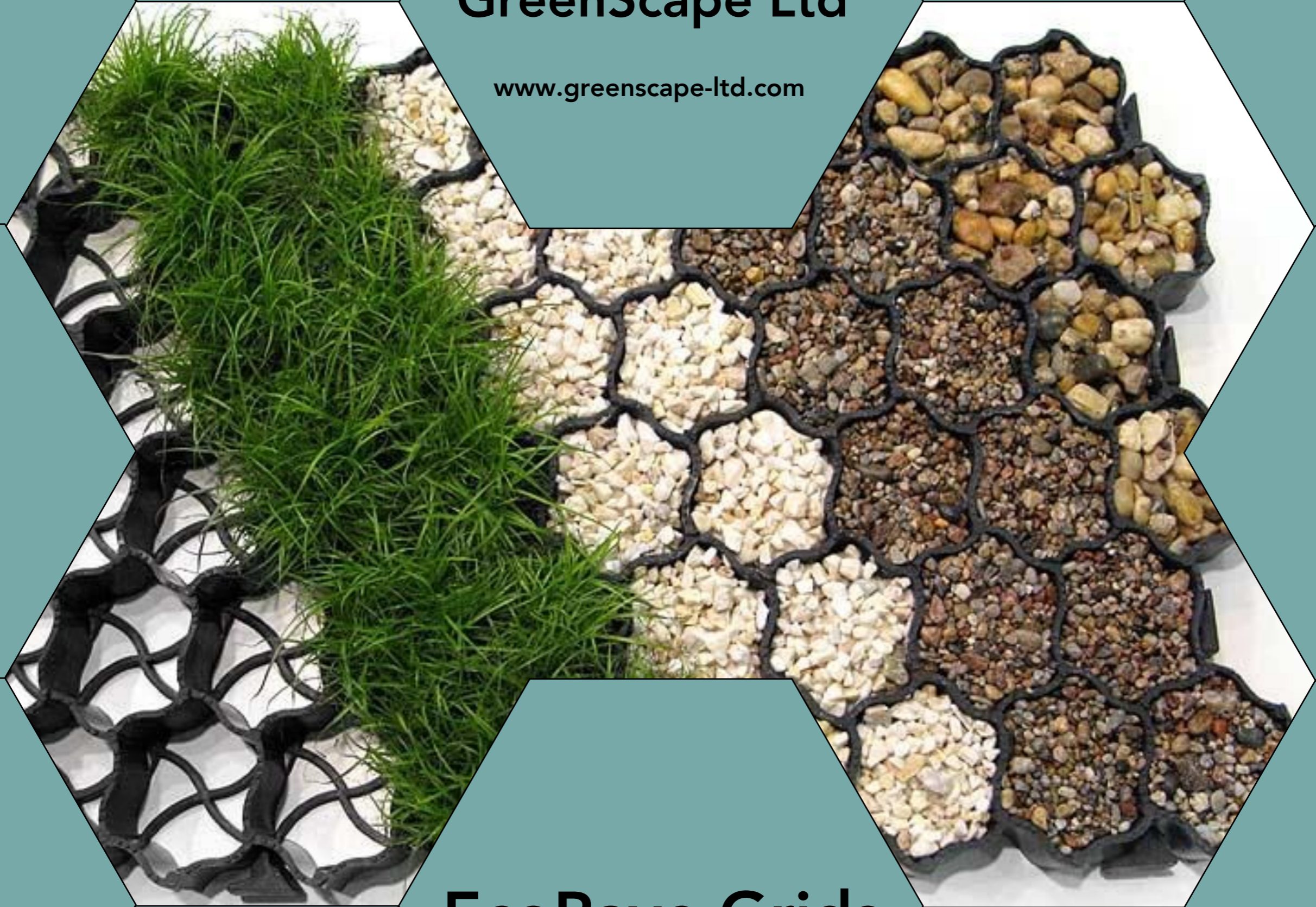


**GreenScape Ltd**

[www.greenscape-ltd.com](http://www.greenscape-ltd.com)



**EcoPave Grids**

# IN HARMONY WITH NATURE



# 1

## WE CARE FOR THE ENVIRONMENT



The materials which the **EcoPave** grid is made out of is environmentally neutral, resistant to atmospheric conditions (moisture, extreme temperatures) and sunlight. The production process uses fully recyclable pellets (PP PE HDPE), made entirely from recycled material, which meets strict Polish and European requirements.



## 100% RECYCLING

WE TAKE RESPONSIBILITY FOR WHAT WE MANUFACTURE. RECYCLING HELPS US KEEP OUR ENVIRONMENT CLEAN.



