

ECORASTER[®]

Technical Manual

Permeable Ground Reinforcement
Application Examples
Specifications

Table of contents

• Maintaining the ground's water-permeability to regulate rainwater	6
• The run-off coefficient	8
• Ground infiltration rate – controlling water-permeability	9
• ECORASTER® – permeable paving systems	10
• Selecting a system for parking areas according to occupancy and length of stay	12
• Selecting the ECORASTER® system according to the parking areas frequency of use	13
• ECORASTER® – system and application	14
• ECORASTER® – easy to install – 1.00 m x 1.33 m (39.37 in x 52.36 in) preconnected (layer)	16
• ECORASTER® Mineral system – parking lots with a high frequency of use	18
• ECORASTER® Microgreen system – parking lots with high to medium frequency of use	20
• ECORASTER® Green system – parking lots with medium to low frequency of use	22
• ECORASTER® module – TÜV-certified – unique safety interlocking system	25
• ECORASTER® Stone system	26
• ECORASTER SOFTGROUND® system	26
• ECORASTER® erosion control	27
• ECOSEDUM PACK®	27
• Examples of ECORASTER® in use	28

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Water - The most precious raw material!

What's happening out there?

- Rapid urbanisation has negative effects on the climate in towns and cities, since it leaves fewer untouched surfaces for water to infiltrate and evaporate.
- The phenomenon of the “urban heat island”, caused by urban expansion, has become an important talking point in the climate change debate.
- All over the world, surfaces in urban areas are being sealed with non-permeable sealant reinforcement, and this increases the risk of flooding.
- Surface water can no longer infiltrate the ground where it falls and the resulting accumulation presents a serious problem.

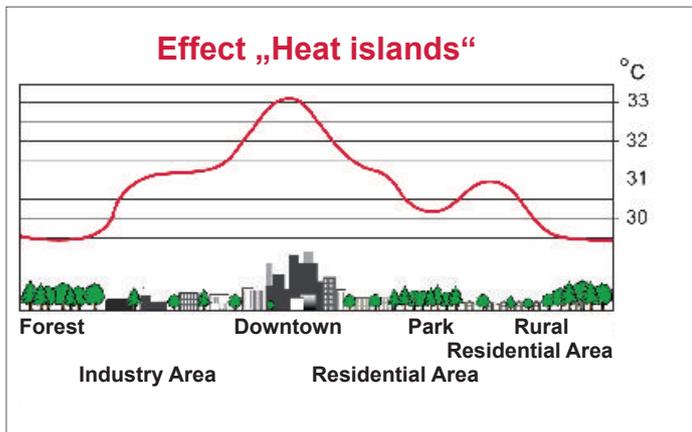


Maintaining the ground's permeability to regulate rainwater

Sealing of the ground in urban areas

Urbanisation leaves fewer untouched surfaces for water to infiltrate and evaporate. After heavy rain, the surface water in towns and cities immediately enters the sewages, which quickly overload. The surface water that does not infiltrate the ground enters the watercourses, which overflow and cause flooding.

Every day we see images of floods and the damage they cause. Heavy precipitation causes a sudden rise in the water level, leading to devastating floods. Flood prevention is therefore closely tied in with rainwater management.



Maintaining near-natural surfaces to prevent “urban heat islands”

A “Heat island” is an urban microclimate in metropolitan areas where the temperature is higher than the surrounding area. The extent to which the ground is sealed in towns and cities and the density of development are key contributors to these heat islands. There are fewer surfaces left in their natural state, which allow water to evaporate and give vegetation access to water, two factors which help cool the air during the day. However, when the ground is sealed, evaporation and water storage is greatly reduced and the urban climate deteriorates as a result. This is a major problem for the environment in which we live.



Sealing of surfaces

When we lose natural and agricultural resources the ground becomes sealed. Unfortunately, this becomes generally irreversibly: due to urbanisation and the development of infrastructure. This phenomenon is a major challenge for sustainable spatial planning.

The German Federal Office for Building and Regional Planning and the German Federal Environment Agency estimate that approx. 50% of the land in Germany dedicated to thoroughfares and settlement is sealed.

In addition, our encroachments into nature are threatening biological diversity and balance.

