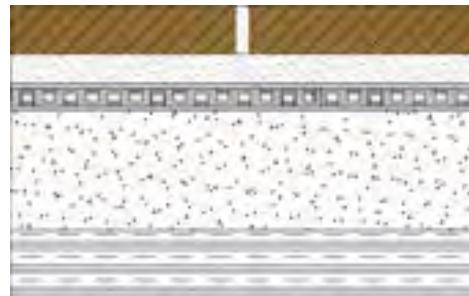
Emptying time =  $0,046 / 10^{-7} \approx 5,3 \text{ days}$

## GEOCELL

Soil permeability =  $10^{-7}$  m/s

Speed of infiltration =  $10^{-7}$  m<sup>3</sup>/s

Geocell drainage =  $0,004 \text{ m}^3/\text{s}$



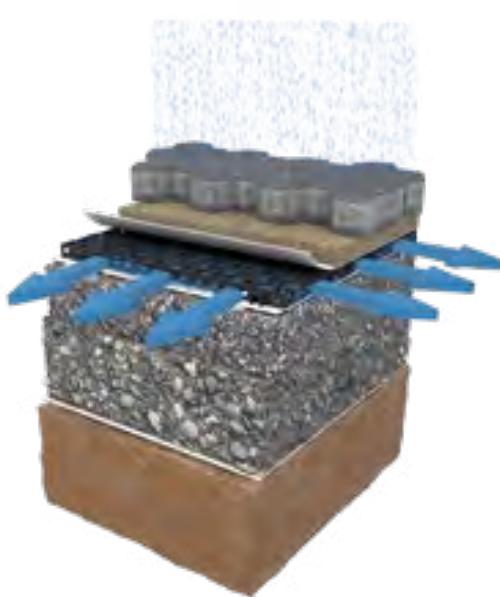
Geocell storage volume + sand (40 mm) =  $0,044 \text{ m}^3/\text{m}^2 = 44 \text{ mm}$

Emptying time =  $0,44 / (0,004+10^{-7}) < 1 \text{ h}$

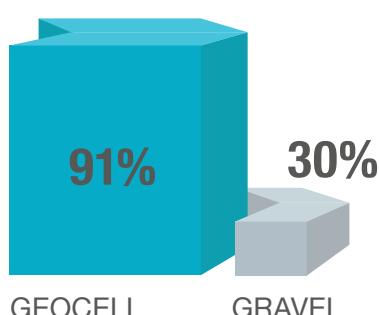
## WITHOUT GEOCELL



## WITH GEOCELL



## VOID RATIO

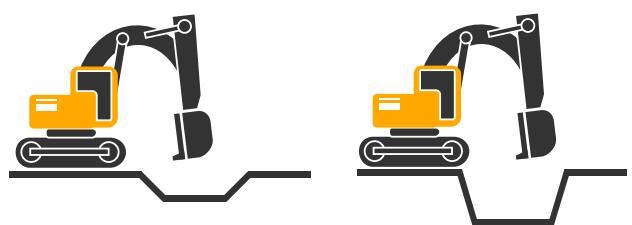


## DEPTH OF EXCAVATION

20% REDUCTION OF THE DEPTH OF EXCAVATION

GEOCELL

WITHOUT GEOCELL

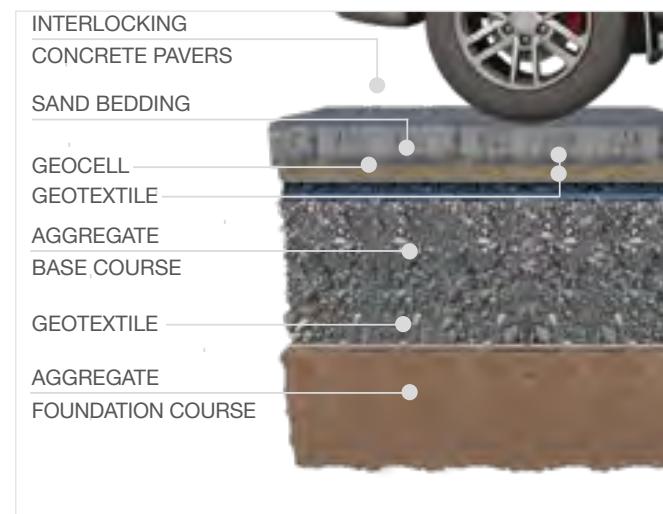


# INTERLOCKING PERMEABLE PAVERS

The cavity created by Geocell increases the drainage performance of the foundation course of permeable pavings. The element's structure provides drainage both in a vertical direction, favouring the infiltration of rainwater into the subsoil, and in a horizontal direction. In the case of poorly permeable soils, the available volume also produces a rainwater attenuation effect, allowing a gradual release of the water accumulated in the system. The high mechanical resistance enables it to be used also for heavy traffic areas and allows a significant reduction of the paving package.



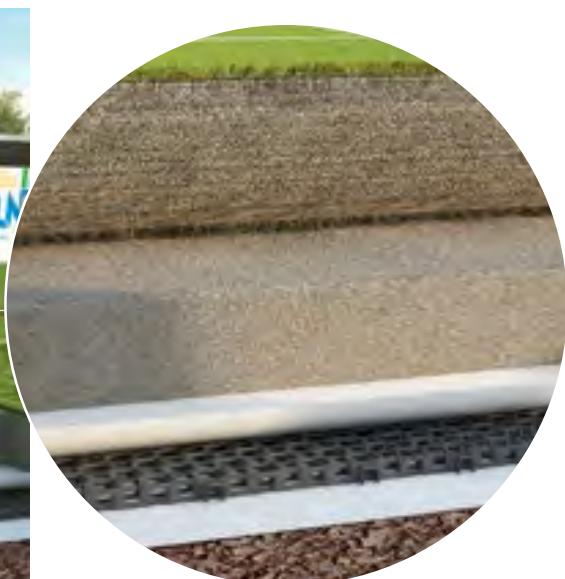
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# SPORT COURTS

Geocell avoids water pooling on natural or synthetic grass sport surfaces, such as football pitches, 5-a-side football pitches, tennis courts or other sports installations.

The system creates a diffused rainwater drainage that allows the practice of sports even in wet weather situations without the performance being affected by the bad conditions of the ground, and allowing the surfaces to dry quickly. The high load-bearing capacity of Geocell also makes it possible to avoid the use of important thicknesses of gravel for the construction of the substrate.



# GOLF COURTS

Golf courses are an excellent example of Geocell's extensive rainwater drainage capacity. It avoids the formation of water pockets, and thanks to the pivoting coupling, the product can be easily installed even in areas with variable, so as to follow the shape of the ground and maintain the configuration of the course as planned.

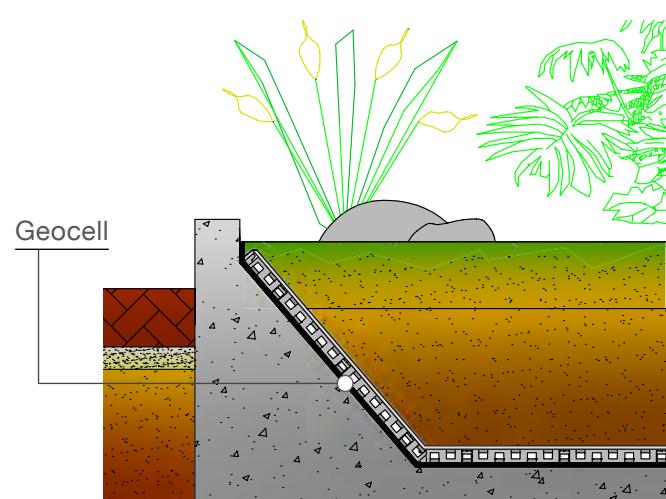


# GREEN ROOF

Geocell can also be used as a draining layer in the stratigraphy of green roof or concrete flowerbeds, thanks to its high mechanical resistance and good draining capacity. The panel allows a fast disposal of the rainwater that percolates through the ground, ensuring the protection of the waterproofing membrane and the prevention of stagnation, harmful to the vegetation. Thanks to the hook that allows the rotation of the panels, Geocell can also be positioned along vertical or sloping surfaces.



9



# REFERENCES

## RUNFLOOR - CAMPING MOLVENO, TRENTO

Runfloor has been chosen as a green flooring for the construction of RV parking areas. It provides excellent surface permeability and is UV resistant.



## GEOFLOOR - MARCANTONIO BENTEGODI STADIUM, VERONA

Geoflor is the flooring used to cover 6000 m<sup>2</sup> of the Bentegodi stadium playing field. It has ensured excellent stability of the surface and excellent protection of the turf from the passage of vehicles.



# REFERENCES

## GEOGRAVEL - PRIVATE VILLA IN STRA, VENICE

Geogravel is the ideal solution for creating gravel driveways because it allows rainwater to drain properly and is able to support the passage and steering of vehicles.



## SALVAVERDE - SALENTO UNIVERSITY, LECCE

9

The university's internal parking lot was created with Salvaverde. The green area was chosen for its excellent sealing performance and the excellent permeability of the surface created.





## EXTENSIVE SEDUM PLUS

Sedum green roof solution for sloping roofs with excellent drainage



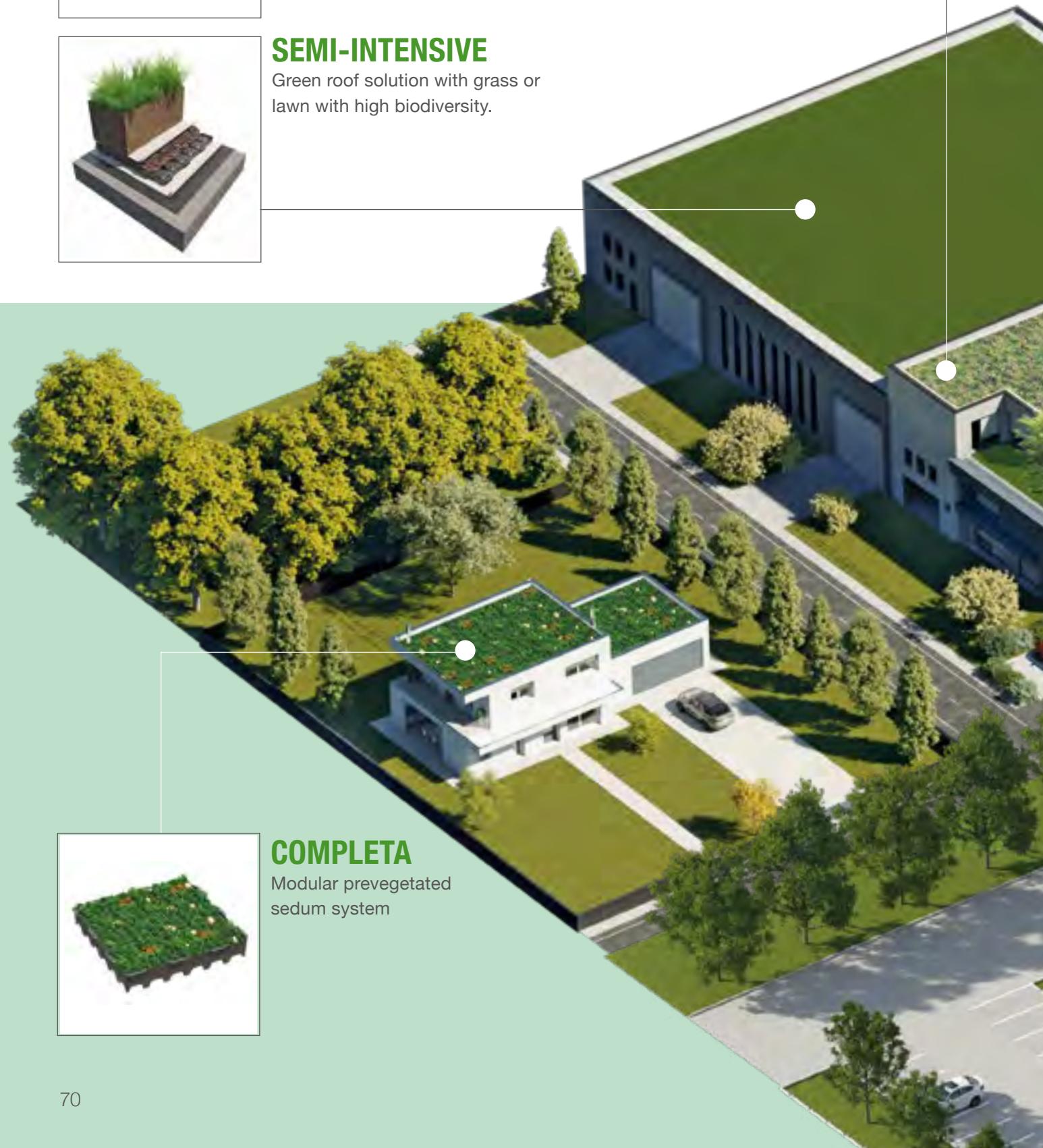
## SEMI-INTENSIVE

Green roof solution with grass or lawn with high biodiversity.



## COMPLETA

Modular prevegetated sedum system



## INTENSIVE

Green system with high aesthetic value and wide plant choice.



## EXTENSIVE SEDUM

Sedum green system for roofs with limited structural capacity.



# ENERGETIC AND ECONOMIC ADVANTAGES



## MENTAL-PHYSICAL WELLNESS

We are finding more and more literature studies of how green impacts in a positive way on the psyche mood and generally increases the well-being of people. In addition on a professional level, green increases productivity and reduces stress, thus improving concentration and relationships



## VALUE THE BUILDING

The growth of usable areas increases the commercial value of the property and the green roof allows you to significantly beautify the building.

Energy efficiency, thermal comfort and use of sustainable materials are distinctive elements to certify a building as LEED or BREAM building and better position it on the real estate market.

Finally, the green roof protects the covering (waterproofing membrane) from bad weather such as rain, hail, sun, wind and temperature changes.



## ENERGY SAVING

The roof garden is a system of natural insulation that increases the environmental comfort of a building. In the summer season the building equipped with a roof garden, can produce a greater thermal and therefore decrease the use of electrical energy for the the operation of the cooling system.

The green roof can reduce the temperature of a classic roof, made with bituminous waterproof up to 30-35 °C.

Thanks to this effect of mitigation due to the vegetation, also the performance of the photovoltaic system are increased with the consequent increase of electrical energy produced.

# ENVIRONMENTAL BENEFITS



## POLLUTION REDUCTION

The green roof is an acoustic barrier for the building with sound-absorbing properties. Geoplast green roof systems are able to absorb noise and guarantee acoustic insulation that has a positive impact on the psychological well-being of the condominiums.

In addition, the vegetation present in green roofs contributes to the filtration particulate matter (PM10, PM2.5 and PM1) and volatile organic compounds (VOC) present in the air. The air we breathe is therefore healthier thanks to the decrease in the production of CO<sub>2</sub>.



## QUALITY OF LIFE

The increase of green areas in a anthropized urban context helps to create new ecosystems by generating ideal for insects, butterflies and birds. Green areas also help to counter the heat island phenomenon which determines a warmer climate in urban areas. A massive adoption of roof gardens can therefore reduce the city temperatures by a few degrees, improving the quality of life of citizens and wildlife.



## STORMWATER MANAGEMENT

Green roofs have the great ability to store rainwater through their substrates, releasing it through the evaporation.

Floods caused by violent rainfall can therefore be limited thanks to green roof systems.

# EXTENSIVE SEDUM



- ✓ FAST INSTALLATION
- ✓ LOW THICKNESS
- ✓ AFFORDABLE

**SEDUM GREEN SYSTEM  
FOR ROOFS WITH LIMITED  
STRUCTURAL CAPACITY**



# THE SOLUTION

The light sedum extensive green roof is realized with the Drainroof 2.5 storage and drainage panel made of Graplene, a recycled plastic material.

The system of greening with sedum guarantees an immediate effect and allows to obtain a coverage of at least 90% already during laying.

The Sedum tolerates without problems long periods of drought and then compared to grasses or herbaceous perennials, it needs a minimum of water and minimal maintenance.

Compared to an intensive green roof system, the maintenance costs of an extensive green roof are significantly lower, it should however be checked at least once a year to check the good condition of the vegetation and remove weeds.