### 100% recycling

Our products use 100% recycled materials – we purchase waste, grind it, condense and inject it. That way we achieve a new product out of an old one.

### 100% recycled

All our products are fully recyclable.

### Effect on the environment

Our products are harmless to the environment and neutral to ground waters.

### Durability

The products are resistant to acids, liquors, ammonia, acid rains and alcohols.

### Water permeability

A surface reinforced with the eco is practically 100% water permeable. Rainwater permeates to the ground, thereby preventing floods.

### Living surface with geoSYSTEM

Green surfaces in cities have a positive influence on moisture, regulate air flow, dampen acoustic waves, and filter the air.

### Biologically active surface

After planting grass, the **EcoPave** grid can be treated as a biologically active surface.

# EcoPave

EcoPave is an excellent alternative to "heavy" (physically and visually) concrete flagstones, concrete grid paving units, cobblestones, asphalt and other hardened surface types.

## SPACE WITHOUT RESTRICTIONS

**EcoPave** are plastic openwork paving grids, which interlock through lug and slot connection, to form a uniform surface.

**EcoPave** meets the strict requirements regarding durability, combined with the aim of preserving the natural character of the surface. It is ideal for large grassed areas, driveways, access routes, car parks, slopes and footpaths.

Whether filled with grass or gravel, the grids becomes practically invisible, which is why designers and investors can fully utilize the aesthetic qualities of natural surfaces, and design areas with varied color schemes or textures. The load bearing, stability and durability of the finished construction, as well as its ability to provide adequate drainage, is reliant on the correct design and preparation of the foundation.


### Certificates

**Durability test carried out by:**  
Poznań University of Technology – Institute of Building Construction, Institut für textile Bau- und Umwelttechnik GmbH

**Manufacturing control:**  
Polish Institute of Building - ITB

**Norm adherence:**  
PN-EN 13249:2002/A1:2006

**Application in fire access routes:**  
According to the Decree by the Minister of Internal Affairs and Administration dated 24th of July 2009 regarding the supply of water for fire prevention purposes and fire access routes – Journal of Laws 2009, no. 124 pos. 1030

**European Declaration of Conformity:** 

## APPLICATION

EcoPave	G5 max	G4 max	G4	G3	S60	S60s
<b>INDUSTRY AND CONSTRUCTION</b>						
fire access routes	✓	✓	✓		✓	
grass car parks	✓	✓	✓		✓	
gravel car parks		✓	✓	✓	✓	✓
access routes	✓	✓				
road waysides	✓	✓	✓		✓	
maneuvering squares	✓	✓				
residential estate parking spaces, roads	✓	✓	✓		✓	
tram subgrades	✓	✓	✓		✓	
reinforcement of slopes and embankments			✓		✓	✓
melioration ditches			✓		✓	✓
<b>REINFORCEMENT AND EROSION CONTROL OF DITCHES</b>						
pedestrian and cycling paths			✓	✓	✓	
airfields – helipads	✓	✓	✓	✓	✓	
golf courses			✓	✓	✓	
camping sites	✓	✓	✓	✓	✓	
paddocks, horse stables		✓	✓	✓	✓	
<b>HOME AND GARDEN</b>						
garage and premise access			✓	✓	✓	
garden paths			✓	✓	✓	
lawn protection against animals			✓	✓	✓	
pond banks and bottoms			✓		✓	✓
house surrounding (gravel drainage)			✓	✓	✓	✓

### POSSIBLE GRID FILLINGS



## 2

## WHY PLASTIC GRID INSTEAD OF CONCRETE GRID PAVING UNITS ?

### COBBLESTONES, CONCRETE SLABS

impermeable surface, rain water is drained to storm drain canals

biologically active surface: up to 50%

surface vegetation coverage: 0-60%

water absorption by the material: approx. 20%

physically and visually heavy surface

weight: approx. 120 kg/m<sup>2</sup>

transport: high cost due to weight

installation: 10-60 m<sup>2</sup>/h, high cost

elasticity: none, uneven force distribution on uneven surfaces, risk of damage

necessity to stockpile used or broken materials

low temperature resistance, in connection with water absorption – possibility of surface sinking and cracking

material price: comparable

installation cost: 30% higher

transport cost: approx. 5 times higher

### LAWN GRID PARKING GRID

undisturbed water flow in the ground, surface nearly 100% water permeable

biologically active surface: up to 90%

surface vegetation coverage: nearly 80-90%

material water absorption: 0%

natural character of developed surface

weight: approx. 5,6-7,8 kg/m<sup>2</sup>

transport: low cost, easy

installation: 60-150 m<sup>2</sup>/h, low cost, simple and quick

elasticity: yes, even distribution of force under pressure

destroyed material processing – recycling

resistance to low and high temperatures, the surface does not heat up and can handle expansion and contraction

material price: comparable

installation cost: approx. 30% lower

transport cost: approx. 5 times lower





Load bearing capacity:  
350 tons/ m<sup>2</sup> (without filling)