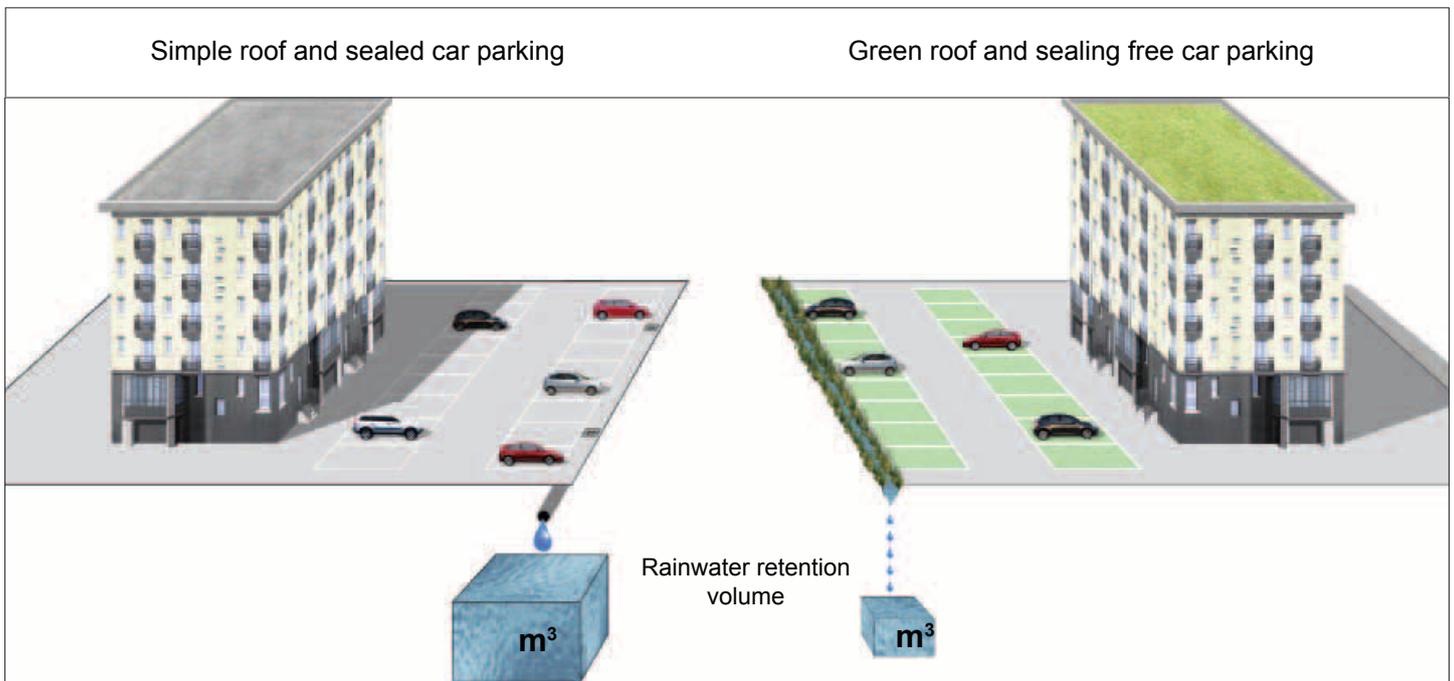
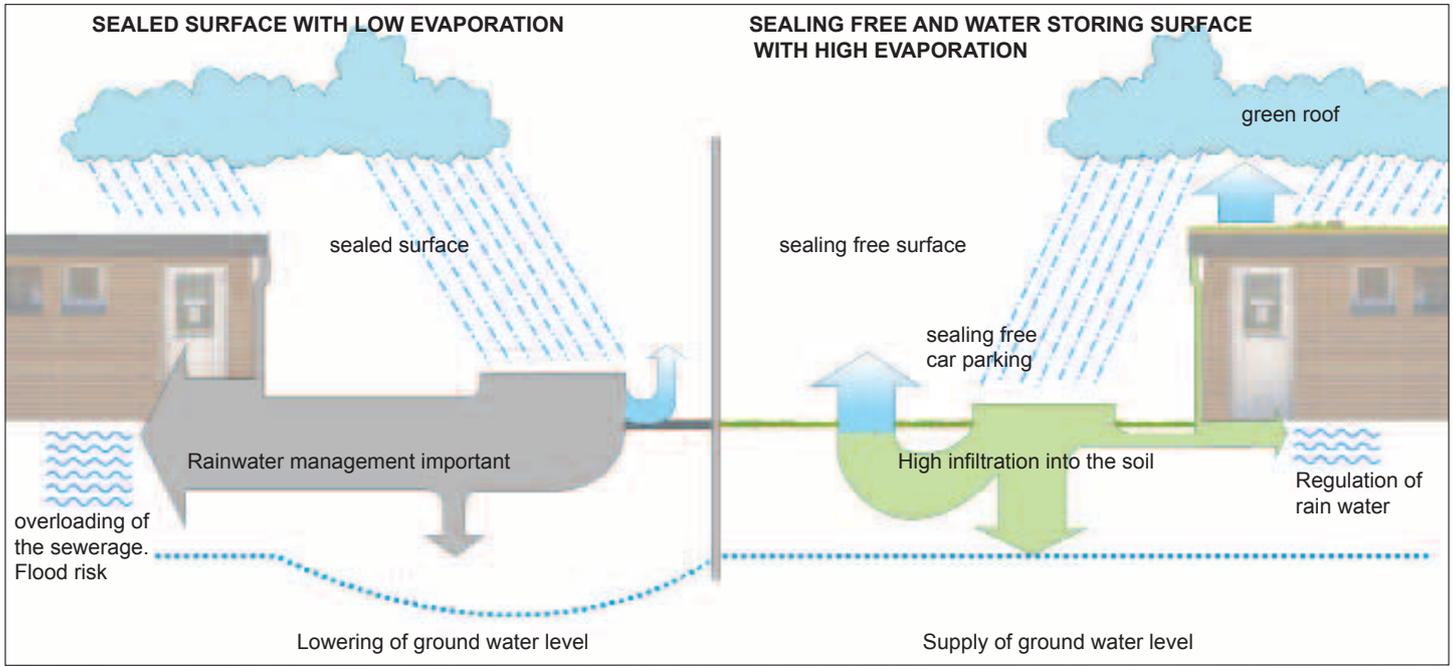
1. Avoid sealing the ground

Surfaces should not be sealed – as expensive reservoirs often must be used to compensate – and rainwater drains should be positioned as close as possible to the source.

2. Permit the water to determine it's own natural cycle

3. Begin to reduce and eliminate the number of drains entering sewage system

4. Reduce the legal run-off coefficient of a surface (see p. 5)



- Reduce the footprint of buildings
- Reduce asphalted surfaces
- Reduce jointless interlocking stones, pavements and slabs

- + Create green spaces
- + Use surfaces capable of draining
- + Maintain or restore infiltration ability
- + Decentralised infiltration of rainwater
- + Natural methods of retaining and storing water

The run-off coefficient

Run-off rate

The amount of rainwater that can be discharged into the public waste water system over and above what has infiltrated the ground is unlimited. The return cycle of natural water has been compromised. A sealed surface has a high sealing factor, meaning that expensive measures must be taken to adhere to the maximum run-off rate.

For example, the maximum run-off rate over a period of 10 years could be:

- 2 l/s/ha for discharge into a combined sewer
- 10 to 15 l/s/ha for discharge into the natural water cycle (directly or via a rainwater channel).

Definition of sealing factor

When talking about a site, the sealing factor indicates the sealed surfaces relative to the total area of the site. The main aim, therefore, is to reduce the sealing factor by increasing the site's infiltration rate.

Definition of the run-off coefficient

The run-off coefficient is effective precipitation – that is the amount of precipitation that actually enters the drain – divided by total precipitation. The coefficient depends on how sealed the surfaces are and their gradient, among other things. The more sealed the surface, the higher the run-off coefficient. A run-off coefficient of 0.95 (for a sealed surface) means that 95% of the water does not infiltrate the ground. The remaining 5% evaporates, infiltrates the ground or is temporarily stored. A run-off coefficient can be assigned to all types of surfaces.