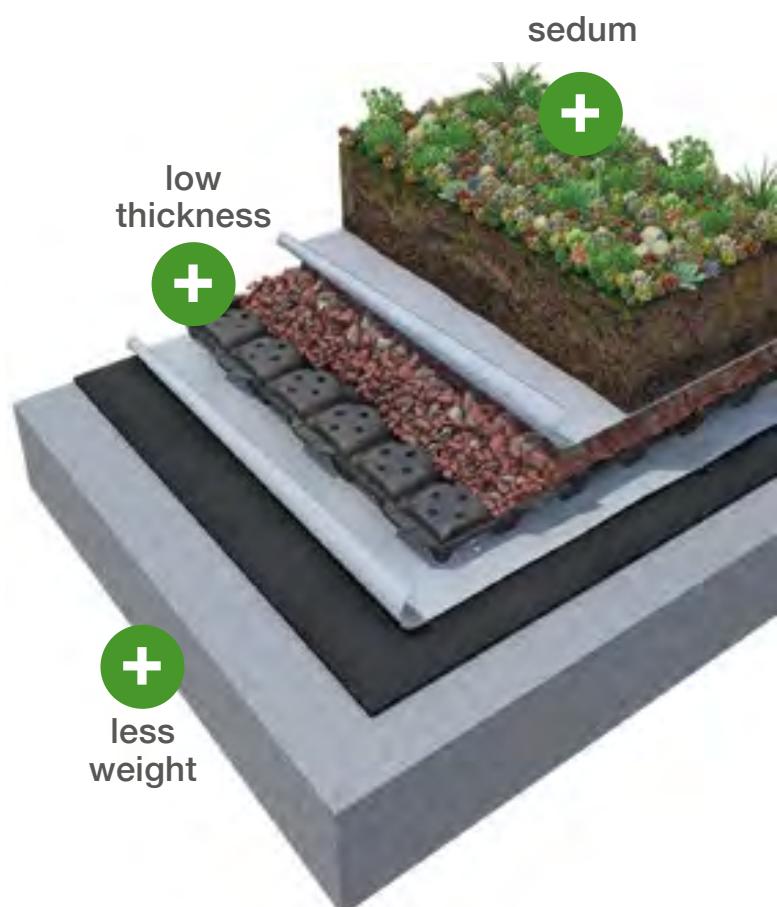
## OFFICE BUILDINGS

## RESIDENTIAL CONDOS

## HOTEL AND SHOW CENTERS

## INDUSTRIAL BUILDINGS

## GARAGES AND PARKINGS



**EASE OF REALIZATION:** the roof coverings sedum are the fastest to realize thanks to the limited use of aggregates.



**FOR FLAT ROOFS:** system designed for the realization on flat roofs and on slopes up to 5°.



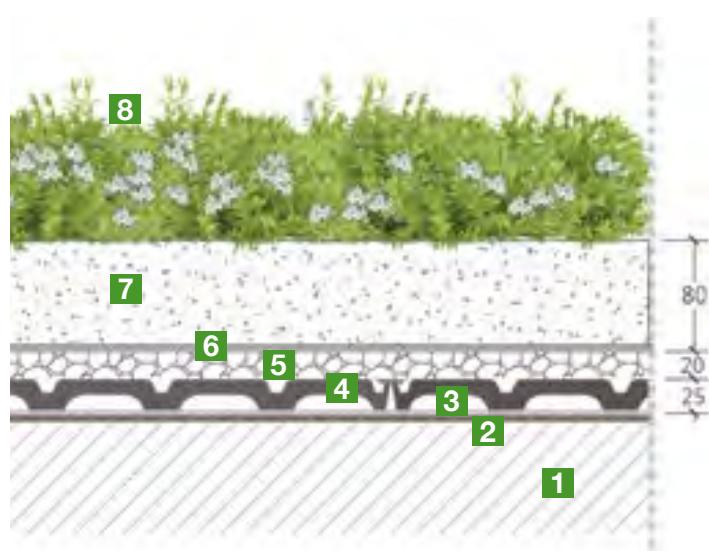
**LOW MAINTENANCE:** the sedum is a kind of plant that does not require much care

## PERFORMANCES

Subsoil thickness	cm	8
System thickness	cm	12
Vegetation's height	cm	6-12
Wet weight	kg/m <sup>2</sup>	120
Water storage capacity	l/m <sup>2</sup>	35-40
Runoff coefficient		0,45

# STRATIGRAPHY

1	Structural element	Slab
2	Root protection	TPO membrane
3	Protection layer	Geotextile 200-800g/m <sup>2</sup>
4	Storage layer	Drainroof
5	Drening layer	Volcanic stone
6	Protection layer	Geotextile 150g/m <sup>2</sup>
7	Sub soil	Natural soil
8	Vegetation	Sedum



## COMPONENTS

<b>1</b> 	<b>SLAB:</b> the slab can be made of concrete, wood, sheet metal.	<b>5</b> 	<b>VOLCANIC STONE:</b> effusive magmatic mineral naturally calcined at high temperature, porous, insulating and light.
<b>2</b> 	<b>ROOT PROTECTION:</b> synthetic covering according to EN 13956, with high resistance to UV rays and atmospheric agents. Available in different thicknesses depending on the fields of application: 1.5 - 1.8 - 2 - 3 mm.	<b>6</b> 	<b>GEOTEXTILE:</b> non-woven geotextile made by polyester fibers or 100% polypropylene. It is used as a layer of separation, filtering and protective layer in roofing applications.
<b>3</b> 	<b>GEOTEXTILE:</b> Geotextile made of polypropylene 100%. Resistant to bituminous substances biologically neutral does not rot. Complies with the standard EN ISO 13428.	<b>7</b> 	<b>EXTENSIVE SUBSOIL:</b> useful capacity of substrate 100-200 kg/sqm, ideal for extensive green roofs with thicknesses not exceeding 12 cm and useful capacity of the floor up to 200 kg/sqm. Excellent for grass gardens with plant varieties with reduced water and nutritional needs.
<b>4</b> 	<b>DRAINROOF H2.5:</b> panel 50x50 cm, with a height of 2.5 cm and storage capacity of 1.32 l/m². Draining capacity at 20 kPa (i=0.01) not less than 2.974 l/ms and drainage area not less than 547 cm²/m².	<b>8</b> 	<b>SEDUM:</b> grown in a nursery and then planted in the roof, prefers draining soils and little humid and requires small amount of water.

# INSTALLATION



## ① SLAB

Before proceeding with the installation of the membrane it is recommended to clean the laying surface.



## ③ GEOTEXTILE 200-800 gr/m<sup>2</sup>

Acts as a protective layer on root protection sheets and as a layer of water storage, increasing the water retention capacity of the entire package.



## ⑤ FILLING WITH VOLCANIC STONE

It is a natural volcanic inert, easy to spread, free of toxic substances, contributes to the water storage of the entire package.



## ⑦ EXTENSIVE SUBSOIL

Substrate for light and low maintenance extensive green roofs with limited thickness.



## ② ROOT PROTECTION

It has the function of preventing infiltration of rainwater and roots, protecting the slab from degradation.



## ④ DRAINROOF H2.5 LAYING

Draining and storage panel, modular element made of 100% regenerated PP, resistant to chemical and organic substances.



## ⑥ GEOTEXTILE 150 gr/m<sup>2</sup>

It works as filtration layer on Geoplast's drening elements.



## ⑧ SEDUM

Strong vegetation that requires minimal maintenance and minimal nutritional needs.

# EXTENSIVE SEDUM PLUS



SEDUM GREEN ROOF  
SOLUTION FOR  
SLOPING ROOFS WITH  
EXCELLENT DRAINAGE



# THE SOLUTION

The extensive green roof plus sedum is made with Drainroof H6 cm, the element for stormwater storage and drainage, produced in recycled plastic material.

Drainroof H6 cm makes it possible to manage extreme weather events by creating a free cavity underneath the panel for continuous drainage towards the collection systems (downpipes, etc.) thus avoiding possible floating of the entire stratigraphy.

This system allows the proper management of rainwater even on roofs with limited slopes. The height of the element guarantees the storage of stormwater for the sustainment of the vegetation during drought periods.

## SHOPPING MALLS

## SUPERMARKETS

## LOGISTIC CENTERS

## SCHOOLS

## PUBLIC BUILDINGS



**EXCELLENT DRAINAGE:** thanks to the gap guaranteed by the 6cm height, the stormwater avoids to collect under the panel and is quickly drained even on flat roofs.



**WATER STORAGE:** allows a greater storage of water, useful especially in drought areas.



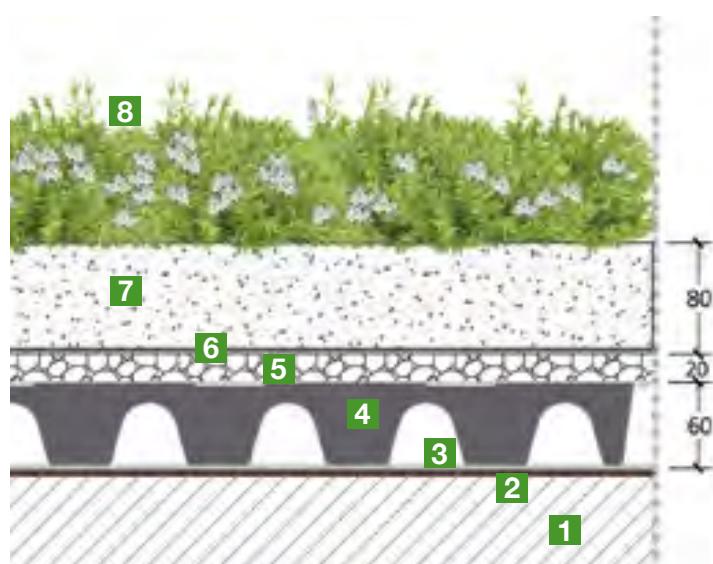
**MORE VENTILATION OF THE ROOF:** the slab remains well ventilated thanks to a greater height of the crawl space.

## PERFORMANCES

Subsoil thickness	cm	8
System thickness	cm	16
Vegetation's height	cm	6-12
Wet weight	kg/m <sup>2</sup>	130
Water storage capacity	l/m <sup>2</sup>	40-50
Runoff coefficient		0,45

# STRATIGRAPHY

1	Structural element	Slab
2	Root protection	TPO membrane
3	Protection layer	Geotextile 200-800g/m <sup>2</sup>
4	Storage layer	Drainroof
5	Drening layer	Volcanic stone
6	Protection layer	Geotextile 150g/m <sup>2</sup>
7	Sub soil	Natural soil
8	Vegetation	Sedum



## COMPONENTS



**SLAB:**  
the slab can be made of concrete, wood, sheet metal.



**VOLCANIC STONE:**  
effusive magmatic mineral naturally calcined at high temperature, porous, insulating and light.



**ROOT PROTECTION:**  
synthetic covering according to EN 13956, with high resistance to UV rays and atmospheric agents. Available in different thicknesses depending on the fields of application: 1.5 - 1.8 - 2 - 3 mm.



**GEOTEXTILE:**  
non-woven geotextile made by polyester fibers or 100% polypropylene. It is used as a layer of separation, filtering and protective layer in roofing applications.



**GEOTEXTILE:**  
Geotextile made of polypropylene 100%. Resistant to bituminous substances biologically neutral does not rot. Complies with the standard EN ISO 13428.



**EXTENSIVE SUBSOIL:**  
useful capacity of substrate 100-200 kg/sqm, ideal for extensive green roofs with thicknesses not exceeding 12 cm and useful capacity of the floor up to 200 kg/sqm. Excellent for grass gardens with plant varieties with reduced water and nutritional needs.



**DRAINROOF H6:**  
panel 50x50 cm, with a height of 6cm and storage capacity of 7 l/m<sup>2</sup>. Draining capacity at 20 kPa (i=0.01) not less than 2.974 l/ms and drainage area not less than 320 cm<sup>2</sup>/m<sup>2</sup>.



**SEDUM:**  
grown in a nursery and then planted in the roof, prefers draining soils and little humid and requires small amount of water.

# INSTALLATION



## ① SLAB

Before proceeding with the installation of the membrane it is recommended to clean the laying surface.



## ③ GEOTEXTILE 200-800 gr/m<sup>2</sup>

Acts as a protective layer on root protection sheets and as a layer of water storage, increasing the water retention capacity of the entire package.



## ⑤ FILLING WITH VOLCANIC STONE

It is a natural volcanic inert, easy to spread, free of toxic substances, contributes to the water storage of the entire package.



## ⑦ EXTENSIVE SUBSOIL

Substrate for light and low maintenance extensive green roofs with limited thickness.



## ② ROOT PROTECTION

It has the function of preventing infiltration of rainwater and roots, protecting the slab from degradation.



## ④ DRAINROOF H6 LAYING

Draining and storage panel, modular element made of 100% regenerated PP, resistant to chemical and organic substances.



## ⑥ GEOTEXTILE 150gr/m<sup>2</sup>

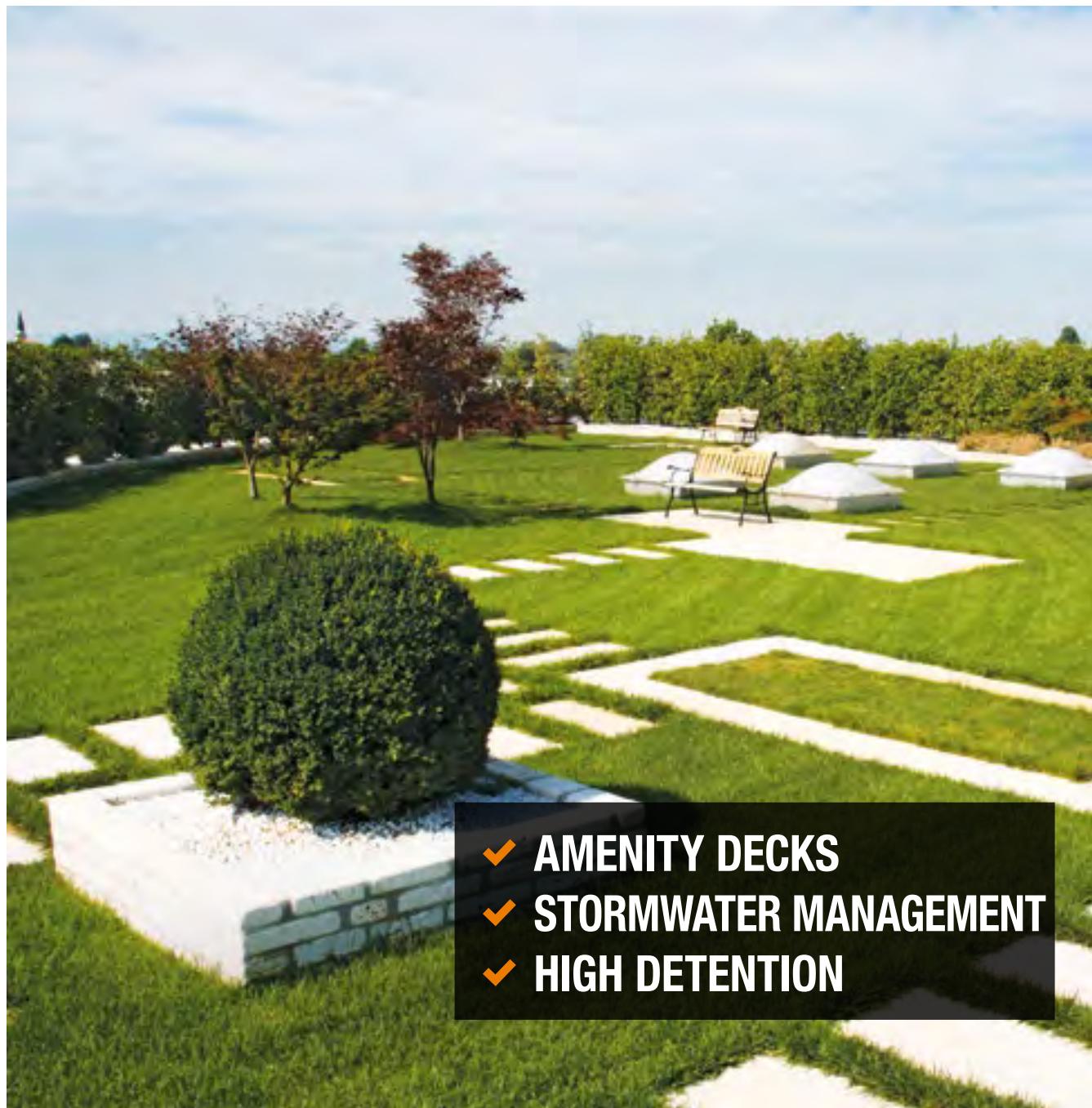
It works as filtration layer on Geoplast's drening elements.



## ⑧ SEDUM

Strong vegetation that requires minimal maintenance and minimal nutritional needs.

# SEMI-INTENSIVE



GREEN ROOF SOLUTION  
WITH GRASS OR LAWN  
WITH HIGH BIODIVERSITY



# THE SOLUTION

The semi-extensive green roof is made with Drainroof H2,5 and allows the realization of amenity decks and green roofs with limited thickness, up to 20 cm thick starting from the slab. Also, the use of the panel 2,5 cm high, guarantees excellent drainage thanks to the special holes on the domes.

Usually, this type of green roof is sown with grass and requires low maintenance.

Alternatively, it is possible to sow perennial grasses to ensure a high rate of biodiversity or, with aromatic plants, which allow obtaining particular scents and colors to the garden.

However, in all these cases the management costs remain contained limiting itself to the mowing of the lawn.

## SCHOOLS

## WINEMAKER

## ARCHITECTURAL BUILDINGS

## DOUBLE SLOPE BUILDINGS



10



**VARIETY OF PLANTS:** By increasing the thickness of the soil you can have a wider choice of plant, choosing between the classic lawn, perennial grasses and aromatic plants.