3

### Application

- fire access routes
- airfields - helipads
- grassed car parks
- road waysides
- maneuvering squares
- residential estate parking spaces
- tram subgrades
- camping sites



Recreational airfield



Green fire escape route



8000 m<sup>2</sup> of EcoPave lawn, Puławy Marina

The EcoPave G5max grass and ground reinforcing grid helps preserve the natural character of an area, by providing protection of the surface against the effects of regular vehicular and pedestrian trafficking.



Temporary parking spaces, shopping center



EcoPave used in a fire escape route at the Warsaw Business Garden

This is the first ecological office complex in Poland. The project consists of 7 buildings located on a plot of 6 hectares, 60% of which is a biologically active area.

## MAXIMUM DURABILITY

### Technical data

Dimensions	50 x 50 cm
Wall height	5 cm
Wall thickness	5 mm
Cell size	49 cells 7 cm x 7 cm (in one grid)
Quantity per m <sup>2</sup>	4 units
Weight	2,30 kg/ unit 9,20 kg/ 1 m <sup>2</sup>
Dimension stability	+/- 3% (-30°C do +50 °C)
Material durability	minimum 10 years
Allowed load per axis	230 kN/ axis

Biologically active surface:

**80%**  
free space

**20%**  
plastic



### Filling



thicker wall than usual - 5 mm



Load bearing capacity:  
350 tons/ m<sup>2</sup> (without filling)

4

# EcoPave G4max

The EcoPave G4max grid is a guarantee of high durability in addition to optimized aggregate usage thanks to a lower wall height.

## Application

- fire access routes
- airfields - helipads
- grassed car parks
- gravel car parks
- access routes
- road verges
- vehicle turning areas
- residential estate parking spaces
- tram subgrades
- camping sites



Housing estate parking in Środa Wielkopolska



Green fire escape route, Sanctuary in Bystrzyca Kłodzka



Car parking in front of the Biedronka market



Car parking in front of shopping center



## OPTIMAL SOLUTION FOR THE GREATEST

### Technical data

Dimensions	50 x 50 cm
Wall height	4 cm
Wall thickness	5 mm
Cell size	49 cells 7 cm x 7 cm (in one grid)
Quantity per m <sup>2</sup>	4 units
Weight	2 kg/ per unit 8 kg/ per m <sup>2</sup>
Dimension stability	+/- 3% (-30°C do +50 °C)
Material durability	minimum 10 years
Allowed load per axis	230 kN/ axis

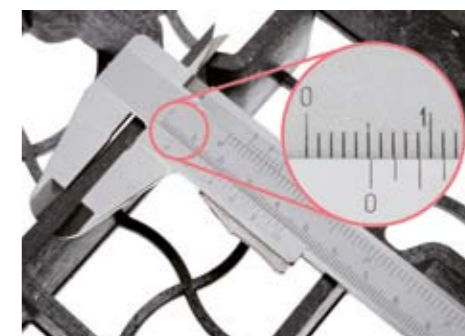
Biologically active surface:

**81%**  
free space

**19%**  
plastic



### Filling



thicker wall than usual - 5 mm



Load bearing capacity:  
250 tons/ m<sup>2</sup> (without filling)



## UNIVERSAL APPLICATION

# 5

### Application

- fire access routes
- grassed car parks
- gravel car parks
- road verges
- residential estate parking spaces
- tram subgrades
- reinforcement of slopes and embankments
- erosion control in ditches
- pedestrian and cycling paths
- airfields - helipads
- golf courses
- camping sites
- paddocks and horse stables
- garage and property access
- garden pathways
- lawn protection against animals
- pond banks and bottoms
- house surrounding (gravel drainage)

Housing estate parking in Wrocław



## EcoPave

**G4** This grid is suitable for infill with either grass or gravel and this, combined with its high performance characteristics, makes it suitable for a very wide range of applications.