Surface	Run-off coefficient	ECORASTER® Mineral	ECORASTER® Stone	ECORASTER® Microgreen	ECORASTER® Green
sealed roofs or surfaces	0,95 - 1				
Concrete surface	0,85 - 0,90				
Washed-out concrete	0,75 - 0,80				
Concrete grids	0,60 - 0,70				
Gravel or crushed stone path	0,50				
Soil	0,40				
created green area	0,30 - 0,35				0,20 - 0,35
natural green area	0,20 - 0,25			0,15 - 0,25	
Parc	0,15		0,13 - 0,23		
Meadow on sandy soil, wooded area	0,10	0,10 - 0,15			

Ground infiltration rate – controlling water-permeability

What are the criteria for infiltration?

The infiltration rate of the ground affects the feasibility of a construction project involving water-permeable surfaces. It is indicated by the coefficient of permeability K (m/s). To be considered for such a project, the infiltration rate of the ground must be tested. Geotechnical surveys are required for certain surfaces to be reinforced or for heterogeneous ground.

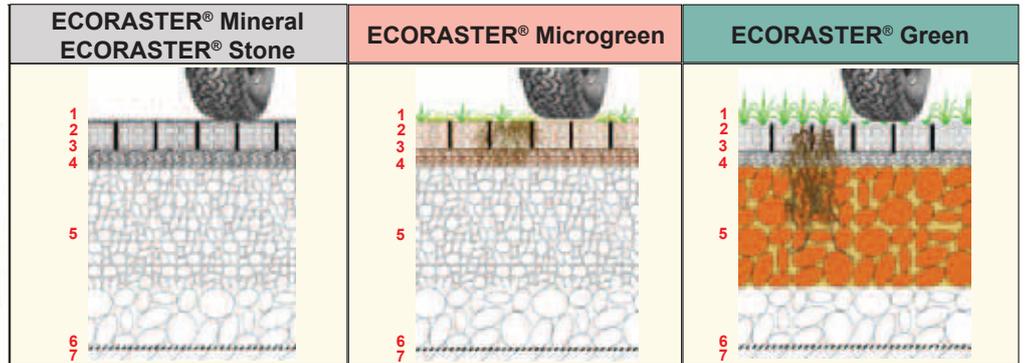
$K > 10^{-4}$ m/s	$10^{-4} > K > 10^{-6}$ m/s	$10^{-6} > K > 10^{-8}$ m/s
Stony sandy soil	Sandy loam	Clay loam
  	  	  
Quick infiltration	Average infiltration	Slow infiltration
		Security drainage 

ECORASTER®

permeable paving systems

Infiltration systems with ECORASTER®

With infiltration systems, water-permeable car parks can be installed using the ECORASTER® system. In certain cases, some of the parking spaces can be greened (grass, plants for dry soil), while in others, we recommend a mineral mix filling.



		ECORASTER® Mineral ECORASTER® Stone	ECORASTER® Microgreen	ECORASTER® Green
1	Planting	-	Plants for dry areas	Lawn
2	Filler for fixing	Grit	Mineral substrate ECORASTER® Microgreen	Organic substrate ECORASTER® Green
3	Carrier	ECORASTER®-System	ECORASTER®-System	ECORASTER®-System
4	Leveling layer	Grit	Mineral substrate ECORASTER® Microgreen	FERTILIT®
5	Base layer	Sustainable drainage granules	Sustainable drainage granules	Fertile base layer (Hydrofertil® oder MTP 30/60) Sustainable drainage granules
6	Geotextile	Pollution resistant geotextile	Pollution resistant geotextile	Pollution resistant geotextile
7	Subgrade surface	Subgrade surface	Subgrade surface	Subgrade surface



Installing a water-permeable car parking lot areas depending on occupancy and length of stay per day

ECORASTER® Mineral ECORASTER® Stone	<p style="text-align: center; color: red;">Occupancy > 10 h/day</p> <ul style="list-style-type: none"> • Visitors' car parking, short-term • Shopping centres (near shop entrances) • Driveways of greened parking areas, access routes • Storage areas, etc. 		parking time > 10 h/day
ECORASTER® Microgreen	<p style="text-align: center; color: red;">Occupancy max. 10 h/day</p> <ul style="list-style-type: none"> • Car parking for public administrative offices • Office blocks and public buildings, business parks (near entrances) • Shopping centres, parks • Car parking in residential areas 		parking time max 10 h/day
ECORASTER® Green	<p style="text-align: center; color: red;">Occupancy max. 4 h/day</p> <ul style="list-style-type: none"> • Car parking in tourist areas • Stadiums, sports facilities (outside town/city centres) • Offices, business parks • Camp sites • Shopping centres (outside town/city centres) • Driveways for golf carts, etc. • Graveyards 		parking time max 4 h/day

Selecting a system for parking areas according to occupancy and length of stay

The frequency of use of a greened parking area is a deciding factor in choosing the most suitable water-permeable system for car parks:

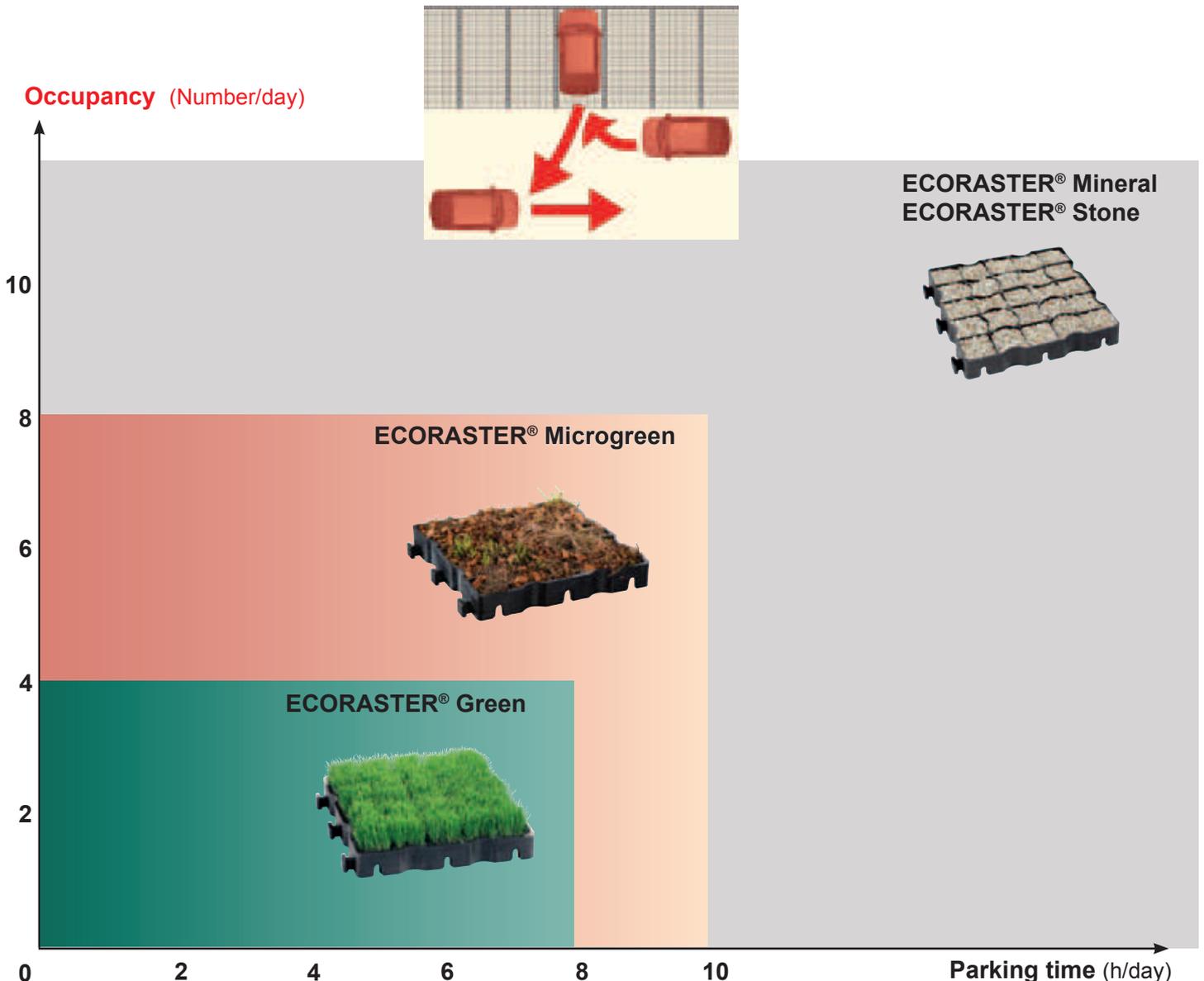
1. Car parking lot occupancy over the course of the day

Parking lot occupancy over the course of the day must be taken into consideration when installing a greened parking area with the ECORASTER® Intensive system.

The ECORASTER® Extensive system is a good compromise. It uses low-maintenance plants for greening. The density of greening and the time it takes to install depend on the intensity of use. The fast-growing plants cover 20% to 80% of the area.

2. Revitalization Periods

To allow for proper plant life growth, greened parking area must be periodically unoccupied for a certain number of hours a day and at the weekends. Also, permanent shade due to buildings, for example, must be factored in when choosing the lawn..



Selecting the ECORASTER® system according to the parking areas frequency of use

Large parking areas are suitable for installing water-permeable surfaces if they are well-planned and are appropriate for the frequency of use. One example of when to use ECORASTER® Green would be on the spaces furthest away from the entrances of buildings. Those spaces would only be occupied one or two days a week when the volume of traffic is high. When installing water-permeable parking lots, it goes without saying that user comfort and the regulations relating to people with limited mobility must be taken into account.

Office or Mall

Asphalted driveway



ECORASTER®
Mineral

Water permeable driveway with ECORASTER® Mineral



ECORASTER®
Microgreen

Water permeable driveway with ECORASTER® Mineral



ECORASTER®
Green

Water permeable driveway with ECORASTER® Mineral

Tailored to the frequency of use

Parking lots and driveways can be planned according to their distance from the building.

Maintaining green spaces

By greening parking lots outside of the town or city centre, the number of green spaces can be increased.

Maintaining surfaces with good water-permeability

ECORASTER® Mineral or ECORASTER® Stone can be used on heavily loaded driveways to increase the area over which the water can infiltrate.

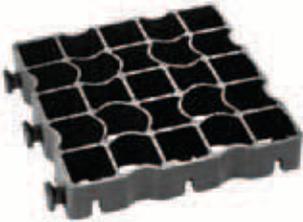


ECORASTER®

system and application

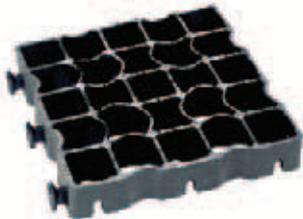
			
ECORASTER®-System	ECORASTER® Mineral ECORASTER® Stone	ECORASTER® Microgreen	ECORASTER® Green
Applications	Best suited ECORASTER® grid tile (*contact our staff for an individual consultation)		
Walkway	E40	E40/S50	E40
Car parking lot	E50 / S50 / E40*	E50 / S50*	S50 / E50 / E40
Truck and bus parking lot	E50	E50	E50
Emergency access road	E50	E50	E50

There are four types of ECORASTER® grid tiles accessories available for different applications. They are supplied in tile form with an area of 1.33 m² [14.31 sq ft](12 preconnected grid tiles).



ECORASTER® E50

Dimensions: 33 x 33 x 5 cm
[12.99 in x 12.99 in x 1.96 in]
Height: 50 mm [1.96 in]
Carrying load: 800 t/m²
Pallet unit: 57.19 m²
[615.59 sq ft]