**SMALL THICKNESSES:** with only 20 cm from the slab you get a roof perfectly suitable.



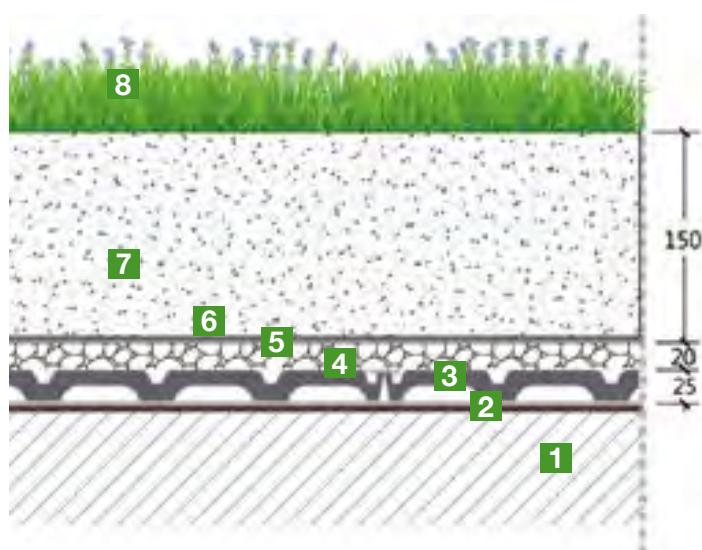
**MANAGEMENT COSTS:** this type of green roof involves low management costs.

## PERFORMANCES

Subsoil thickness	cm	15
System thickness	cm	20
Vegetation's height	cm	10-20
Wet weight	kg/m <sup>2</sup>	160-180
Water storage capacity	l/m <sup>2</sup>	70
Runoff coefficient		0,3

# STRATIGRAPHY

1	Structural element	Slab
2	Root protection	TPO membrane
3	Protection layer	Geotextile 200 g/m <sup>2</sup>
4	Storage layer	Drainroof H2,5
5	Drening layer	Volcanic stone
6	Protection layer	Geotextile 150 g/m <sup>2</sup>
7	Sub soil	Natural soil
8	Vegetation	Grass or shrubs



## COMPONENTS



**SLAB:**  
the slab can be made of concrete, wood, sheet metal.



**VOLCANIC STONE:**  
effusive magmatic mineral naturally calcined at high temperature, porous, insulating and light.



**ROOT PROTECTION:**  
synthetic covering according to EN 13956, with high resistance to UV rays and atmospheric agents. Available in different thicknesses depending on the fields of application: 1.5 - 1.8 - 2 - 3 mm.



**GEOTEXTILE:**  
non-woven geotextile made by polyester fibers or 100% polypropylene. It is used as a layer of separation, filtering and protective layer in roofing applications.



**GEOTEXTILE:**  
Geotextile made of polypropylene 100%. Resistant to bituminous substances biologically neutral does not rot. Complies with the standard EN ISO 13428.



**EXTENSIVE SUBSOIL:**  
substrate for usable green roofs (useful capacity 150-250 kg/ sqm) for which it is necessary to foresee an irrigation system suitable for the type of vegetation you want to realize.



**DRAINROOF H2.5:**  
panel 50x50 cm, with a height of 2.5cm and storage capacity of 1.32 l/m<sup>2</sup>. Draining capacity at 20 kPa (i=0.01) not less than 2.974 l/ms and drainage area not less than 547 cm<sup>2</sup>/m<sup>2</sup>.



**GRASSES OR LAWN:**  
sowing grass or perennial grasses.

# INSTALLATION



## ① SLAB

Before proceeding with the installation of the membrane it is recommended to clean the laying surface.



## ③ GEOTEXTILE 200-800 gr/m<sup>2</sup>

Acts as a protective layer on root protection sheets and as a layer of water storage, increasing the water retention capacity of the entire package.



## ⑤ FILLING WITH VOLCANIC STONE

It is a natural volcanic inert, easy to spread, free of toxic substances, contributes to the water storage of the entire package.



## ⑦ EXTENSIVE SUBSOIL

Substrate for medium-heavy roofs and with frequent turf maintenance.



## ② ROOT PROTECTION

It has the function of preventing infiltration of rainwater and roots, protecting the slab from degradation.



## ④ DRAINROOF H2.5 LAYING

Draining and storage panel, modular element made of 100% regenerated PP, resistant to chemical and organic substances.



## ⑥ GEOTEXTILE 150 gr/m<sup>2</sup>

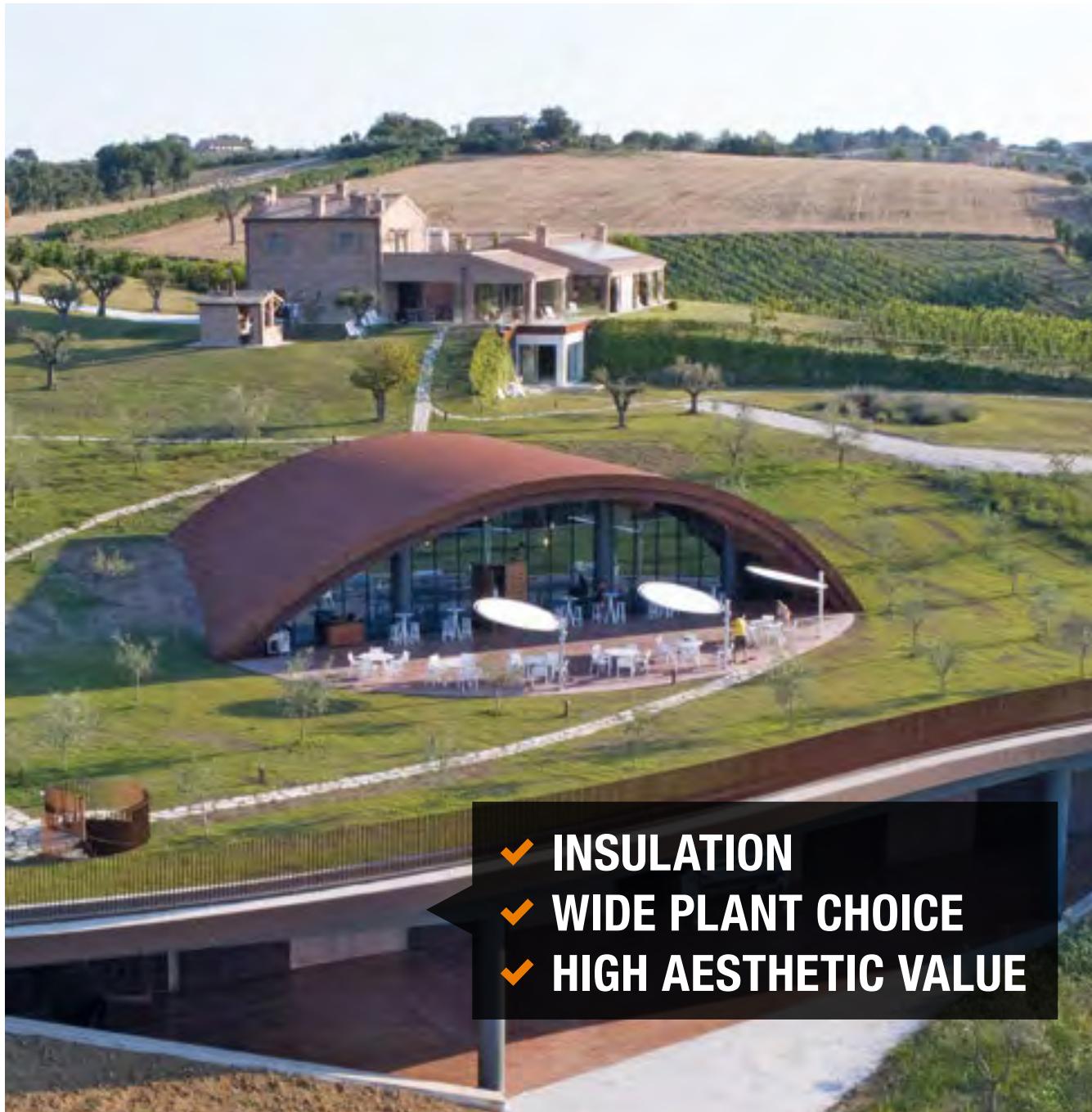
It works as filtration layer on Geoplast's drening elements.



## ⑧ PLANTS OR GRASS

Seeding or laying of a rolling lawn.

# INTENSIVE



GREEN SYSTEM WITH  
HIGH AESTHETIC VALUE  
AND WIDE PLANT CHOICE



# THE SOLUTION

This type of green roof is the closest to natural situation, in which in addition to the classic turf there are also small and medium-sized plants, hedges and walkways.

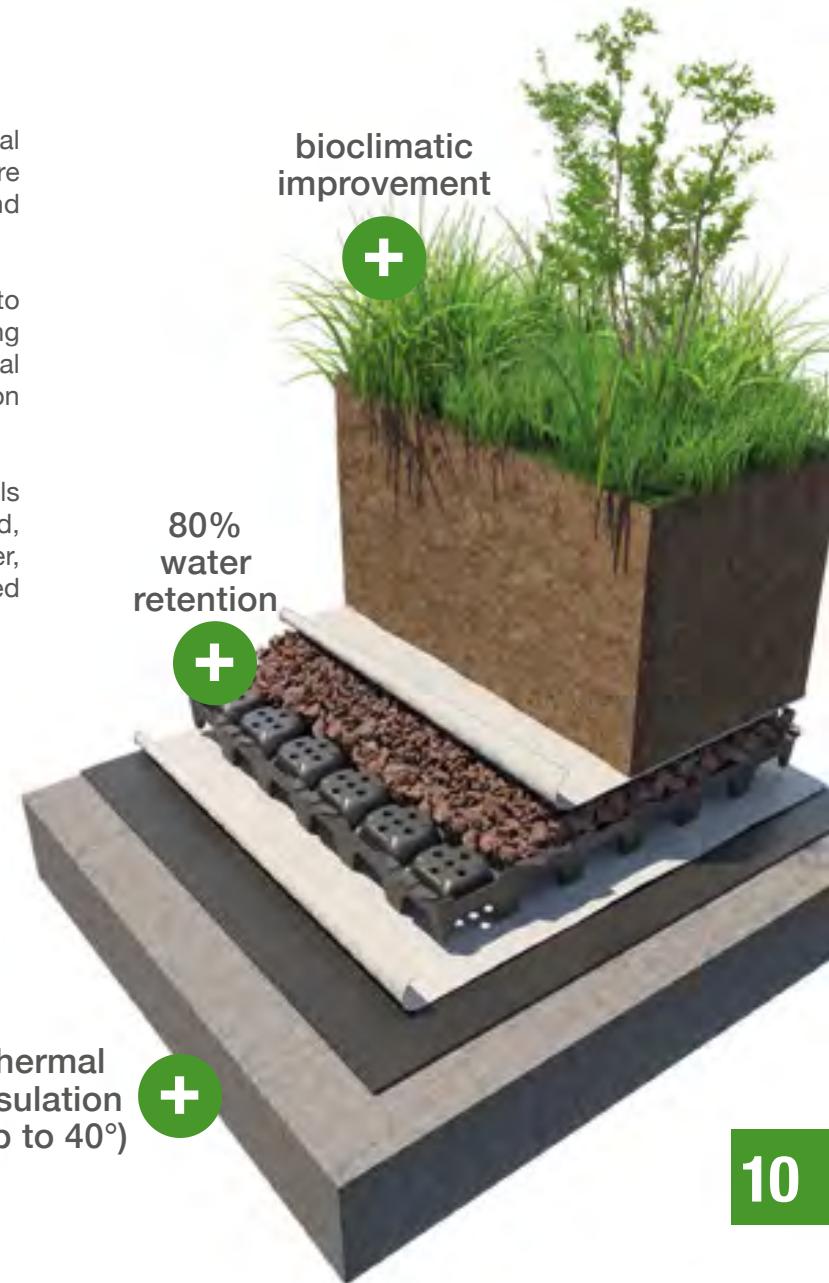
This situation requires Drainroof H6, which, thanks to its load capacity of 6 tons/sqm, guarantees the laying of up to 100 tons/sqm of turf, and a proper disposal of rainwater avoiding unpleasant water stagnation on the membranes.

Given the thickness of the package, higher levels of thermal and acoustic insulation will be achieved, providing higher standards to the building. However, these positive features are correlated with increased operating costs and increased maintenance.

## WINEMAKERS

## ARCHITECTURAL BUILDINGS

## SCHOOLS



10



**INSULATION:** Increasing the thickness of the soil increases the thermal and acoustic insulation.



**HIGH MAINTENANCE:** usually on these green roofs are planted with low-medium trunk plants that require a continuous maintenance over time.



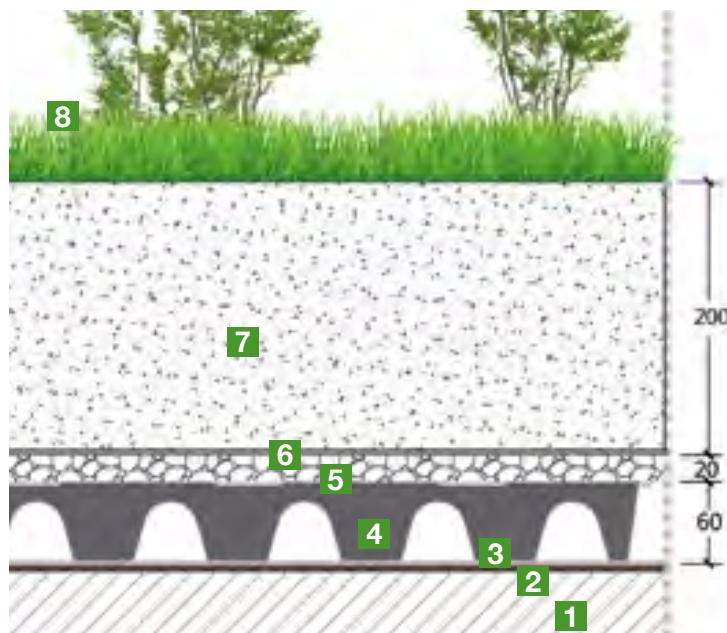
**NATURALNESS:** the intensive roof is the one that closest to a natural situation, allows you to fully enjoy all the beneficial effects of plants.

## PERFORMANCES

Subsoil thickness	cm	20
System thickness	cm	28
Vegetation's height	cm	15-90
Wet weight	kg/m <sup>2</sup>	> 200
Water storage capacity	l/m <sup>2</sup>	100
Runoff coefficient		0,20-0,25

# STRATIGRAPHY

1	Structural element	Slab
2	Root protection	TPO membrane
3	Protection layer	Geotextile 200-800g/m <sup>2</sup>
4	Storage layer	Drainroof
5	Drening layer	Volcanic stone
6	Protection layer	Geotextile 150g/m <sup>2</sup>
7	Sub soil	Natural soil
8	Vegetation	Grass or shrubs



## COMPONENTS



**SLAB:**  
the slab can be made of concrete, wood, sheet metal.



**VOLCANIC STONE:**  
effusive magmatic mineral naturally calcined at high temperature, porous, insulating and light.



**ROOT PROTECTION:**  
synthetic covering according to EN 13956, with high resistance to UV rays and atmospheric agents. Available in different thicknesses depending on the fields of application: 1.5 - 1.8 - 2 - 3 mm.



**GEOTEXTILE:**  
non-woven geotextile made by polyester fibers or 100% polypropylene. It is used as a layer of separation, filtering and protective layer in roofing applications.



**GEOTEXTILE:**  
Geotextile made of polypropylene 100%. Resistant to bituminous substances biologically neutral does not rot. Complies with the standard EN ISO 13428.



**EXTENSIVE SUBSOIL:**  
substrate for usable green roofs (useful capacity 150-250 kg/sqm) for which it is necessary to foresee an irrigation system suitable for the type of vegetation you want to realize.



**DRAINROOF H6:**  
panel 50x50 cm, with a height of 6cm and storage capacity of 7 l/m<sup>2</sup>. Draining capacity at 20 kPa (i=0.01) not less than 2.974 l/ms and drainage area not less than 320 cm<sup>2</sup>/m<sup>2</sup>.



**GRASSES OR AND SHRUBS:**  
you can now sow the lawn or lay the rolls and plant the shrubs.

# INSTALLATION



## ① SLAB

Before proceeding with the installation of the membrane it is recommended to clean the laying surface.



## ③ GEOTEXTILE 200-800 gr/m<sup>2</sup>

Acts as a protective layer on root protection sheets and as a layer of water storage, increasing the water retention capacity of the entire package.



## ⑤ FILLING WITH VOLCANIC STONE

It is a natural volcanic inert, easy to spread, free of toxic substances, contributes to the water storage of the entire package.



## ⑦ EXTENSIVE SUBSOIL

Substrate for medium-heavy roofs and with frequent turf maintenance.



## ② ROOT PROTECTION

It has the function of preventing infiltration of rainwater and roots, protecting the slab from degradation.



## ④ DRAINROOF H6 LAYING

Draining and storage panel, modular element made of 100% regenerated PP, resistant to chemical and organic substances.



## ⑥ GEOTEXTILE 150 gr/m<sup>2</sup>

It works as filtration layer on Geoplast's drening elements.