Green parking, Warsaw Muranów



Grassed parking for guests, Healthcare Home Lilia in Ciechocinek



Gravel-grass parking, Malta Poznań

### Technical data

Dimensions	50 x 50 cm
Wall height	4 cm
Wall thickness	3 - 4 mm
Cell size	49 cells 7 cm x 7 cm (in one grid)
Quantity per m <sup>2</sup>	4 units
Weight	1,40 kg/ unit 5,60 kg/ 1 m <sup>2</sup>
Dimension stability	+/- 3% (-30°C do +50 °C)
Material durability	minimum 11 years
Allowed load per axis	170 kN/ axis

Biologically active surface:

**85%**  
free space

**15%**  
plastic



### Filling



Paddock for horses, Neustadt Germany



Load bearing capacity:  
250 tons/ m<sup>2</sup> (without filling)

6

# EcoPave S60

The durability and dimensions of the EcoPave S60 grid provide broad application possibilities in private, as well as commercial areas.



## Application

- fire access routes
- grassed car parks
- gravel car parks
- road verges
- residential estate parking spaces
- tram subgrades
- reinforcement slopes and embankments
- erosion control in ditches
- pedestrian and cycling paths
- airfields - helipads
- golf courses
- camping sites
- paddocks and horse stables
- garage and premise access
- garden pathways
- lawn protection against animals
- pond banks and bottoms
- house surrounding (gravel drainage)



Motoarena Speedway Stadium, Toruń

temporary car parking on an area of 14 thousand m<sup>2</sup>. Motoarena Toruń



before...



and after



## SURPRISING DURABILITY

### Technical data

Dimensions	60 x 40 cm
Wall height	4 cm
Wall thickness	3 mm
Cell size	54 cells 7 cm x 7 cm (in one grid)
Quantity per m <sup>2</sup>	4,2 - 4,4 unit
Weight	1,45 kg/ unit
Dimension stability	+/- 3% (-30°C do +50 °C)
Material durability	minimum 10 years
Allowed load per axis	170 kN/ axis

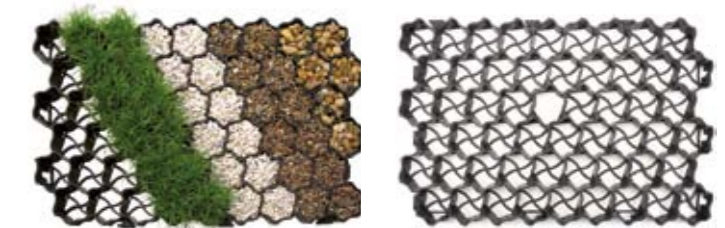
Biologically active surface:

**83%**  
free space

**17%**  
plastic



### Filling



Green parking,  
Toruń University



Load bearing capacity:  
120 tons/ m<sup>2</sup> (without filling)



# EVERYTHING IN ITS PLACE

## EcoPave G3

Perfect for use with aggregate, which is especially useful for car parks and premise access routes.