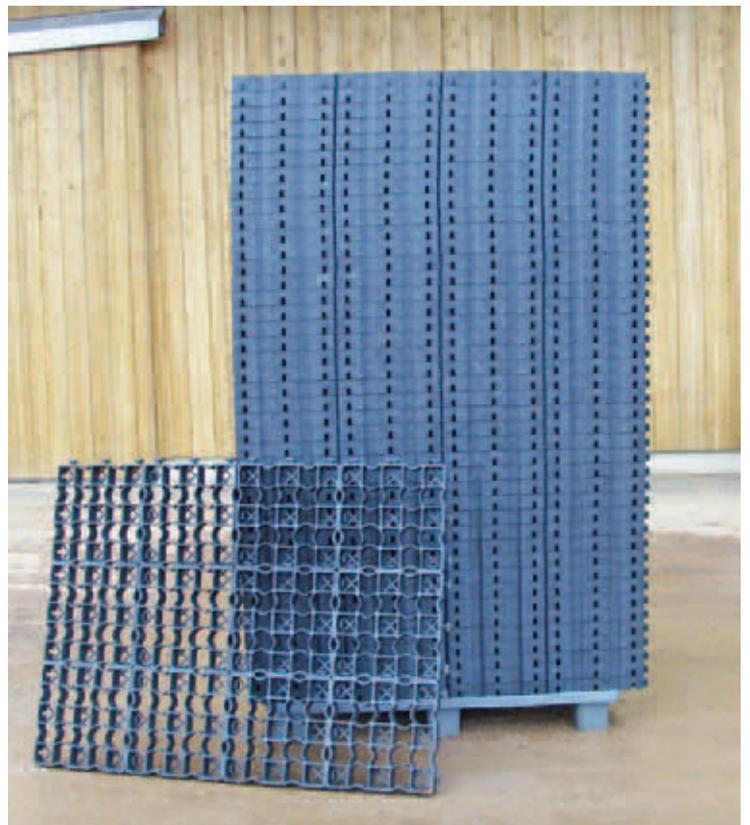
ECORASTER® S50

Dimensions: 33 x 33 x 5 cm
[12.99 in x 12.99 in x 1.96 in]
Height: 50 mm [1.96 in]
Carrying load: 800 t/m²
Pallet unit: 57,19 m²
[615.59 sq ft]



ECORASTER® E40

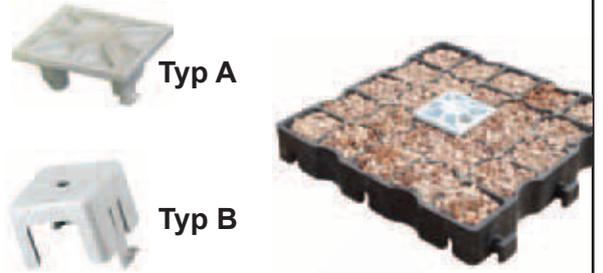
Dimensions: 33 x 33 x 4 cm
[12.99 in x 12.99 in x 1.6 in]
Height: 40 mm [1.6 in]
Carrying load: 800 t/m²
Pallet unit: 73,15 m²
[787 sq ft]



1. Parking lot markers

The markers are inserted into the tiles and fixed in place with locking elements.

Two types of markers are available. The raised marker (Type A) is suitable for car parks in areas where there is no risk of snow and ice. The Type B marker, which is recessed or flush with the edge, is for areas where snow might have to be cleared in winter.



2. TRICKRAST® connector

This component is used for fastening temporary surfaces (trade fairs, open-air events, etc.). The Trickrast locks into place on one side. The other side secures the ECORASTER® in position, but can be opened again just like a zip.



3. SOFTGROUND® mats

SOFTGROUND® mats made of non-skid rubber lock directly into the ECORASTER® E30 grid tiles.

SOFTGROUND® is suitable for the following applications:

- Surface for terraces and trade fairs
- Demarcating emergency access routes
- Surface for disabled parking spaces
- Elastic surface for horseboxes, etc.

The SOFTGROUND® mats are available in different colours!



4. Curve connector

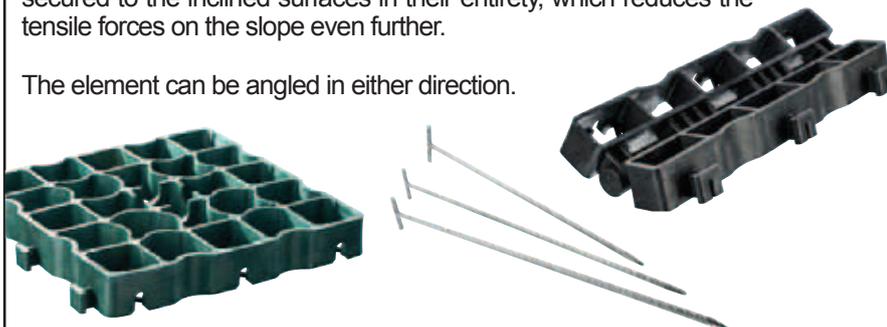
The flexible connector for laying curves, radii and circles, e.g. for changes in direction when reinforcing road shoulders. Specially developed for the ECORASTER system, it blends seamlessly into the surface.



5. Embankment brackets & erosion protection

Depending on the gradient of embankment and the tensile forces in play on the slope, embankment brackets or the ECORASTER A50 with ground spikes must be used. The horizontal surfaces are thus secured to the inclined surfaces in their entirety, which reduces the tensile forces on the slope even further.