## ⑧ GRASSES AND SMALL SHRUBS

# EXTENSIVE SEDUM GREEN ROOF

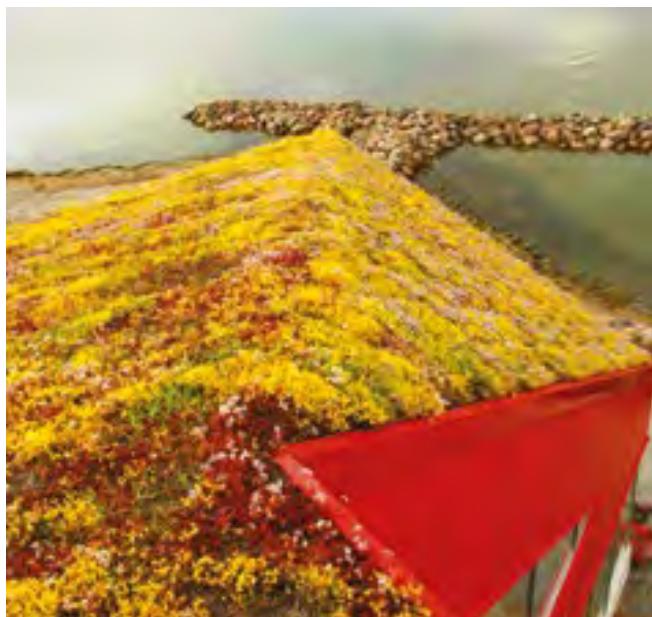
Drainroof is the most efficient system for rainwater drainage. The shape of the channels is created to allow the water to drain away quickly, even in case of heavy rainfall. Any water stagnation is avoided thanks to the aerated cavity.

Drainroof is specifically designed to make laying simple and safe and can be easily shaped according to requirements.



# SLOPED EXTENSIVE GREEN ROOF

With Drainroof, a real technical protection layer is created on the roof. The substrate absorbs at least 50% of the rainwater, favoring the correct water regulation and returning to the built surface the initial portion of lawn. In this way, biodiversity is safeguarded and a high standard of energy efficiency is achieved energy efficiency.



# EXTENSIVE PLUS GREEN ROOF

An example of bio-architecture in which the roof garden is an element of integration between the surrounding greenery and the hyper-urbanized context of the airport.



# INTENSIVE GREEN ROOF

Drainroof, designed specifically for roofing, ensures maximum ease of installation. The hooking system fixes the panels together, avoiding lifting and displacement; the domed structure avoids any floating phenomenon. In addition Drainroof does not incur in phenomena of water absorption and is totally chemically inert.

10



# COMPLETA



- ✓ FAST DRAINAGE
- ✓ MODULAR
- ✓ LOW MAINTENANCE

## MODULAR PRE-VEGETATED SEDUM GARDEN



# THE SOLUTION

Completa is the pre-vegetated system for the realization of extensive sedum green roofs.

The do-it-yourself installation is easy, fast, and modular and allows you to act on the roof if the waterproofing membrane presents sealing problems removing the elements.

It can be installed in any type of roof with slopes up to 30%.

**TERRACES**

**GARAGE**

**SCHOOLS**

**SPUERMARKETS**

**SHOP MALLS**



**QUICK DRAINAGE:** the holes of the system allow to drain high flow rates of stormwater.



**MODULAR:** Pre-vegetated panels are lightwei-ght and are laid with ease and precision.

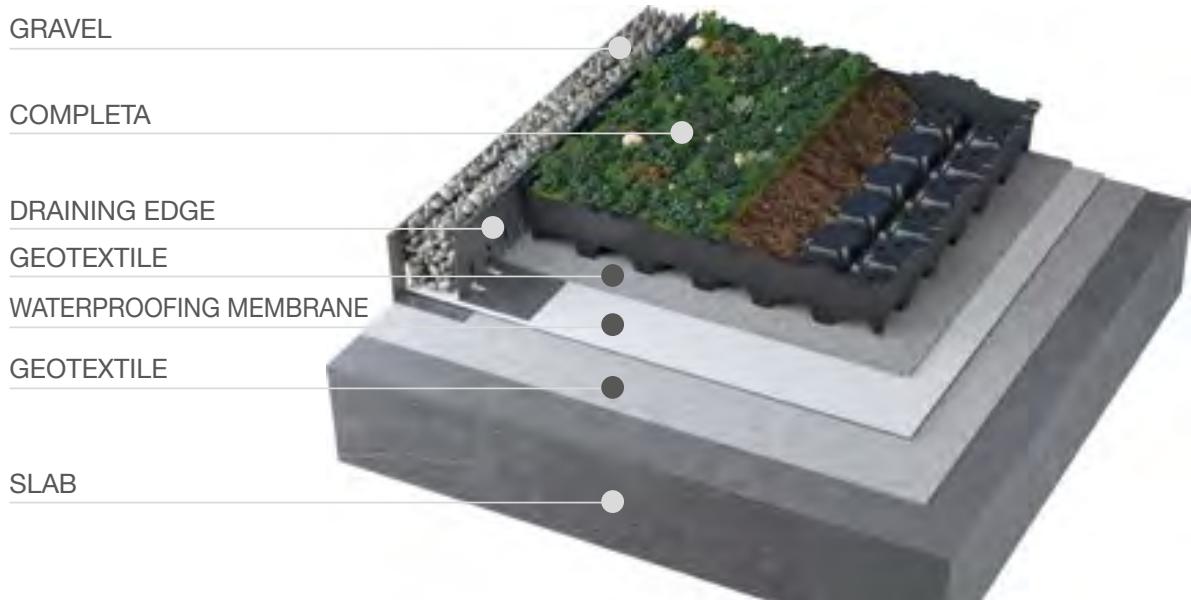


**LOW MAINTENANCE:** sedum does not have to be mowed and guarantees a low maintenance.

## PERFORMANCES

Subsoil thickness	cm	8
System thickness	cm	9
Vegetation's height	cm	6-12
Wet weight	kg/m <sup>2</sup>	70
Water storage capacity	l/m <sup>2</sup>	40
Runoff coefficient		0,5

# COMPLETA COLD ROOF STRATIGRAPHY



## COMPONENTS



**1 SLAB:**  
the slab can be made of concrete, wood, sheet metal.



**4 GEOTEXTILE:**  
Geotextile made of polypropylene 100%.  
Resistant to bituminous substances biologically neutral does not rot. Complies with the standard EN ISO 13428.



**2 GEOTEXTILE:**  
Geotextile made of polypropylene 100%.  
Resistant to bituminous substances biologically neutral does not rot. Complies with the standard EN ISO 13428.



**5 DRAINING EDGE:**  
made of aluminum or stainless steel stainless, linear L-shaped with vertical grooves for the continuous drainage.



**3 ROOT PROTECTION:**  
synthetic covering according to EN 13956, with high resistance to UV rays and atmospheric agents. Available in different thicknesses depending on the fields of application: 1.5 - 1.8 - 2 - 3 mm.



**6 COMPLETA**  
pre-vegetated modular system for extensive green roofs.

# INSTALLATION



## ① SLAB

Before proceeding with the installation of the membrane it is recommended to clean the laying surface.



## ③ ROOT PROTECTION

It has the function of preventing infiltration of rainwater and roots, protecting the slab from degradation.



## ⑤ DRENING EDGE

Stainless steel L shaped profile for stormwater drainage.



## ② PROTECTIVE LAYER

Geotextile with variable thickness to level the surface



## ④ GEOTEXTILE 200 - 800 gr/m<sup>2</sup>

Acts as a protective layer on root protection sheets and as a layer of water storage, increasing the water retention capacity of the entire package.



## ⑥ COMPLETA

Pre-vegetated modular system with sedum for extensive green roofs.

# COMPLETA HOT ROOF STRATIGRAPHY

GRAVEL AND DRAINING

EDGE

COMPLETA

GEOTEXTILE

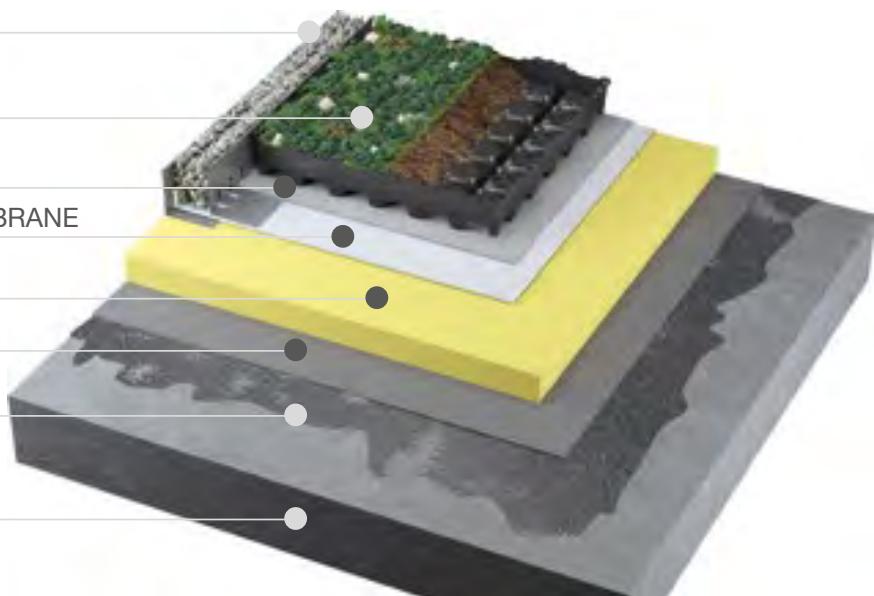
WATERPROOFING MEMBRANE

INSULATION LAYER

VAPOUR BARRIER

PRIMER

SLAB



## COMPONENTS



**1**

**SLAB:**  
the slab can be made of concrete, wood, sheet metal.



**5**

**ROOT PROTECTION:**

synthetic covering according to EN 13956, with high resistance to UV rays and atmospheric agents. Available in different thicknesses depending on the fields of application: 1.5 - 1.8 - 2 - 3 mm.



**2**

**PRIMER:**

Black-brown, odorless, fast-drying bituminous primer. It is used to improve adhesion and decrease porosity of concrete surfaces. Estimated consumption is approximately 200-300 g/m<sup>2</sup>.



**6**

**GEOTEXTILE:**

Geotextile made of polypropylene 100%. Resistant to bituminous substances biologically neutral does not rot. Complies with the standard EN ISO 13428.



**3**

**VAPOR BARRIER:**

The upper part is made in textured polypropylene fabric while it is made of black polyethylene film in the lower face. It preserves the insulating materials over time. It complies with EN 13970.



**7**

**DRAINING EDGE:**

made of aluminum or stainless steel stainless, linear L-shaped with vertical grooves for the continuous drainage.



**4**

**INSULATING LAYER:**

is made of extruded polystyrene foam and is used in applications that require high resistance to compression 300 kPa. Thermal conductivity  $\lambda_D > 0.030$  W/mK.



**8**

**COMPLETA**

made of aluminum or stainless steel stainless, linear L-shaped with vertical grooves for the continuous drainage.

# INSTALLATION



## ① SLAB

Before proceeding with the installation of the membrane it is recommended to clean the laying surface.



## ③ VAPOR BARRIER

Placed on the roof to stop the passage of steam from the hot part to the cold part of the structures always keeping the external insulation dry.



## ⑤ ROOT PROTECTION

It has the function of preventing infiltration of rainwater and roots, protecting the slab from degradation.



## ⑦ DRENING EDGE

Stainless steel L shaped profile for stormwater drainage.



## ② PRIMER

Non-flammable, odorless bituminous primer. It is ready to use, does not need to be thinned and has excellent adhesive properties on all substrates.



## ④ INSULATING LAYER

The insulation panels used are many and are chosen in the design phase according to the characteristics of the project.



## ⑥ GEOTEXTILE 200 - 800 gr/m<sup>2</sup>

Acts as a protective layer on root protection sheets and as a layer of water storage, increasing the water retention capacity of the entire package.



## ⑧ COMPLETA

Pre-vegetated modular system with sedum for extensive green roofs.

# TECHNICAL DATA



## DRAINROOF H2,5

Dimensions (cm)	50 x 50 x H2,5
-----------------	----------------

Material	Graplene (Recycled polypropylene compound)
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Weight per piece (kg)	0,54
-----------------------	------

Packaging size (cm)	105 x 120 x H230
---------------------	------------------

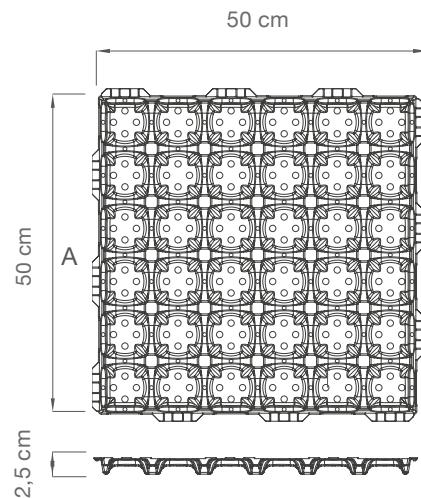
Storage water capacity (l/m <sup>2</sup> )	1,32
--	------

Compressive strength (t/m <sup>2</sup> )	3,2
--	-----

Colour	Black
--------	-------

Nº of pieces	1440
--------------	------

Product code	FDRAINR5002
--------------	-------------



## DRAINROOF H6

Dimensions (cm)	50 x 50 x H6
-----------------	--------------

Material	Graplene (Recycled polypropylene compound)
----------	---

Weight per piece (kg)	0,84
-----------------------	------

Packaging size (cm)	105 x 120 x H240
---------------------	------------------

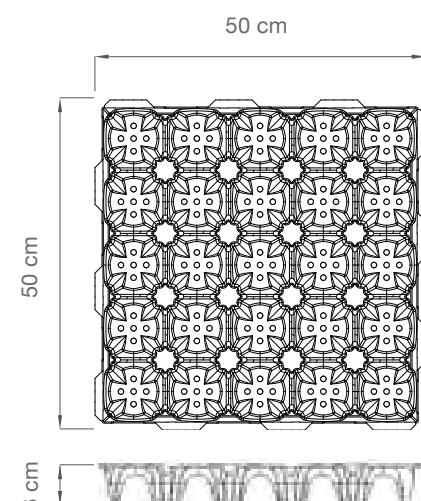
Storage water capacity (l/m <sup>2</sup> )	7,0
--	-----

Compressive strength (t/m <sup>2</sup> )	6,0
--	-----

Colour	Black
--------	-------

Nº of pieces	720
--------------	-----

Product code	FDRAINR5006
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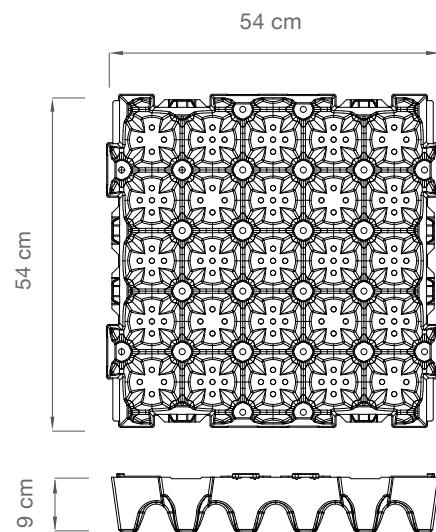


# TECHNICAL DATA



## COMPLETA PREVEGETATED

Dimensions (cm)	54 x 54 x H9
Material	Graplene (Recycled polypropylene compound)
Weight per piece (kg)	16
Packaging size (cm)	110 x 125 x H240
Storage water capacity (l/m <sup>2</sup> )	20
Compressive strength (t/m <sup>2</sup> )	6
Vegetation	Sedum
N° of pieces pallet	48
m <sup>2</sup> Completa prevegetated	14
Product code	FCOMVEG5409



## ACCESSORIES



### GEOTEXTILE 150 gr

Fiber diameter (µm)	25 - 30
Material	Polipropilene stabilizzato UV
Weight ( kg/dm <sup>3</sup> )	0,91
Melting point (cm)	165-175 °C
Tensile strength (kN/m)	12
Elongation at max load (%)	55-60
CBR puncturing (kN)	1,9
Dinamic puncturing (mm)	26
Normal plane permeability (mm/s)	100
Permeability in the plane (10 <sup>-3</sup> l/ms)	1,6
Opening (µm)	90
Massa areica (g/m <sup>2</sup> )	150
Thickness (mm)	1,0



### GEOTEXTILE 200 gr

Fiber diameter (µm)	25 - 30
Material	Polipropilene stabilizzato UV
Weight ( kg/dm <sup>3</sup> )	0,91
Melting point (cm)	165-175 °C
Tensile strength (kN/m)	16
Elongation at max load (%)	60-65
CBR puncturing (kN)	2,4
Dinamic puncturing (mm)	20
Normal plane permeability (mm/s)	90
Permeability in the plane (10 <sup>-3</sup> l/ms)	2,1
Opening (µm)	80
Massa areica (g/m <sup>2</sup> )	200
Thickness (mm)	1,3

# REFERENCES GREEN ROOFS

## COMPLETA - CORPORATE BUILDING, POLAND

The flat roof of this company's headquarters in Poland was covered using the ready-made system Completa. The installation was simple, fast and did not require the services of green specialists.



## DRAINROOF H6 - WATERFRONT, BELGRADE

The roof of this mall, built on the banks of the Danube River, was made with a package of intensive lawn. In this way, visitors and users of the mall can experience the structure at 360 degrees and benefit from the surrounding greenery.



# REFERENCES GREEN ROOFS

## COMPLETA - MULTIFUNCTIONAL BUILDING, BERGAMO, ITALY

The use of the modular system Completa has allowed to realize the roof garden in a fast and already greened as the modules are supplied on site with developed sedum seedlings.



## COMPLETA - SUPERMARKET, BOLOGNA, ITALY

In addition to being fast and already greened, the Completa system complies with Italian legislation on roof gardens (UNI11235) and has been chosen by important multinational companies in the retail and mass distribution sector.