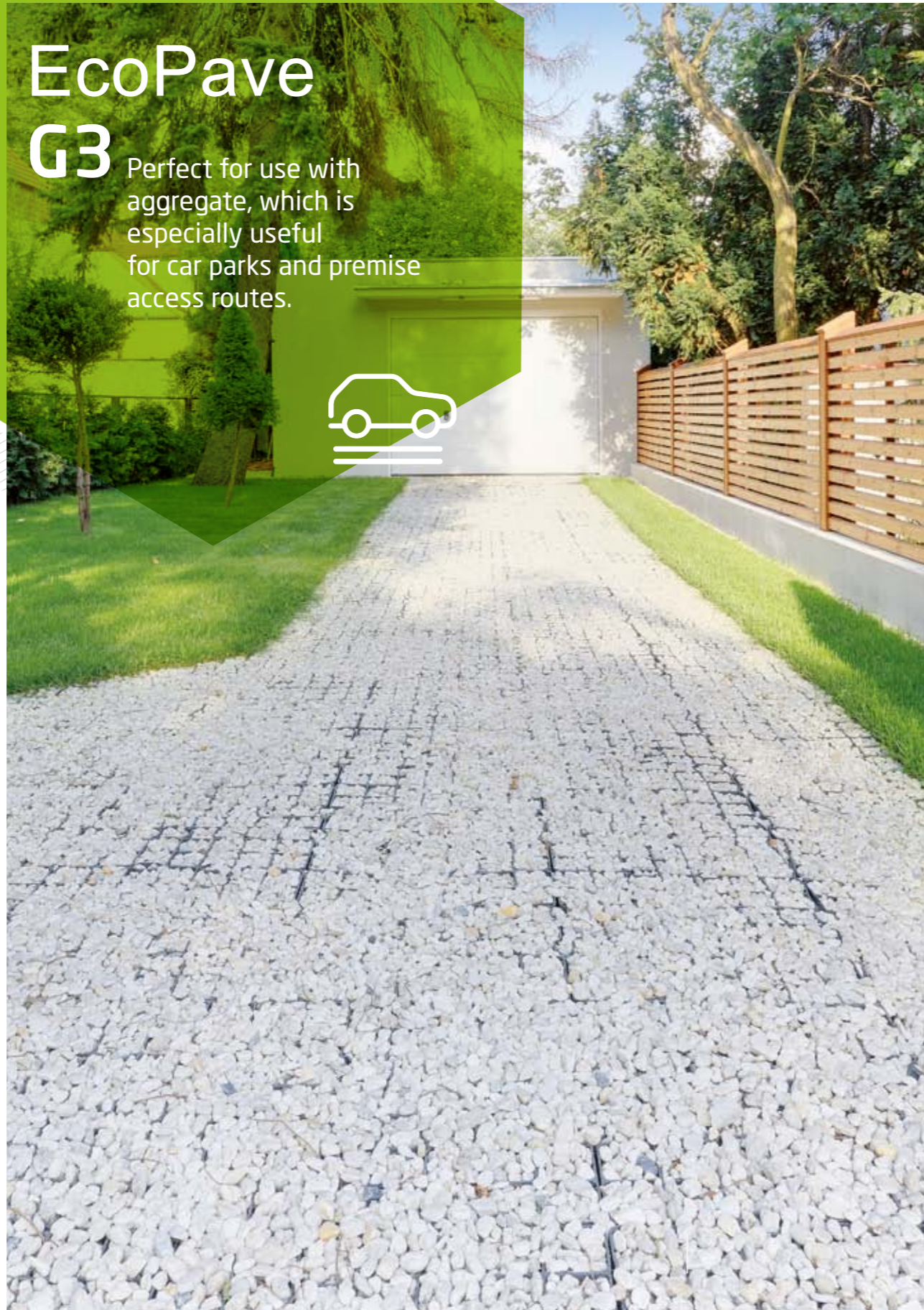


# 7

### Application

- gravel car parks
- garage and premise access
- pedestrian and cycling paths
- golf courses
- camping sites
- paddocks and horse stables
- garden pathways
- lawn protection against animals
- house surrounding (gravel drainage)

The entrance to the private estate,  
Poznań



Yard in front of a kindergarten,  
Poznań



Gravel car park in front  
of a company office,  
Koszalin

### Technical data

Dimensions	50 x 50 cm
Wall height	3 cm
Wall thickness	4 mm
Cell size	49 cells 7 cm x 7 cm (in one grid)
Quantity per m <sup>2</sup>	4 unit
Weight	1,20 kg/ unit 4,60 kg/ 1 m <sup>2</sup>
Dimension stability	+/- 3% (-30°C do +50 °C)
Material durability	minimum 10 years
Allowed load per axis	80 kN/ axis

Biologically  
active surface:

**86%**  
free space

**14%**  
plastic



### Filling



Aggregate car park in front of a bank,  
Poznań





Load bearing capacity:  
100 tons/ m<sup>2</sup> (without filling)

8

# EcoPave S60s

The EcoPave S60s grid is intended for difficult surfaces, such as slopes, drainage ditches, or drains around the house.