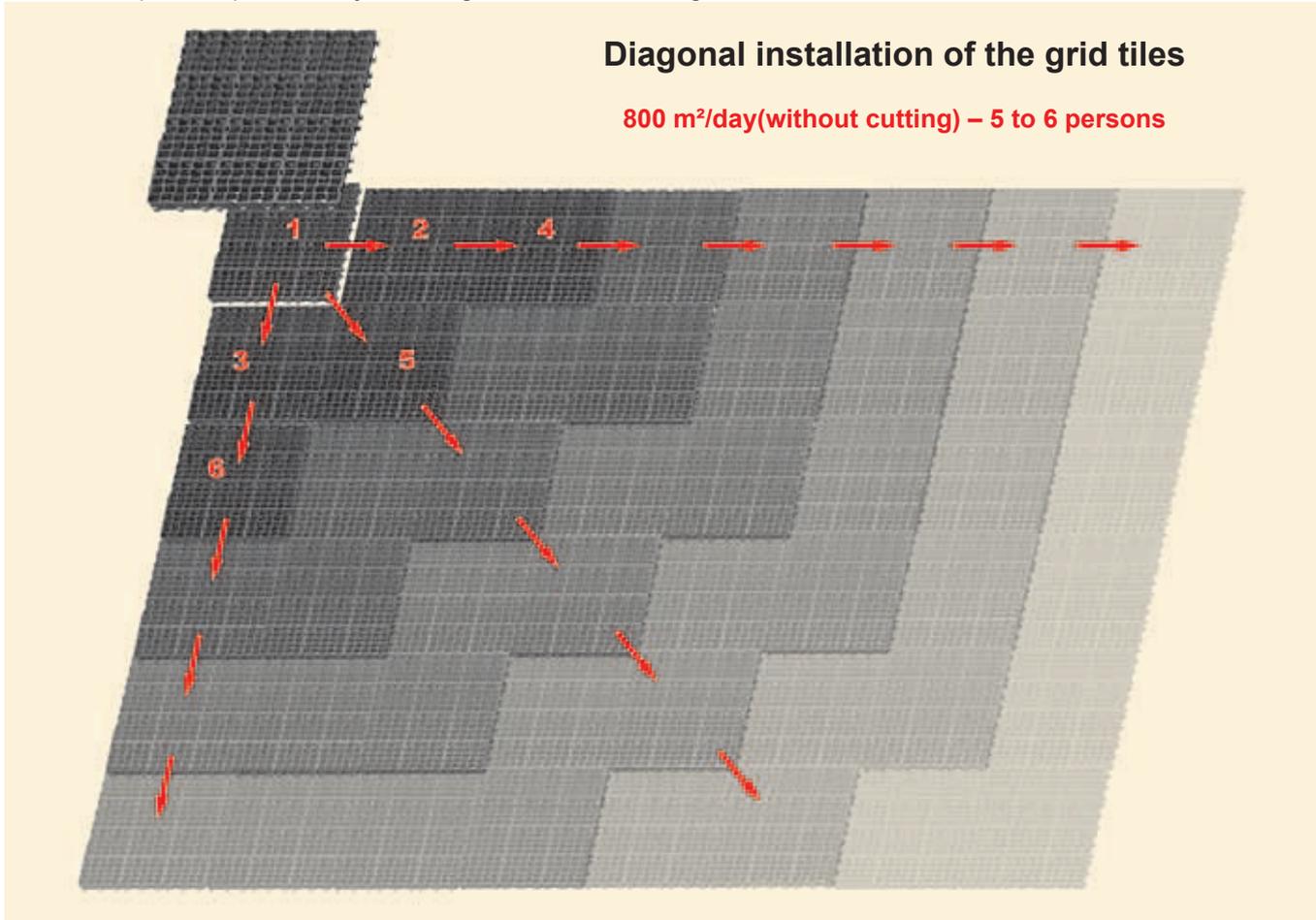
The element can be angled in either direction.



ECORASTER® – easy to install

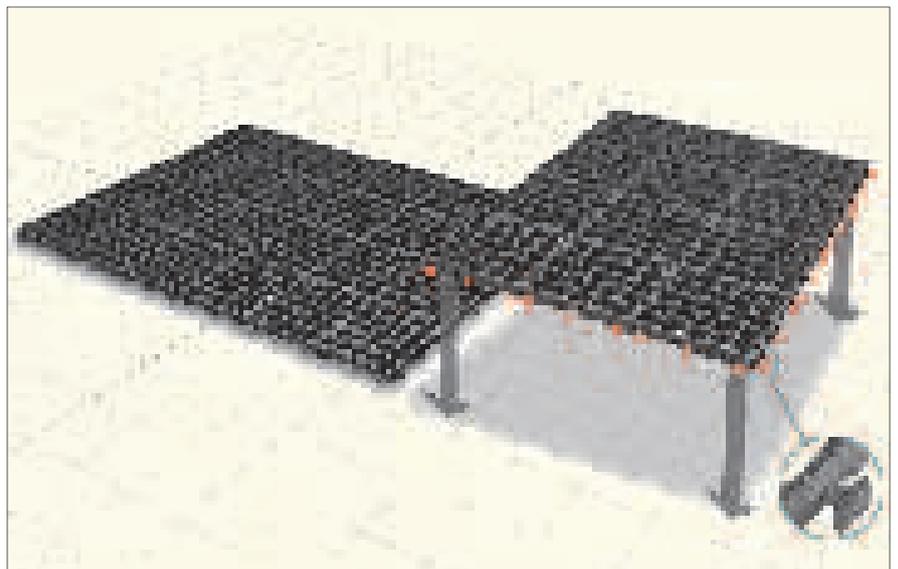
1.00 m x 1.33 m (39.37 in x 52.36 in) preconnected (layer)

The ECORASTER® is a professional non-sealing ground reinforcement system for road building, civil engineering, gardening and landscaping projects. With its high load-bearing capacity and safety interlocking system, ECORASTER® is ideal for public spaces subject to high vehicular loading.

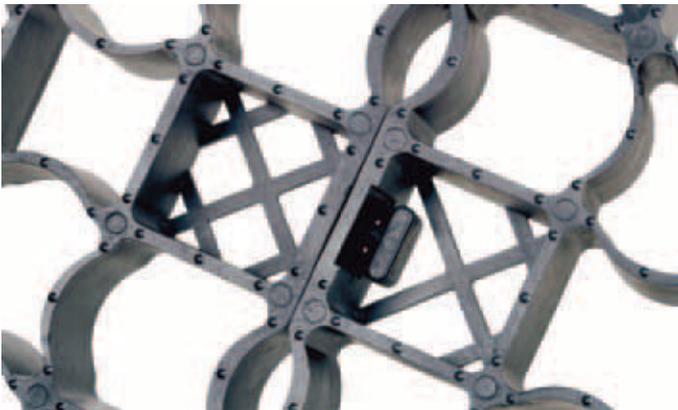


Laying the ECORASTER® grid tiles

ECORASTER® is quick and easy to lay without machinery. The system is supplied in tiled units of 12 preconnected grid tiles called the layer. Layers can be taken straight off the pallet and laid in one step. The subsequent tiles are simply laid in the same way. The connectors are clicked into the layers of grid tiles already laid by stepping on them with your foot. Installation should ideally proceed diagonally to prevent tile movement during assembly, especially in the case of large areas. Lay ECORASTER® tiles over the entire surface to be reinforced. Start the process at one corner of the area. The two sides of the tiles with the protruding parts (connectors) must point in both directions of installation.