# REFERENCES

## DRAINROOF H6 - LOGISTIC CENTER VIMAR, VICENZA, ITALY

Our extensive sedum package was laid on the totally flat roof, ensuring excellent stormwater management while providing rapid water drainage to the collection pits



## DRAINROOF H6 - HOSPITAL, VENICE, ITALY

Drainroof has been chosen to guarantee the perfect protection of the waterproofing membrane of roofs, the correct accumulation of water and the right drainage. The roof garden has been vegetated with sedum, which only one year after sowing, shows an excellent development.



# REFERENCES

## DRAINROOF H2,5 - WINERY, ANCONA, ITALY

The hanging garden has been realized in harmony with the hills of the Marche region and with the surrounding environment rich in flourishing vineyards. The roof garden with Drainroof h2,5 has been of fundamental importance for the correct drainage of rainwater.

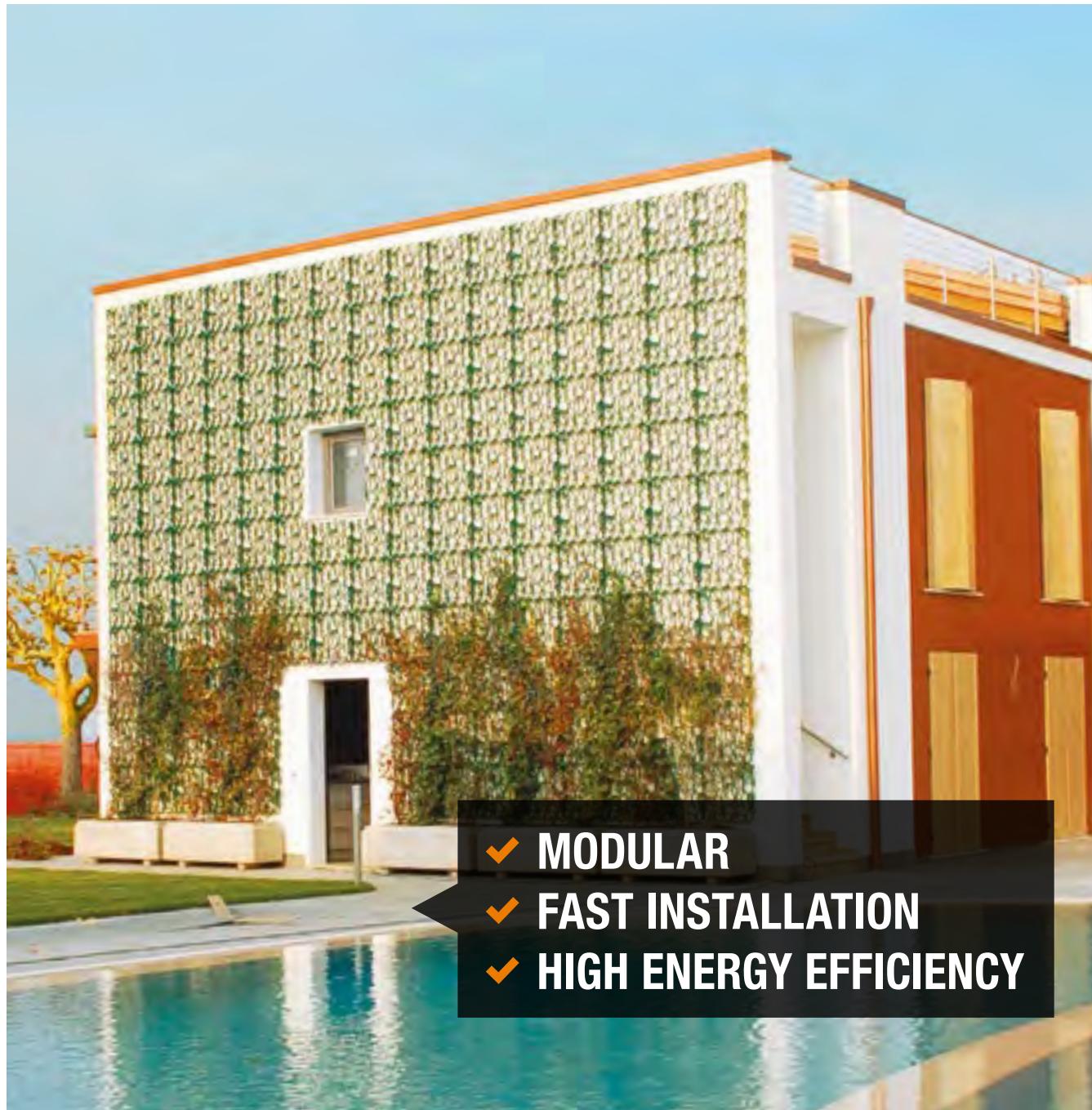


## DRAINROOF H2,5 - WINERY, PESCARA, ITALY

The package chosen for this project, a semi-intensive lawn, is ideal for creating usable flat surfaces as it is able to assist both technical requirements, such as rainwater drainage.



# WALL-Y



GRID FOR THE REALIZATION  
OF VERTICAL GREEN WALLS



# THE SOLUTION

Wall-Y is an innovative design element, designed to create vertical green walls. It does not fear atmospheric agents, improves the energy performance of the building and makes it more aesthetically pleasing. It can be installed both as a piece of furniture both indoor and outdoor, thanks to the virgin material resistant to UV rays. The original texture of the grid, available in several colors, embellishes the walls even if not entirely covered by vegetation. It is ideal on both existing and new buildings construction.

## GREEN WALLS

## DELIMITATION GREEN SPACES

## CLIMBING AND POTTED PLANTS

## INTERNAL SPACE DELIMITATIONS

Suitable for planting of plant species climbing and potted plants realize multiple aesthetic effects.

Thanks to the cavity that is created between the wall and the grid it is possible to lay the perforated for the irrigation of the tubs.



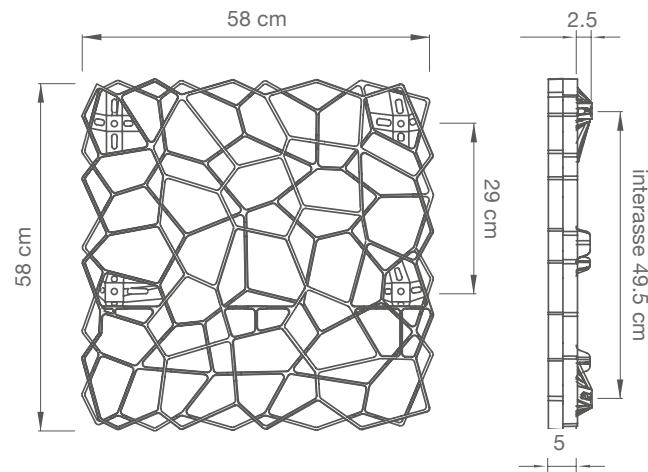
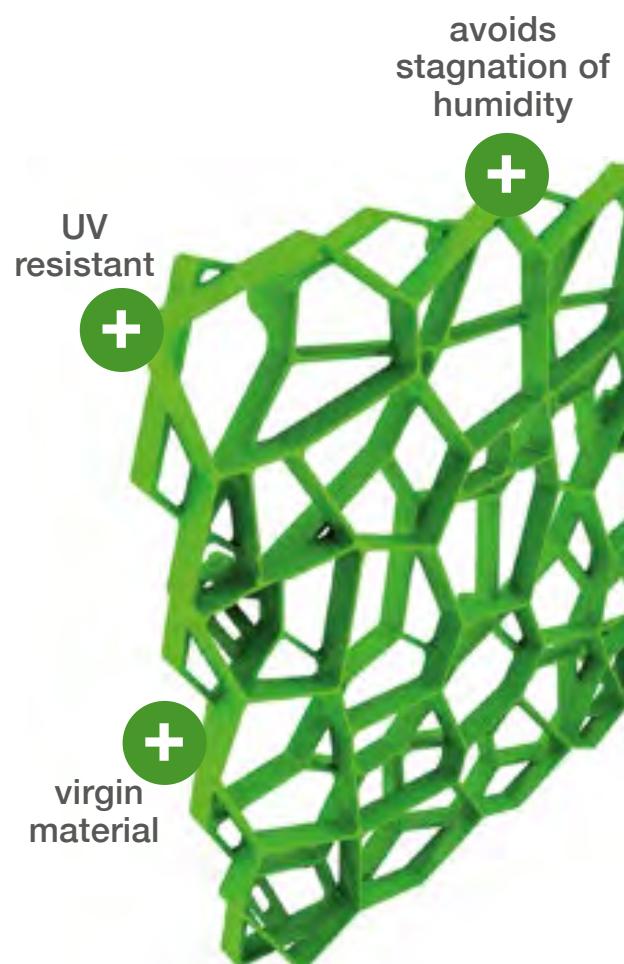
### TECHNICAL DATA

### GRID

### POT

Actual size (cm)	58 x 58 x H7,5	58 x 22 x H20
Material	Gralene HDVN (Polietilene Compound)	
Weight (kg)	1,47	1,21
Packaging (cm)	120 x 120 x H240	100 x 120 x H200
Pieces per pallet	180	100
m <sup>2</sup> per pallet	60	-
Colour	Green - white	Green - white

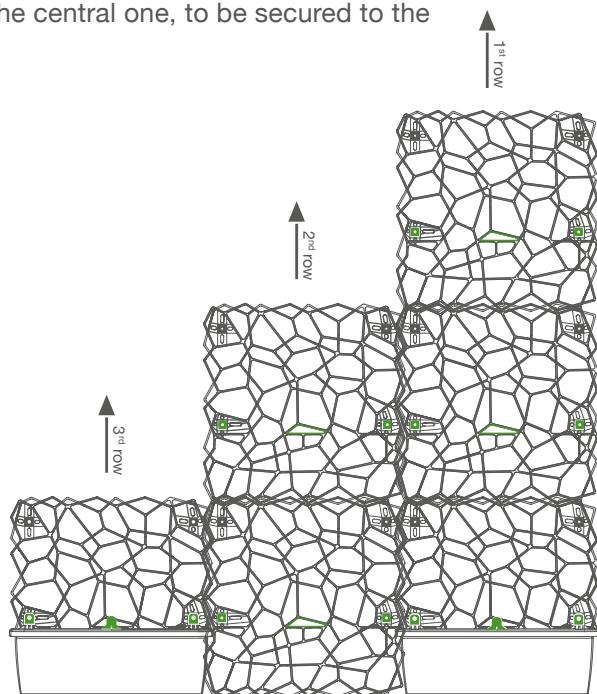
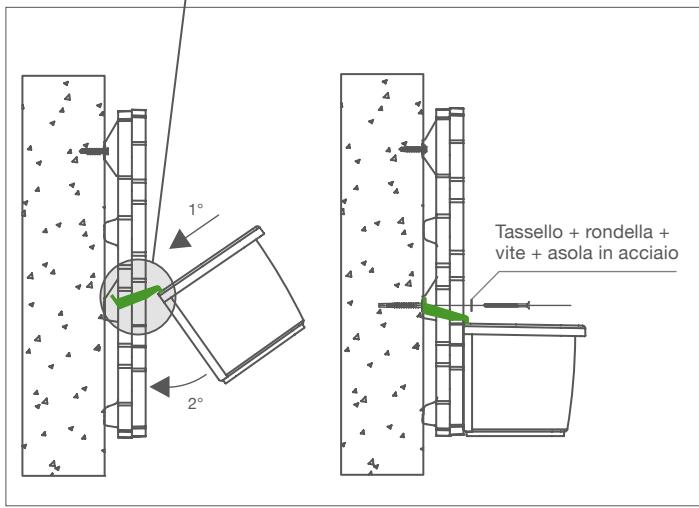
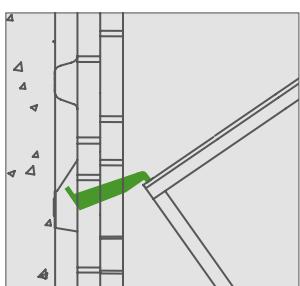
\*Customized colours are available



# INSTALLATION

## THE HOOKING SYSTEM

Care must be taken to ensure that all tray supports are inserted into the three spaces provided in the Wall-Y element; the two lateral ones provided with the slot for the insertion of the wall hooking and the central one, to be secured to the grid for further support.



## INSTALLATION ON WALL

WOOD



CONCRETE



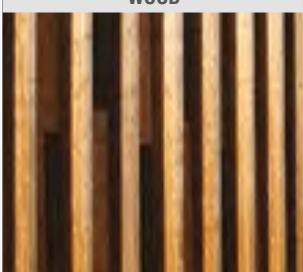
BRICKS



You can install Wall-Y on an existing wall or realize self-supporting walls and partitions by hooking elements to a substructure.

## INSTALLATION ON FRAME

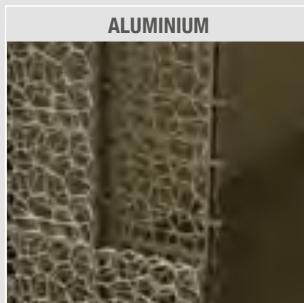
WOOD



ALUMINIUM



ALUMINIUM



Geoplast provides technical support for the choice of the fixing system.

# GREEN WALL

Wall-Y has been chosen because it is a non-invasive solution, whose design favors the natural ventilation of the green wall, allowing an easy and fast rooting of the plants.

The grids do not fear exposure to sunlight, as the plastic with which they are made is resistant to UV rays. They are available in two colors, white and green, with trays as an accessory, also available in both colors.



# ELEMENT OF FURNITURE AND PARTITIONING

Wall-Y is a system that can be adapted to any specific need and does not necessarily need a wall to be installed. In the case of partitions between different private spaces, it can be hooked to a substructure in order to obtain self-supporting partitions. The particular design of the mesh favors the shielding creating a structure light and immediately pleasant.



# ELEVATOR ROOT



HIGH LOAD-BEARING  
SYSTEM FOR HOUSING  
SHRUBS AND PLANTS



# THE SOLUTION

With Elevator Root it is possible to realize vegetative islands in urban contexts and safeguard the root system of trees. The system is equipped with domes and tubes that once cast act as load-bearing pillars. The concrete slab above the domes is then poured, guaranteeing a high load capacity.

Compared to the traditional excavation and subsequent filling with inert material, Elevator Root guarantees:

- excellent management of urban green (less maintenance and longer plant life);
- great design freedom in the creation of areas with trees;
- excellent logistics and storage, both during the phases of laying and installation of the system;
- no lifting of the road surface.

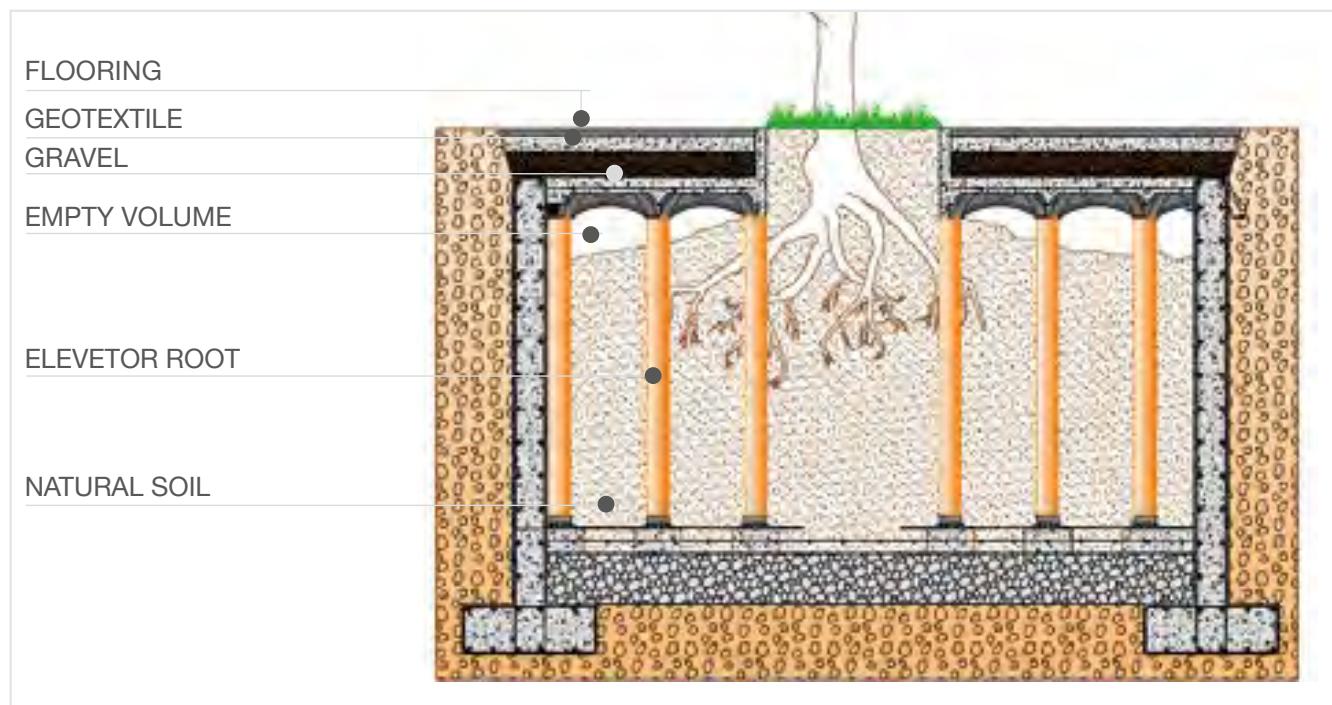
## BOULEVARDS

## PLAZA AND DECKS

## BIKE LANES



## TYPICAL STRATIGRAPHY



# ROOTBOX



ROOT MANAGEMENT  
SYSTEM WITH  
FLOOR SUPPORT



# THE SOLUTION

Trees placed in an urban context, many times suffer because of the limited space allocated to the root system, which over time is increasingly compacted due to the continuous passage of vehicles, this leads to a lack of oxygen in the soil and a limitation of living space for the plant.

and a limitation of the vital spaces for the plant.