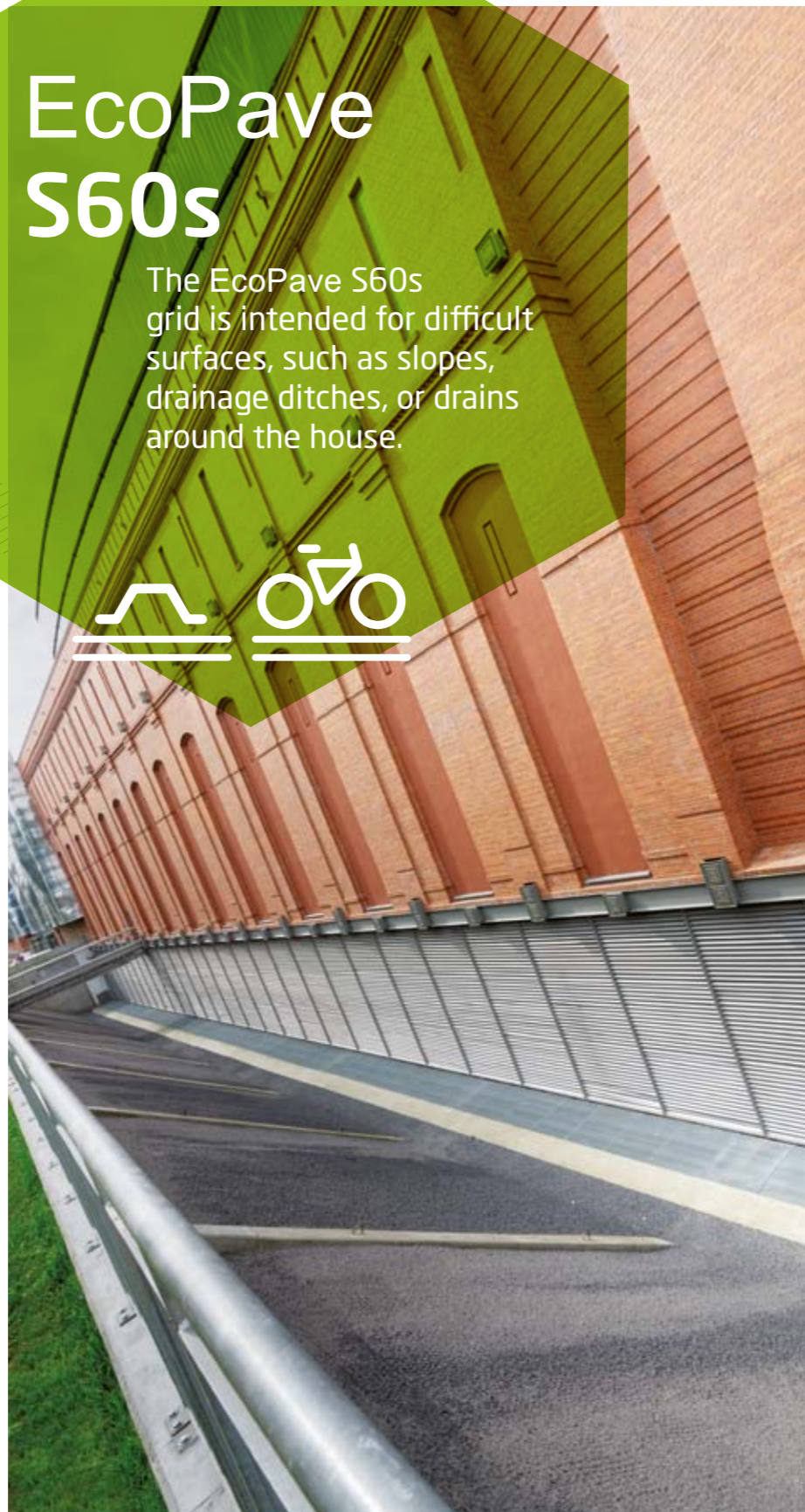


## Application

- gravel car parks for passenger cars
- reinforcement of slopes, embankments
- melioration ditches
- water pond banks and bottoms
- house surrounding (gravel drainage)



Slope reinforcement, Warsaw



Embankment reinforcement, Stary Browar, Poznań

Reinforced slope, Kolobrzeg



Drainage ditch, Nowy Golebín



Splash apron around a hall, Warsaw



Malownicze Housing Estate, Wrocław



## EVEN IN THE MOST DIFFICULT CONDITIONS

### Technical data

Dimensions	60,5 x 40,5 cm
Wall height	4 cm
Wall thickness	3 mm
Cell size	15 cells 12 cm x 12 cm (in one grid)
Quantity per m <sup>2</sup>	4 unit
Weight	0,8 kg/ unit 3,20 kg/ 1 m <sup>2</sup>
Dimension stability	+/- 3% ( -30°C do +50 °C)
Material durability	minimum 10 years
Allowed load per axis	pedestrian traffic

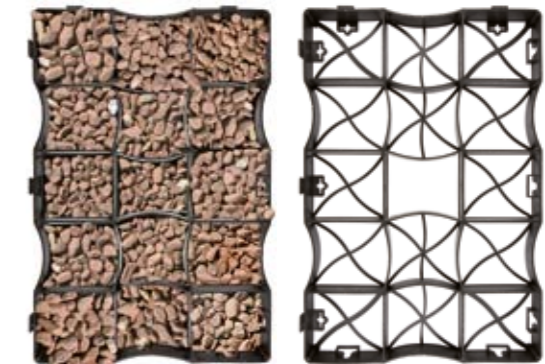
Biologically active surface:

**90%**  
free space

**10%**  
plastic



### Filling



For filling the grid, we recommend aggregate or vegetation.