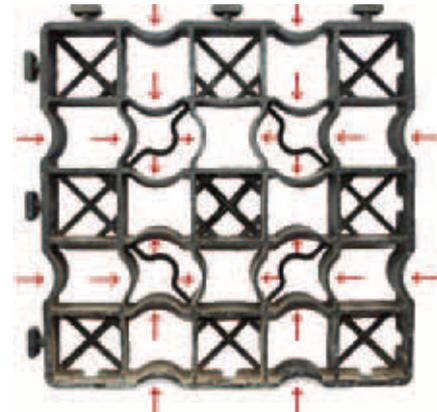


The dimensions of ECORASTER® systems remain constant even if temperatures fluctuate. The layers of grid tiles do not lift due to expansion and are therefore ideal for use in higher temperatures.



Safety interlocking system with 36 connectors per m² (1.19 sq yard)

Surfaces with ECORASTER® systems on which vehicles will be driven must stand up to the static and dynamic forces that arise. The stable and secure connection between the ECORASTER® grid tiles created by the interlocking connectors ensures a surface that lasts. A safety catch on each connector ensures cohesion regardless of the size of the surface. With nine grid tiles, each measuring 33 cm x 33 cm (12.99 in x 12.99 in), and 36 connectors per m² (1.19 sq yard), the surface provides flexible, complete reinforcement. The ECORASTER® grid tiles are thus suitable for a wide variety of applications, such as for stabilising uneven embankments.



Laying the ECORASTER® systems without expansion joints

The individual ECORASTER® tile grids are designed not to expand due to temperature changes. The grid tile's outer cells with cross-shaped reinforcements prevent the sides from deforming and increase the contact area. Expansion due to temperature fluctuations is absorbed by the flexible, curved walls of the grid tile. This prevents the grid tiles from lifting (red arrows). The ECORASTER® system can therefore be laid without expansion joints. Since arriving on the market in 1992, ECORASTER® systems have been enhanced and improved on an ongoing basis.

ECORASTER® Mineral system

Parking lots with a high frequency of use

ECORASTER® Mineral is a system for unsealed parking lots with a high frequency of use. It comprises ECORASTER® layer of grid tiles and a mineral filling of suitable grain size.



Application of the Ecoraster® system

- All surfaces required to be water-permeable including those that are not greened
- Driveways on greened parking areas
- Access routes
- Storage or machinery set down areas
- Seaside car parks with sand filling

Advantages

- Maintains the ground's water-permeability
- Different filling materials demarcate the individual spaces
- Different-coloured chippings distinguish the driveways from the parking spaces at a glance
- Maintains the look of chippings without the untidiness
- Priority given to materials available locally to reduce transport costs
- Maintenance-free water-permeable surface



Filling materials

There are a variety of sensible fills including: pea gravel; quartz sand; volcanic rock; chippings/granite chippings; terracotta/fired clay; similar filling materials

Grain size 2/4 - 4/6 (< 10 mm) [<0.39 in]

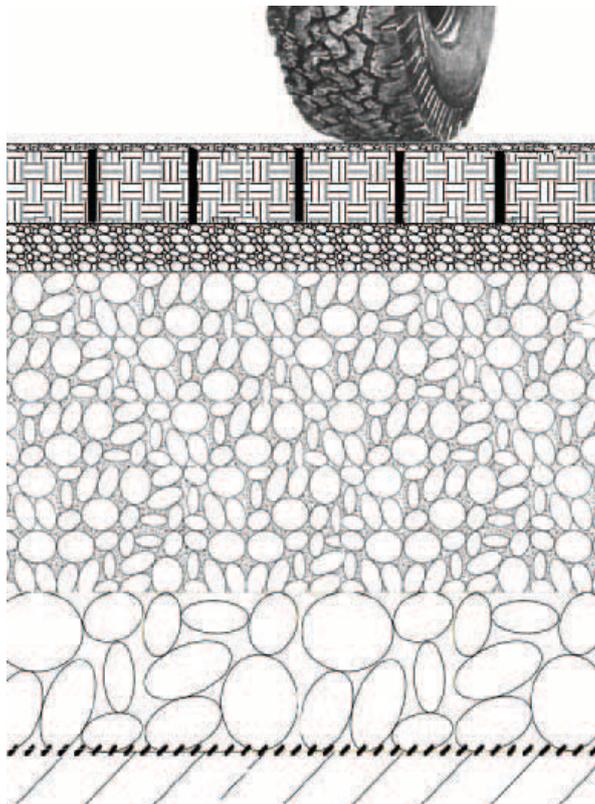
Using different filling materials enables drivers to tell the individual parking spaces apart easily, and the car park looks good as well.



ECORASTER® E50 and S50 grid tiles

These grid tiles are most suitable for a mineral filling material.

- Stability of surface as a whole is excellent
- Stands up to a wide variety of mechanical loads
- Vibration from vehicles driving over modules does not cause them to lift
- Shatter-proof walls



ECORASTER® grid tile filled with chippings

Base layer: 3 cm [1.18 in] compacted filling material

Draining layer: 20 cm [7.87 in] compacted draining gravel (0/31)

Substructure: 10 [3.93 in] to 40 cm [15.74 in] gravel (30/60 - 40/80)

Anti-contaminant geotextile

Foundation

ECORASTER® Microgreen system

Parking lots with high to medium frequency of use

ECORASTER® Microgreen is a complete greening system for both installing green spaces and preventing surface sealing at the same time.



Application:

- Can create water-permeable green car parks for medium frequency of use
- Suitable for medium frequency of use, high turnover, long stays
- Low maintenance. No further watering required after planting
- Blends well into the natural landscape
- Greening system for low rainfall areas in southern regions

ECORASTER® E50 and S50 grid tiles:

These grid tiles are most suitable for filling with ECORASTER® Microgreen substrate.

- Stability of surface as a whole is excellent
- Stands up to a wide variety of mechanical loads
- Vibration from vehicles driving over modules does not cause them to lift
- Shatter-proof walls

Substrate

Terracotta filling material with warm colour that blends harmoniously into the setting. Installed on a standard, draining road substructure. Plants slowly disperse.

Planting

The seeds supplied with the ECORASTER® Microgreen substrate are sown on the surface of the uncompacted substrate when installation is complete. The substrate consists of recycled terracotta and was specially treated to enable the fast-growing plants to disperse continuously, providing full coverage under heavy loading.