The search for space and oxygen by the tree, which with its roots pushes against the roadbeds, leads to the formation of cracks and deformations in the pavement, forcing continuous maintenance.

With the installation of Rootbox, the designer finds an excellent solution to fight the urbanization, ensuring both the health and lushness of plants and the safety of citizens during the transit on sidewalks, bike paths or road benches.

## BOULEVARDS

## PLAZA AND DECKS

## BIKE LANES

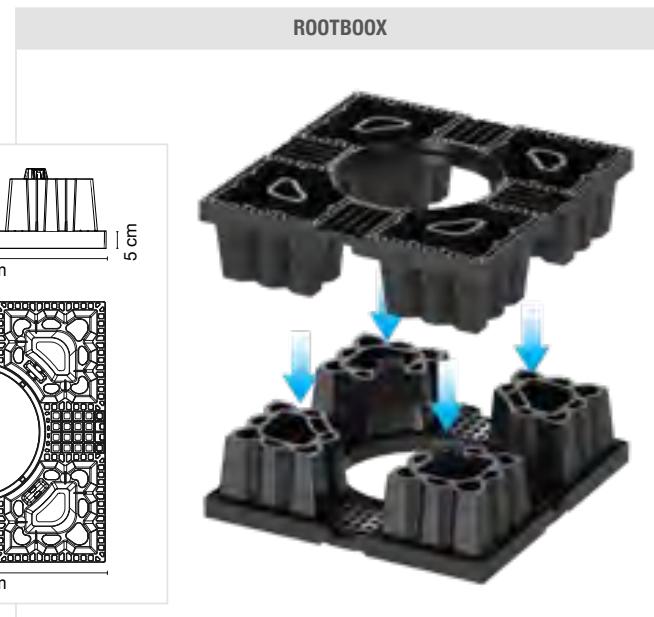
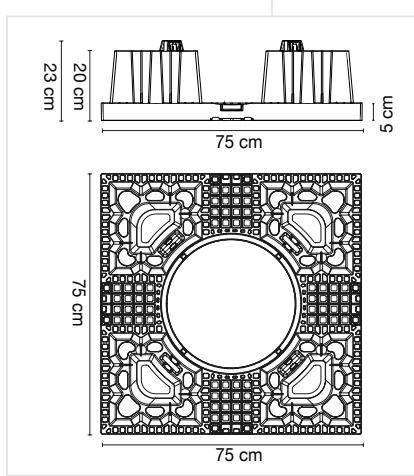
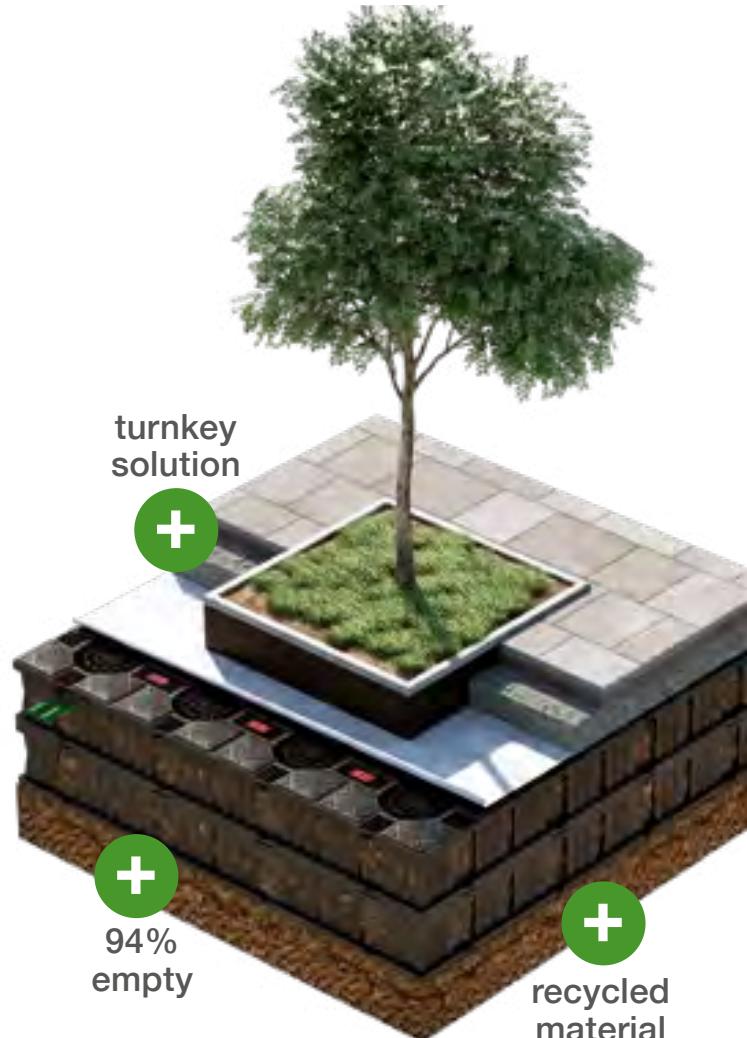
## WALKWAYS

It allows the simple and quick connection of the Rootbox modules each other.



Rootbox allows you to create an area below the pavement where roots can grow freely, without being forced to develop in constricted, poorly drained and poorly ventilated soils.

The system consists of a modular element with a double-walled hollow truncated pyramid structure, made of regenerated polypropylene. Designed so that two semi-modules can be assembled with each other to create a cubic element ready to be positioned in the excavation around the plant to form a container, inside of which, the soil will be deposited and then the root system will grow. Thanks to a void capacity equal to 96%, it allows a filling of the system with soil, leaving a technical vacuum inside the cube. Not finding more substrate, the roots stop growing in the direction of the pavement, while continuing to grow in depth.



# APPLICATIONS



## BOULEVARDS

The most common case is that of boulevards, where the outcrop of the roots can cause transit problems for vehicles and injuries to pedestrians.

Rootbox allows to realize road surfaces even with high load classes thanks to the self-supporting capacity avoiding the rising of the rhizomes and the relative maintenance works.

## PLAZA AND WALKWAYS

A context in which trees are becoming increasingly popular is that of city squares or industrial buildings. In this case the aesthetic aspect is particularly important in the final result.

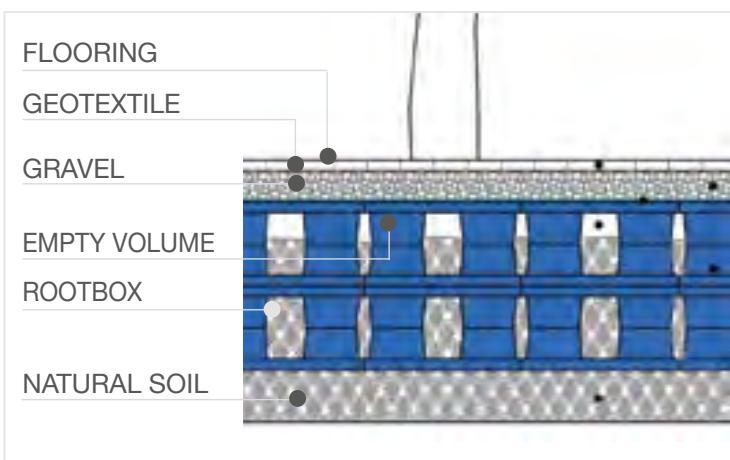
The inclusion of Rootbox in the project allows to keep the root system away from the walking surface, avoiding the instability of the surface.

## BIKE LANES

For bicycle users, bike lanes are a preferred route of travel, and it is essential to keep the transit surface, without surfacing roots and bumps, to ensure a safe and comfortable passage.

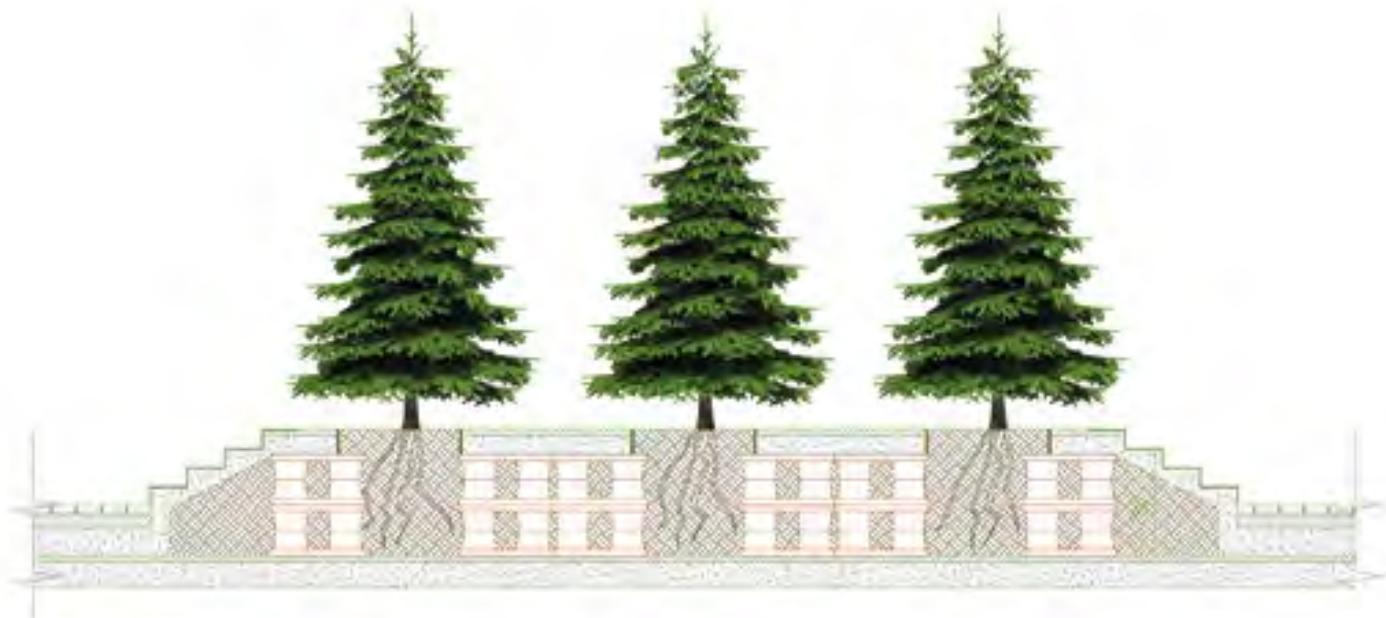
With Rootbox the municipal administrations will not have to foresee periodic maintenance operations, and cyclists will be able to transit without problems.

# TYPICAL STRATIGRAPHY



# ASSITANCE TO DESIGN

We design and implement green infrastructure that positively impacts the lives of people and cities. We want to bring landscape architects, urban designers and engineering firms together to design sustainably, focusing on the use of recycled materials and the implementation of urban green spaces. Our solutions respond to the current challenges related to drainage and stormwater management, problems that are becoming increasingly frequent in the cities.



## INSTALLATION

- 1 Make an excavation of the area according to project specifications;
- 2 Level the excavation and, if necessary, create a bedding layer;
- 3 Pre-assemble the elements so as to obtain a cube with the perforated grid upwards;
- 4 Position the cubes concentrically to the tree laying area, taking care to fix them between them with the single connectors in case of a single level, use the double connectors in case of more stacks;
- 5 Fill the cubes with soil through the specific circular holes, taking care to leave an empty space inside the cube, equal to a quarter of the height of the cube itself;
- 6 Place rootbox around the base of the trunk. The tree should not be placed within the circular section of the rootbox;
- 7 Fill in the gaps until you get level with Rootbox;
- 8 Geotextile 200g/m<sup>2</sup>;
- 9 Filling with gravel;
- 10 Flooring.

# PLASTONELLA



**DRAINING AND MODULAR  
OUTDOOR FLOORING**



# THE SOLUTION

Plastonella is a practical and fast system to create draining and non-slip flooring. It guarantees a better and safer use of spaces for pedestrians. The product is made of plastic material with anti-slip treatment, for surfaces always dry and comfortable.

**POOL EDGES**

**LIVE SHOWS**

**TERRACES**

**GARDENING**

**FOOTPATHS**

**CAMPSITES**

Supporting base to be used for laying on terraces to protect waterproofing.

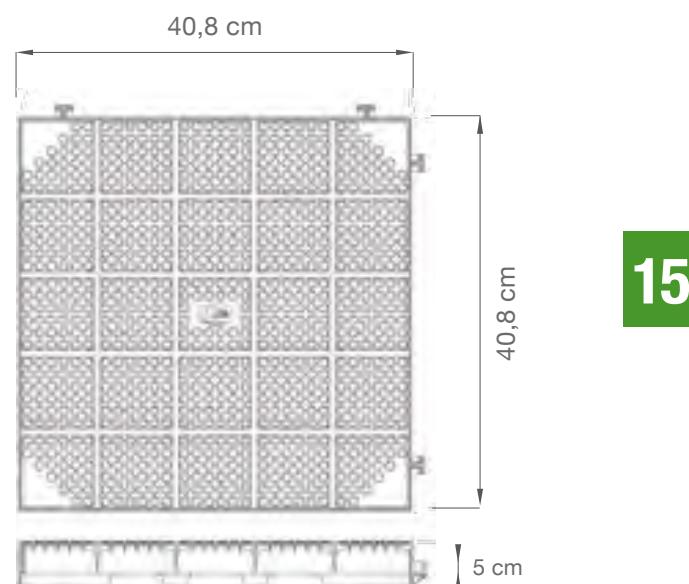
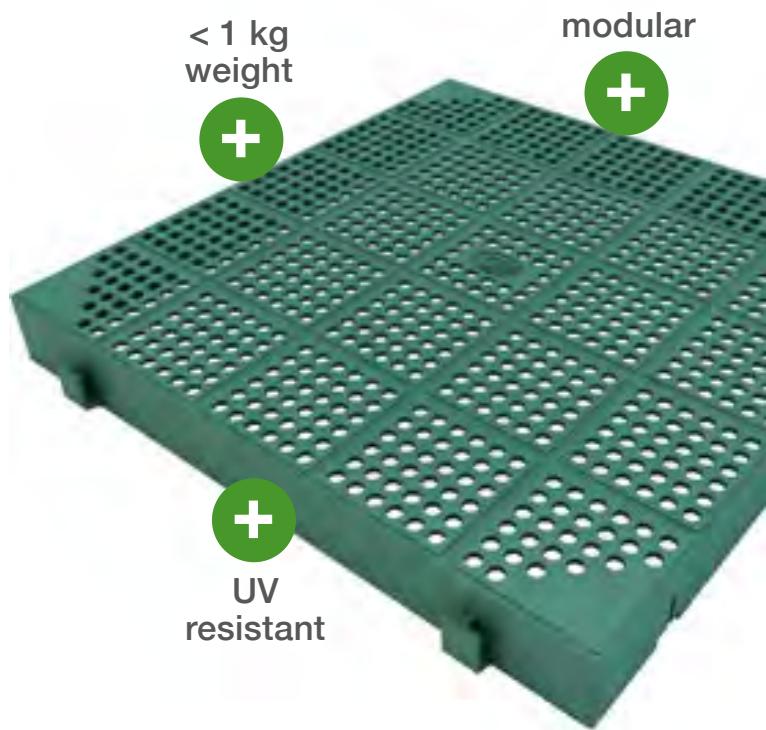
You need 10 feet for Plastonella, that is 6 for the central part and no. 4 for the lateral side.

The feet in fact are characterized by a wider groove to make the two tiles fit together.



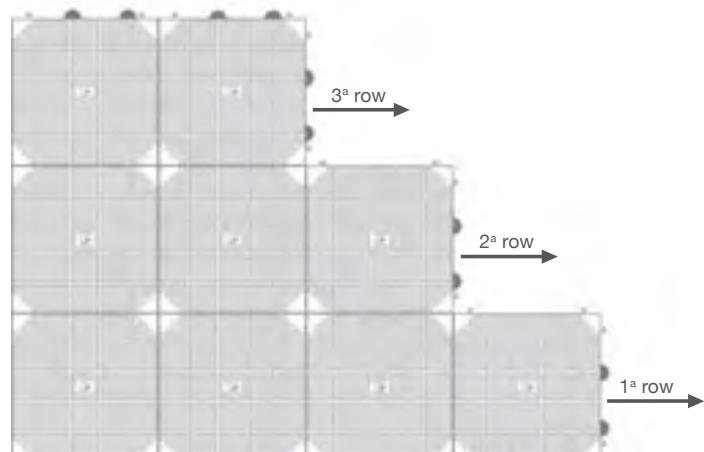
## TECHNICAL DATA

Dimensions (cm)	40,8 x 40,8 x H5
Material	Graplene (Polipropilene Compound riciclatto)
Load capacity (t/m <sup>2</sup> )	3
Weight per piece (kg)	0,94
Packaging size (cm)	83 x 125 x 230
N° of pieces	270
m <sup>2</sup> per pallet	45
Colour	Grey - Red - Green



# INSTALLATION

Plastonella is installed by laying the tiles from left to right, bottom to top, keeping the hooks upwards and to the right.