Thanks to large meshes, it is possible to plant larger vegetation.

# Assembly EcoPave

The system's elements form one large slab, thereby ensuring even load distribution, which prevents deformation when trafficked. The grates are connected by self-locking fasteners.



## Sub-base layers

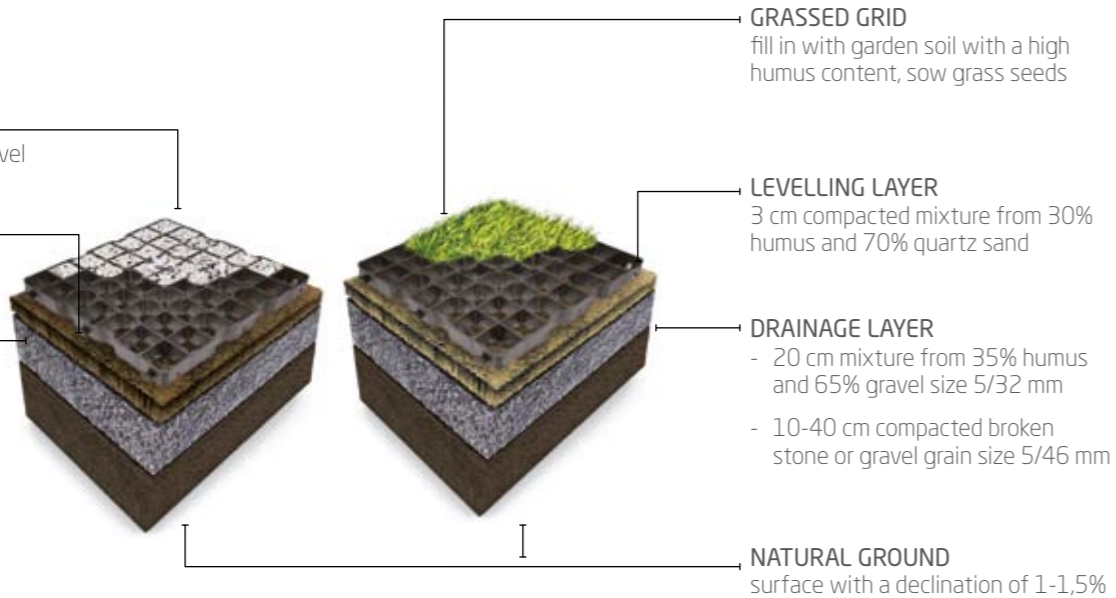


distribution of the leveling layer

**STONE FILLED GRID**  
fill in with chippings or gravel size 5/20 mm

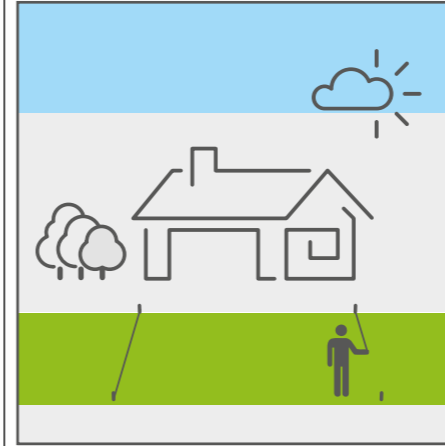
**LEVELLING LAYER**  
3 cm compacted layer of 2/5 mm chippings

**DRAINAGE LAYER**  
10-55 cm compacted broken stone grain size 5/32 mm

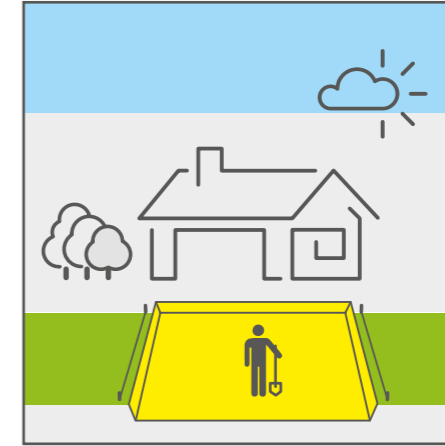


This instruction is based on personal experience. The foundation should be adjusted to the geological conditions by an engineer, in accordance with building norms.