## ADVANTAGES



### DRAINING

Excellent drainage thanks to the perforated surface.



### EASY INSTALLATION

Simple, fast and tool-free installation (DIY).



### PROTECTIVE

If laid on flat roofs, it protects and preserves the waterproofing membrane.



### SELF-CLEANING

Self-cleaning from oils, solvents, chemical agents.



### STRONG

Resistant and stable to UV rays.



### REMOVABLE

Easy disassembly and storage even in damp places.

# TERRACES AND GARDENS

Combining the various colors will result in designs and shapes that can liven up the garden.



# PLAYGROUNDS AND GREEN AREAS

To create outdoor spaces and usable outdoor areas where gazebos, deckchairs, swings and children's games can be safely positioned.

If necessary, the area created can be disassembled and reassembled again in other contexts.  
Easy to move and lay, it is ideal for creating DIY areas.



# WATER BUTTS



RAINWATER CONTAINERS  
IDEAL FOR GARDENING



# THE SOLUTIONS

Water containers are the latest addition to the Geoplast range: the economic and ecological solution for recovering rainwater.

Made of regenerated plastic material, they are available in round and rectangular/square versions with different capacities.

Produced in two colors, green and anthracite gray, Geoplast water containers can be sold separately or complete with a raised base.

Round water butt base available for 210 and 310 L.

BASE CONTENITORI ROTONDI



Universal Unika base for all water butts except the 500.

BASE UNIKA



safe  
click



stormwater  
reuse



100%  
recycled



## TECHNICAL DATA ROUND WATER BUTTS

Article	Colour	Upper diam.	Height	Pallet dim. Pcs. per pallet	Storage capacity (liters)
Water butt 210	Green Grey	75 cm	73 cm	75 x 75 x h252 cm pcs. 52	210
Water butt 310	Green Grey	80 cm	90 cm	80 x 80 x h250 cm pcs. 40	310
Round base for 210 and 310	Green Grey	58 cm	40 cm	75 x 120 x h223 cm pcs. 84	-
Water butt 500	Green Grey	104 cm	82 cm	100 x 100 x h245 cm pcs. 13	500

## TECHNICAL DATA RECTANGULAR AND SQUARE WATER BUTTS

Article	Colour	Upper diam.	Height	Pallet dim. Pcs per pallet	Storage capacity (liters)
Water butt 200	Green Grey	60 x 60 cm	84 cm	75 x 75 x h252 cm pcs. 52	200
Water butt 300	Green Grey	60 x 80 cm	88 cm	80 x 80 x h250 cm pcs. 40	300
UNIKA universal base for all water butts	Green Grey	56 x 73 cm	33 cm	75 x 120 x h223 cm pcs. 84	-

## ROUNDS 210 - 310 - 500 L

Water butt made of recycled plastic, robust and functional.  
Available in 210, 310 and 500 liters. With lid with safety lock.

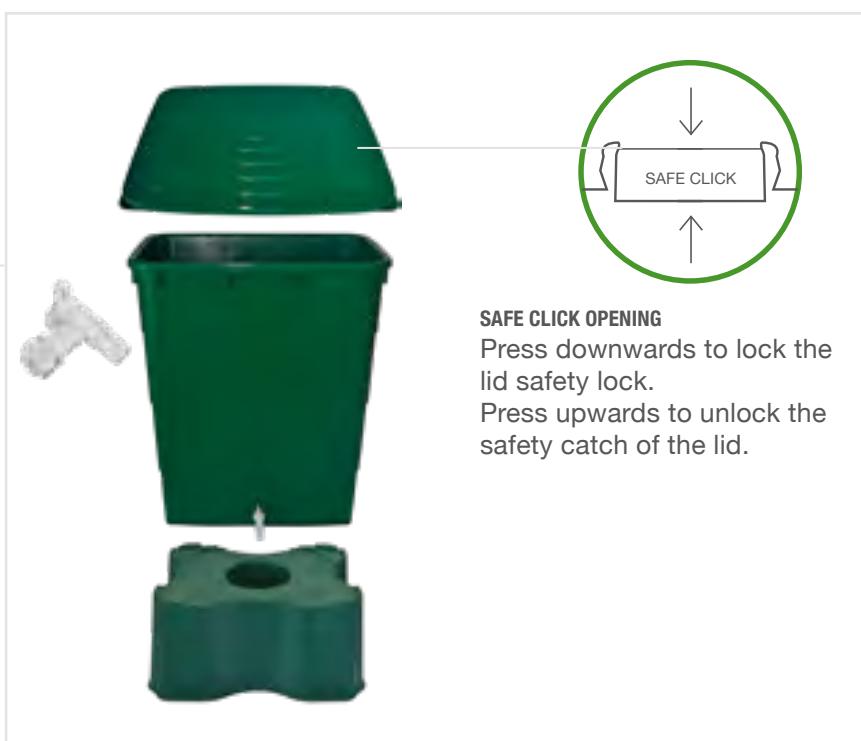
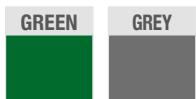


### OPENING

only for mod. 210 -310 L  
Turn the cover to the right to unlock and open it.  
Turn the cover to the left to lock and close it.

## SQUARE AND RECTANGULAR 200 - 300 L

Water butt made of recycled plastic, robust and functional.  
Available in 200, 300 liters. With lid with safety lock.



### SAFE CLICK OPENING

Press downwards to lock the lid safety lock.  
Press upwards to unlock the safety catch of the lid.

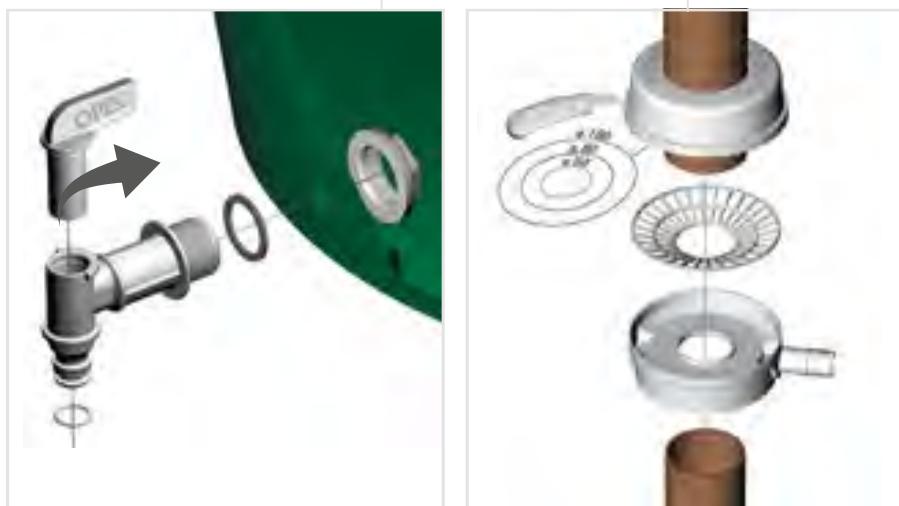
# GUTTER KIT



The Geoplast gutter kit makes it possible to connect the water butt to the drainpipe quickly and easily.

It can be installed on 60, 80, 100 mm diameter pipes. The excess water simply flows into the pipe thanks to an anti-overflow system.

The upper part of the kit is equipped a tab to start or stop the water flow and can be slid along the gutter, leaving visible the internal grid that acts as a filter.



Thanks to the gutter kit, complete and optimal cleaning is always possible, guaranteeing the quality of the water collected. The water extraction is made extremely convenient by the drain cock, which can be applied to the container if necessary.

# POTS



CONTAINERS  
FOR GARDENING  
AND NURSERIES



# THE SOLUTION

Geoplast Pots, made of UV-stabilised LD PE, retain 50% of their initial toughness per 360 KLYS and are suitable for a wide range of uses.

The Pots, available with or without handles, can be equipped with drainage holes in order to better adapt to the needs of nurseries.



**POTS WITH  
HANDLES**

**POTS WITHOUT  
HANDLES**

## TECHNICAL DATA POTS WITH HANDLES\*

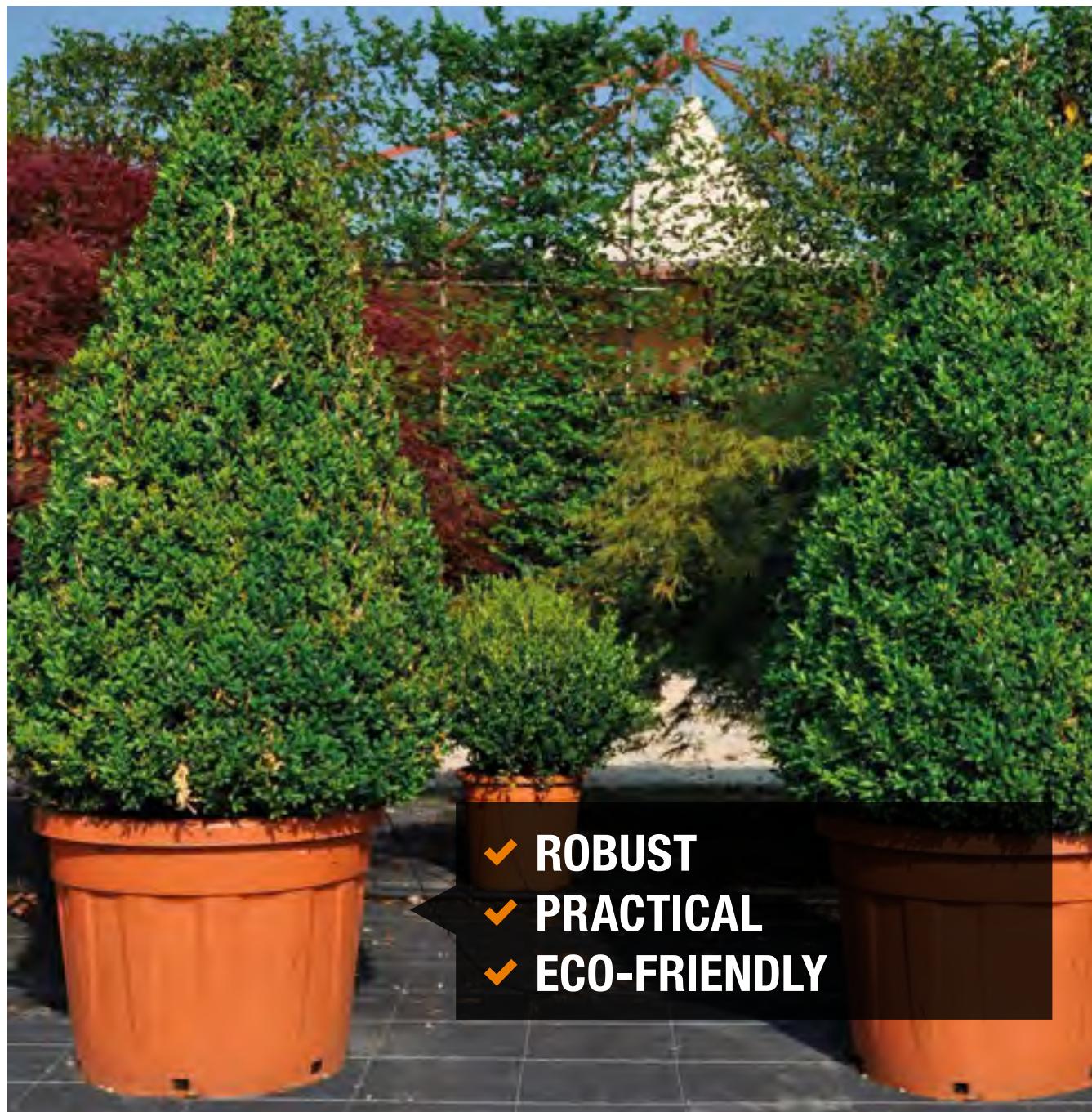
Article	Colour	Diameter	Height	PCs per pallet/stack	Pallet size	Volume (litres)
MAS Ø 40	Black ●	40 cm	32 cm	450 pcs. on pallet	124 x 124 H 217	30 lt.
MAS Ø 45	Black ●	45 cm	36 cm	330 pcs. on pallet	90 x 130 H 254	40 lt.
MAS Ø 50 Low	Black ●	50 cm	34 cm	250 pcs. on pallet	121 x 110 H 250	43 lt.
MAS Ø 50 Tall	Black ●	50 cm	39 cm	250 pcs. on pallet	110 x 125 H 250	50 lt.
MAS Ø 55	Black ●	55 cm	43 cm	160 pcs. on pallet	112 x 115 H 234	70 lt.
MAS Ø 60	Black ●	60 cm	46 cm	160 pcs. on pallet	118 x 118 H 240	90 lt.
MAS Ø 65	Black ●	65 cm	46 cm	140 pcs. on pallet	127 x 127 H 228	110 lt.
MAS Ø 70	Black ●	70 cm	50 cm	105 pcs. on pallet	144 x 125 H 246	130 lt.
MAS Ø 75	Black ●	75 cm	51 cm	60 pcs. on pallet	Ø 75 x H 253	155 lt.
MAS Ø 80	Black ●	80 cm	51 cm	60 pcs. on pallet	Ø 80,5 x H 258	160 lt.

## TECHNICAL DATA POTS WITHOUT HANDLES\*

Article	Colour	Diameter	Height	Pcs. per stack	Pallet size	Volume (litres)
MAS 150 lt.	Black ● Burgundy ●	70 cm	60 cm	40 pcs.	Ø 69 x H 238	150 lt.
MAS 230 lt.	Black ● Burgundy ●	85 cm	55 cm	40 pcs.	Ø 89 x H 237	230 lt.
MAS 240 lt.	Black ● Burgundy ●	80 cm	65 cm	20 pcs.	Ø 77 x H 265	240 lt.
MAS 285 lt.	Black ● Burgundy ●	96 cm	55 cm	40 pcs.	Ø 95,5 x H 250	285 lt.
MAS 350 lt.	Black ● Burgundy ●	96 cm	73 cm	40 pcs.	Ø 94,5 x H 275	350 lt.
MAS 500 lt. Tall	Black ● Burgundy ●	104 cm	82 cm	20 pcs.	Ø 103 x H 245	500 lt.
MAS 500 lt. Low	Black ● Burgundy ●	118 cm	68 cm	40 pcs.	Ø 145 x H 220	500 lt.
MAS 600 lt.	Black ● Burgundy ●	120 cm	68 cm	25 pcs.	Ø 121,5 x H 253	600 lt.
MAS 750 lt.	Black ● Burgundy ●	122 cm	82 cm	16 pcs.	Ø 120 x H 256	750 lt.
MAS 1000 lt.	Black ● Burgundy ●	140 cm	90 cm	18 pcs.	Ø 135 x H 245	1000 lt.

\* Material and colours: the pots with and without handles are made of low density polyethylene (LD PE) and are available in black and, on request, also in burgundy. Drainage holes: all black pots are available with or without holes, with the exception of MAS Ø40 and Ø45, which are only produced in a perforated version. Finally, all burgundy coloured pots are produced without drainage holes.

# DEMETRA PLANTERS



PLANTERS  
FOR GARDENING  
AND NURSERIES



# THE SOLUTION

Demetra is the Geoplast line of high-density polyethylene pots, dedicated to the nursery and gardening markets.

Lightweight, with a functional design and easy grip, they resist against both UV rays and temperature fluctuations. The special design of the base ensures optimal drainage and prevents the roots from spiralling.

The Demetra planters, available in black and terracotta, are also visually appealing and are resistant to weather and micro-organisms.

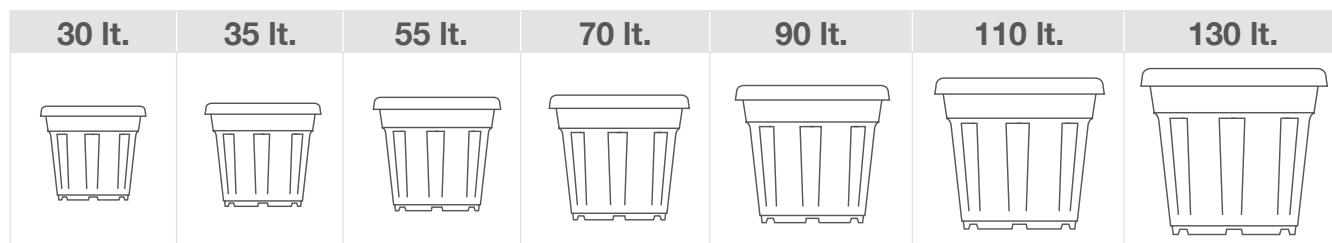


avoids  
spiralling  
roots

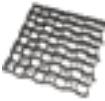
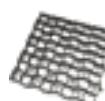
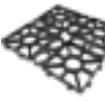
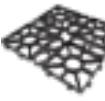
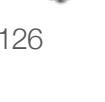
## DEMETRA TECHNICAL DATA\*

Product	Outer Diameter	Inner Diameter	Height (cm)	Drainage surface (cm <sup>2</sup> )	Pcs. per pallet	Pallet size	Volume (liters)
DEM 30 lt.	40,5 cm	37 cm	33,5	30,48	540	125 x 125 x H 230	30 lt.
DEM 35 lt.	44 cm	40 cm	35	40,64	330	80 x 120 x H 230	35 lt.
DEM 55 lt	51 cm	46 cm	40	45,72	230	100 x 130 x H 230	55 lt.
DEM 70 lt	56 cm	51 cm	43	45,72	180	110 x 110 x H 225	70 lt.
DEM 90 lt	60 cm	55 cm	47	50,80	180	120 x 120 x H 225	90 lt.
DEM 110 lt.	66 cm	61 cm	48	60,96	160	130 x 130 x H 225	110 lt.
DEM 130 lt	68 cm	64 cm	50	60,96	135	135 x 120 x H 240	130 lt.