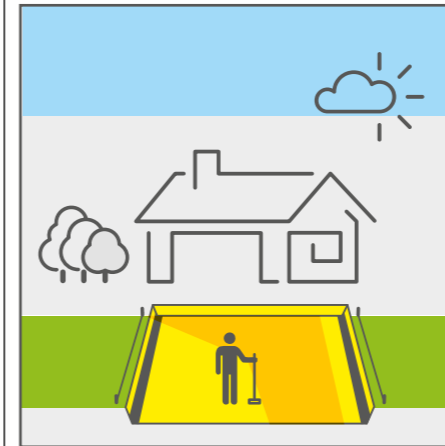
## EcoPave grid installation instruction



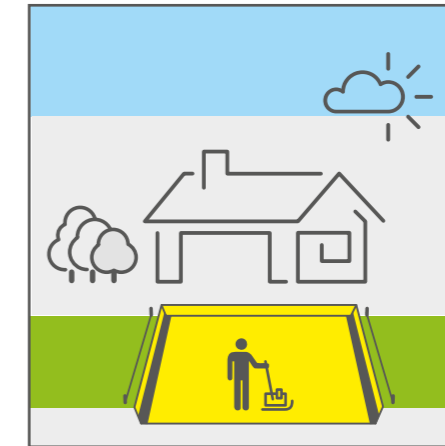
1. Mark the surface shape using pins and string



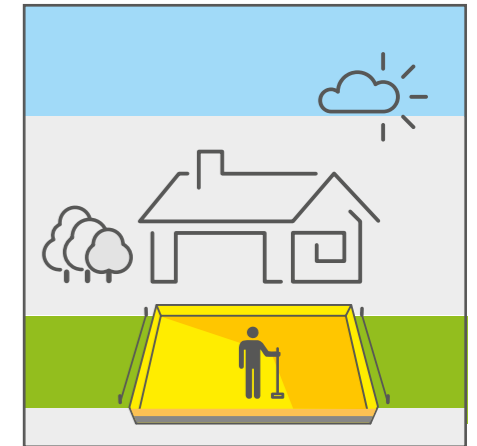
2. Remove the soil to an appropriate depth - depending on the character of the planned surface.



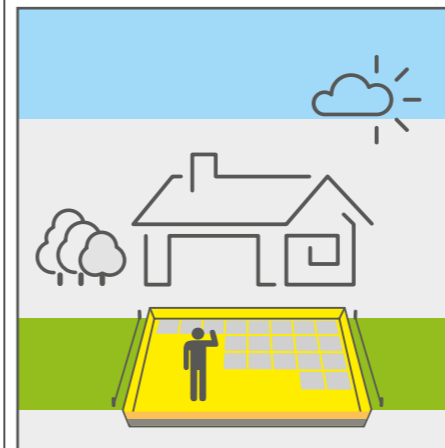
3. Level the surface and compact it mechanically.



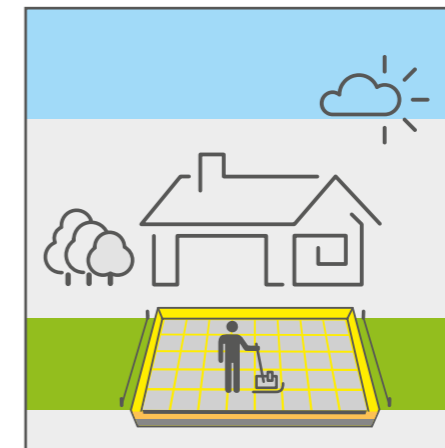
4. Fill in the load bearing layer, and then level and compact it with a compactor.



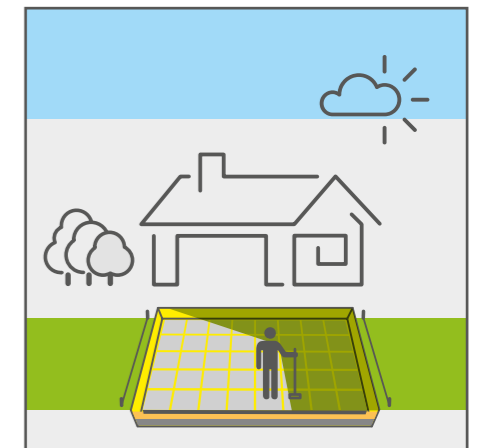
5. Place sand over the load bearing layer and distribute evenly.



6. Place the grids in rows, connect using the fasteners (a rubber hammer can be used).



7. Level the grid layer using a compactor or garden roller.



8. Fill out the grids with aggregate or a lawn soil mix.



load bearing layer distribution

## Sub-base height

- Pedestrian traffic 10 cm
- Passenger cars 20-25 cm
- Trucks 45-55 cm
- Fire access routes 45-55 cm



# Green scape



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