\*HD PE: high density polyethylene, available in terracotta and black.



# PAVERS

PRODUCT	Dimensions (cm)	Package dim. (cm)	Package (m <sup>2</sup> )	No. pieces/pallet	Weight (kg)	Colour	Product code
 <b>RUNFLOOR F03</b>	58 x 58 x H3	120 x 120 x H240	100	300	1,29	Black Green	FRUNFF35858 FRUNVF35858
 <b>RUNFLOOR F04</b>	58 x 58 x H4	120 x 120 x H242	76	228	1,67	Black Green	FRUNFF45858 FRUNVF45858
 <b>RUNFLOOR F05</b>	58 x 58 x H5	120 x 120 x H240	60	180	1,92	Black Green	FRUNFF55858 FRUNVF55858
 <b>RUNFLOOR H03</b>	40,8 x 40,8 x H4	85 x 125 x H220	50	300	0,76	Black	FRUNFLO4044
 <b>RUNFLOOR H04</b>	40,8 x 40,8 x H5	85 x 125 x H235	45	270	0,90	Black	FRUNFLO4040
 <b>RUNFLOOR H05</b>	40,8 x 40,8 x H5	85 x 125 x H235	45	270	1,19	Black	FRUNFS54040
 <b>MARKER CAP</b>						White Yellow	FRUNTAB000X FRUNTAG000X
 <b>GEOFLO</b>	50 x 50 x H2,4	100 x 112 x H230	100	400	1,01	Black	FGEOCRO5835
 <b>UNIVERSAL MARKER CAP</b>						White Yellow	FRUNFPB9050 FRUNFPG9050
 <b>GEOCROSS</b>	50 x 50 x H3,5	100 x 120 x H240	86	256	1,50	Black	FGEOGRE5040
 <b>GEOGREEN</b>	50 x 50 x H4	100 x 120 x H230	60	240	0,88	Green	FGEOGRE5040
 <b>GEOGREEN MARKER CAP</b>						White Yellow	FSPTABI0000 FSPTAGI0000
 <b>GEOGRASS</b>	50 x 50 x H2,5	100 x 120 x H240	200	800	0,47	Black	EGPANWP0027
 <b>SALVADERE A</b>	50 x 50 x H4	100 x 120 x H230	60	240	0,92	Green Grey	FSALVNV5050 FSALVGN5050
 <b>SALVADERE B</b>	58 x 58 x H4	100 x 120 x H240	75	225	1,22	Green Grey	FSBLVVE5858 FSBLVGR5858
 <b>A / B MARKER CAP</b>			White Yellow			A FSATABI0000 FSATAGI0000 B FSBTABI0000 FSBTAGI0000	
 <b>GEOGRAVEL</b>	58 x 58 x H3	120 x 120 x H240	100	300	0,85	White Black	FGRAVBV5858 FGRAVNE5858
 <b>GEOROAD</b>	50 x 50 x H2,5	100 x 120 x H240	200	800	0,47	Black	EGPANWP0027
 <b>GEOCELL</b>	58 x 58 x H3	120 x 120 x H240	100	300	0,97	Black	EGEOCEL5858

## GREEN ROOFS / VERTICAL GREEN

PRODUCT	Dimensions (cm)	Package dim. (cm)	Package (m <sup>2</sup> )	No. pieces	Weight (kg)	Colour	Product code
	DRAINROOF H2.5	50 x 50 x H2,5	105 x 120 x H230	360	1440	0,54	Black ● FDRAINR5002
	DRAINROOF H6	50 x 50 x H6	105 x 120 x H240	180	720	0,84	Black ● FDRAINR5006
	COMPLETA	54 x 54 x H9	110 x 125 x H240	210	720	1,02	Black ● FCOMPLE5409
	COMPLETA PREVEGETATA	54 x 54 x H9	110 x 125 x H240	14	48	16	Vegetazione FCOMVEG5409
	WALL-Y	58 x 58 x H7,5	120 x 120 x H240	60	180	1,47	Green ● FWLYGVE5858 White ● FWLYGBI5858
	20L PLANTER	58 x 22 x H20	100 x 120 x H200	-	100	1,21	Green ● FWLYVVE0020 White ● FWLYVBI0020

## URBAN GREEN

PRODUCT	Dimensions (cm)	Package dim. (cm)	Package (m <sup>2</sup> )	No. pieces	Weight (kg/m <sup>2</sup> )	Product code
	GEOCELL	58 x 58 x H3	120 x 120 x H240	100	300	0,97 EGEOCEL5858
	ELEVATOR ROOT	58 x 58 x H75>250	120 x 120 x H265	-	225	1,4 EEELEVEN5858
	ROOTBOX	75 x 75 x H40	80 x 150 x H250	-	88	7,3 EDAQUVE0200

## HOME / URBAN GREEN

PRODUCT	Dimensions (cm)	Package size (cm)	Packaging (m <sup>2</sup> )	No. pcs.	Piece weight (kg)	Colour	Product code
	PLASTONELLA	40,8 x 40,8 x H5	83 x 125 x H230	45	270	0,94	Grey ● FPLASGR4040 Red ● FPLASRO4040 Green ● FPLASVE4040
	SUPPORT	-	-	-	60	-	Black ● FPLASPI0050

## RECTANGULAR WATER BUTTS

PRODUCT	Size (cm)	Height (cm)	Pallet size	Volume (L)	Colour	Product code
	WATER BUTT 200	60 x 60 cm	84 cm 80 x 120 x h 249 cm pz. 42	200	Green ● FASETRV0210 Grey ● FASETRA0210	FASETRV0210 FASETRA0210
	WATER BUTT 300	60 x 60 cm	88 cm 80 x 120 x h 252 cm pz. 38	300	Green ● FASETRV0310 Grey ● FASETRA0310	FASETRV0310 FASETRA0310



## ROUND WATER BUTTS



PRODUCT	Max diameter (cm)	Height (cm)	Pallet size	Volume (L)	Colour	Product code
<b>WATER BUTT 210</b>	75 cm	73 cm	75 x 75 x h 252 cm 52 pcs.	210	Green  Grey	FASETRV0210 FASETRA0210
<b>WATER BUTT 310</b>	80 cm	90 cm	80 x 80 x h 250 cm 40 pcs.	310	Green  Grey	FASETRV0310 FASETRA0310
<b>WATER BUTT 500</b>	104 cm	104 cm	100 x 100 x h 245 cm 13 pcs.	500	Green	FASETTV0500



<b>WATER BUTT BASES ROUND 210-310</b>	60 x 60 cm	88 cm	80 x 120 x h 252 cm 38 pcs.	300	Green  Grey	FASETRV0310 FASETRA0310
<b>UNIKA BASE</b>	56 x 73 cm	33 cm	80 x 120 x h 250 cm 146 pcs.	300	Green  Grey	FASUPUV0000 FASUPUA0000



## GUTTER CONNECTION KIT



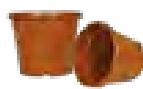
PRODUCT	Diameter (mm)	Unit weight (kg)	Colour	Product code
<b>GUTTER CONNECTION KIT</b>	60 - 80 -100	0,40	Black	FAKITGR0000

## DEMETRA BLACK



PRODUCT	Outer diameter (cm)	Inner diameter (cm)	Height (cm)	Pcs./ pallet	Pallet size	Volume (L)	Product code
<b>DEM 30 L</b>	40,5	37	33,5	540	125 x 125 x H 230	30 L	FVADENE0030
<b>DEM 35 L</b>	44	40	35	330	80 x 120 x H 230	35 L	FVADENE0035
<b>DEM 55 L</b>	51	46	40	230	100 x 130 x H 230	55 L	FVADENE0055
<b>DEM 70 L</b>	56	51	43	180	110 x 110 x H 225	70 L	FVADENE0070
<b>DEM 90 L</b>	60	55	47	180	120 x 120 x H 225	90 L	FVADENE0090
<b>DEM 110 L</b>	66	61	48	160	130 x 130 x H 225	110 L	FVADENE0110
<b>DEM 130 L</b>	68	64	50	135	135 x 120 x H 240	130 L	FVADENE0130

## DEMETRA TERRACOTTA



PRODUCT	Outer diameter (cm)	Inner diameter (cm)	Height (cm)	Pcs./ pallet	Pallet size	Volume (L)	Product code
<b>DEM 30 L</b>	40,5	37	33,5	540	125 x 125 x H 230	30 L	FVADECO0030
<b>DEM 35 L</b>	44	40	35	330	80 x 120 x H 230	35 L	FVADECO0035
<b>DEM 55 L</b>	51	46	40	230	100 x 130 x H 230	55 L	FVADECO0055
<b>DEM 70 L</b>	56	51	43	180	110 x 110 x H 225	70 L	FVADECO0070
<b>DEM 90 L</b>	60	55	47	180	120 x 120 x H 225	90 L	FVADECO0090
<b>DEM 110 L</b>	66	61	48	160	130 x 130 x H 225	110 L	FVADECO0110
<b>DEM 130 L</b>	68	64	50	135	135 x 120 x H 240	130 L	FVADECO0130

# NURSERY PLANTERS

## NURSERY POTS WITH HANDLES



PRODUCT	Diameter (cm)	Height (cm)	Pcs./stack	Pcs./stack	Volume (L)	Colour	Product code
<b>MAS Ø 40</b>	40	32	450	124 x 124 x H 217	30 L	Nero	● FMACFNE0040
<b>MAS Ø 45</b>	45	36	330	90 x 130 x H 254	40 L	Nero	● FMACFNE0045
<b>MAS Ø 50 LOW</b>	50	34	250	121 x 110 x H 250	43 L	Nero	● FMACFNEB050 FMASFNEB050
<b>MAS Ø 50 TALL</b>	50	39	250	110 x 125 x H 250	50 L	Nero	● FMACFNEA050 FMASFNEA050
<b>MAS Ø 55</b>	55	43	160	112 x 115 x H 234	70 L	Nero	● FMACFNE0055 FMASFNE0055
<b>MAS Ø 60</b>	60	46	160	118 x 118 x H 240	90 L	Nero	● FMACFNE0060 FMASFNE0060
<b>MAS Ø 65</b>	65	46	140	127 x 127 x H 228	110 L	Nero	● FMACFNE0065 FMASFNE0065
<b>MAS Ø 70</b>	70	50	105	144 x 125 x H 246	130 L	Nero	● FMACFNE0070 FMASFNE0070
<b>MAS Ø 75</b>	75	51	60	Ø 75 x H 253	155 L	Nero	● FMACFNE0075 FMASFNE0075
<b>MAS Ø 80</b>	80	51	60	Ø 80,5 x H 258	160 L	Nero	● FMACFNE0080 FMASFNE0080

## NURSERY POTS WITHOUT HANDLES

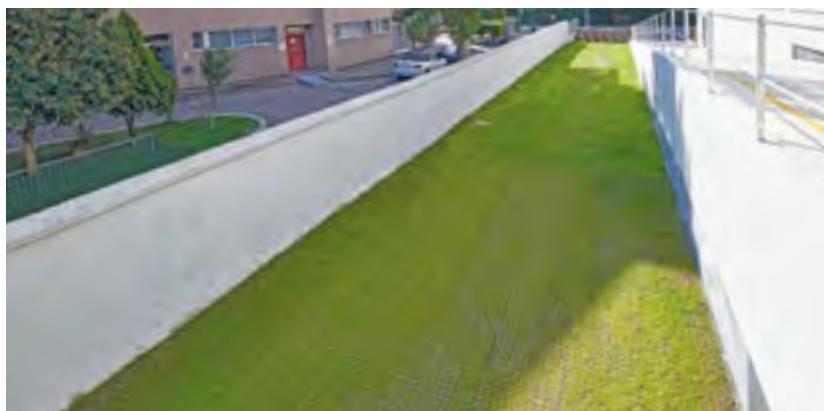


PRODUCT	Diameter (cm)	Height (cm)	Pcs./stack	Pcs./stack	Volume (L)	Colour	Product code
<b>UNDER TAP 110 L</b>	80	31	50	80 x 80 x H210	110 L	Nero Bordeaux	● FMASFNE0110 FMACFNE0110
<b>MAS 150 L</b>	70	60	40	Ø 69 x H 238	150 L	Nero Bordeaux	● FMASFNE0150 FMACFNE0150
<b>MAS 230 L</b>	85	55	40	Ø 89 x H 237	230 L	Nero Bordeaux	● FMASFNE0230 FMACFNE0230
<b>MAS 240 L</b>	80	65	20	Ø 77 x H 265	240 L	Nero Bordeaux	● FMASFNE 0240 FMACFNE0240
<b>MAS 285 L</b>	96	55	40	Ø 95,5 x H 250	285 L	Nero Bordeaux	● FMASFNE0285 FMACFNE0285
<b>MAS 350 L</b>	96	73	40	Ø 94,5 x H 275	350 L	Nero Bordeaux	● FMASFNE0350 FMACFNE0350
<b>MAS 500 L TALL</b>	104	82	20	Ø 103 x H 245	500 L	Nero Bordeaux	● FMASFNEA500 FMACFNEA500
<b>MAS 500 L LOW</b>	118	68	40	Ø 115 x H 220	500 L	Nero Bordeaux	● FMASFNEB500 FMACFNEB500
<b>MAS 600 L</b>	120	68	25	Ø 121,5 x H 253	600 L	Nero Bordeaux	● FMASFNE0600 FMACFNE0600
<b>MAS 750 L</b>	122	82	16	Ø 120 x H 256	750 L	Nero Bordeaux	● FMACFNE0080 FMASFNE0080
<b>MAS 1000 L</b>	140	90	18	Ø 135 x H 245	1000 L	Nero Bordeaux	● FMASFNE1000 FMACFNE1000

# PERMEABLE PAVER REFERENCES

Our permeable paving solutions adhere to the principle of hydraulic invariance and ensure that the soil keeps on performing just as it its natural state.

Our team of engineers is always available, both during the initial planning stages and during the installation of the pavers.



**RUNFLOOR, 500 m<sup>2</sup>**  
**LIDL SUPERMARKET OUTDOOR AREA,**  
**BRESCIA, ITALY**



**GEOFLOOR, 1000 m<sup>2</sup>**  
**CAMPO DEI MIRACOLI, PISA, ITALY**



**GEOGRAVEL, 600 m<sup>2</sup>**  
**Fédération Départementale  
des Chasseurs de la Loire**  
**ANDRÉZIEUX-BOUTHÉON, FRANCE**



**SALVAVERDE 500 m<sup>2</sup>**  
**Guest Park**  
**VILLA TACCHI, PADOVA, ITALY**

# GREEN ROOF REFERENCES

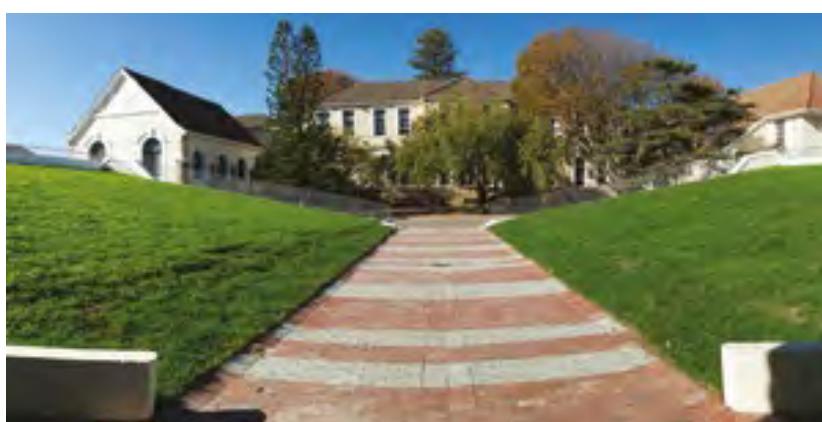
Green roof design is considered an environmentally, economically and socially sustainable solution. Drainroof and Completa bring added value to the building, considering that their technical characteristics were specifically developed for the success of the roof gardens. Versatility and great ease of use make the product the most advantageous solution for the creation of a green roof.



**DRAINROOF H6, 900 m<sup>2</sup>**  
**PUBLIC HOUSING DEVELOPMENT**  
**VERCELLI, ITALY**



**COMPLETA, 3200 m<sup>2</sup>**  
**SUPERMARKET**  
**BOLOGNA, ITALY**



**DRAINROOF H6, 600 m<sup>2</sup>**  
**Wynberg Girls High School**  
**CAPE TOWN, SOUTH AFRICA**



**COMPLETA, 200 m<sup>2</sup>**  
**Micklands Hill Residence**  
**READING, UK**



## Geoplast S.p.A.

Via Martiri della Libertà, 6/8  
35010 Grantorto (PD) - Italy

Tel +39 049 9490289  
Fax +39 049 9494028

[Geoplast@Geoplastglobal.com](mailto:Geoplast@Geoplastglobal.com)

[GeoplastGlobal.com](http://GeoplastGlobal.com)



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