Wild thyme



Moss



Sedum



Alpine sweetgrass



White clover

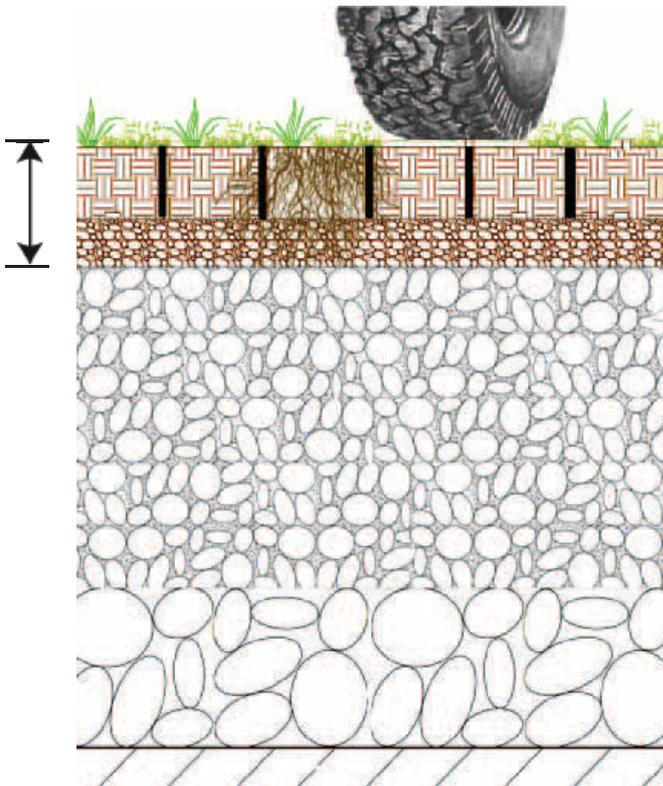


Care

Unlike parking areas with grass, which has to be mowed, fertilised and watered during dry spells, the ECORASTER® Microgreen system creates a very low maintenance, attractively landscaped public space that does not have to be mown or fertilised.



Fertility down to a depth of 8 cm [3.14 in]



ECORASTER® grid tile with mineral substrate
ECORASTER® Microgreen

Base layer: 3 cm [1.18 in] compacted ECORASTER® Microgreen substrate

Draining layer: 20 cm [7.87 in] draining gravel (0/31.5)

Substructure: 10 [3.93 in] to 40 cm [15.74 in] gravel (e.g. 30/60 – 40/80)

Anti-contaminant geotextile
Foundation

ECORASTER® Green system

Parking lots with medium to low frequency of use

Criteria for parking areas with grass continuing perennially:

- Parking area is suitable for grassing
- Fertile substructure, capable of draining and carrying a load
- Unused for a certain number of hours to give it adequate light and water; for example, in the evenings and at weekends
- Green space will be maintained (mown, fertilised)

All factors are equally important. If one of the criteria is not met, ECORASTER® Microgreen or ECORASTER® Mineral system are better options for a water-permeable parking area.



ECORASTER® or ECORASTER® Green? There are two options:

- Delayed result if grass is sown at time of construction (parking areas must not be used for at least 2 months).
- Immediate result if pre-sown grass modules are used (parking areas can be opened quickly)

Fertility of the substructure

To obtain a lasting grass surface, it is important that the plants can develop deep roots.

A fertile and sound substructure has pores in which air and water can circulate. This supports root development.

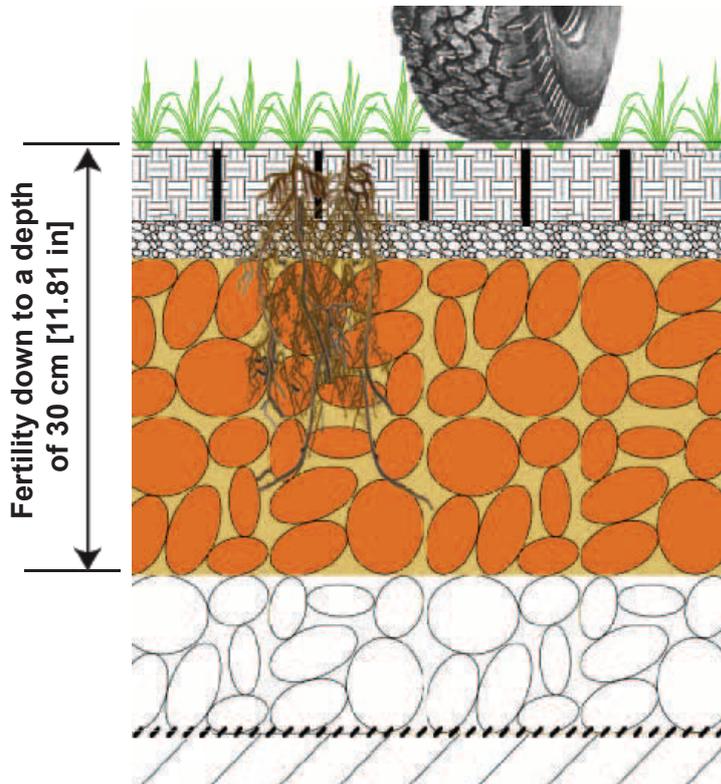
Drainage of driveways

The surface water on driveways must drain away quickly. Importantly, it must not flow onto the greened car park. The drains must conduct water away in the conventional manner via French Drains, gutters and suitably positioned outlets.

Tipps

Be sure only to green the parking spaces, and not the driveways. The ECORASTER® Green system is not recommended for parking areas with a gradient of more than 5%.





ECORASTER® Green

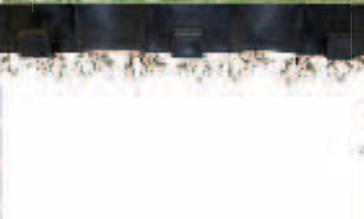
Levelling layer: FERTILIT® (4 cm) [1.57 in]

Fertile intermediate layer: 20 cm [7.87 in]
fertile substructure (65 to 70% gravel 30/60 + 30 to 35% HYDROFERTIL®)

Draining substructure: 10 [3.93 in] to 40 cm [15.74 in] Gravel (e.g. 30/60 – 40/80)

Anti-contaminant geotextile

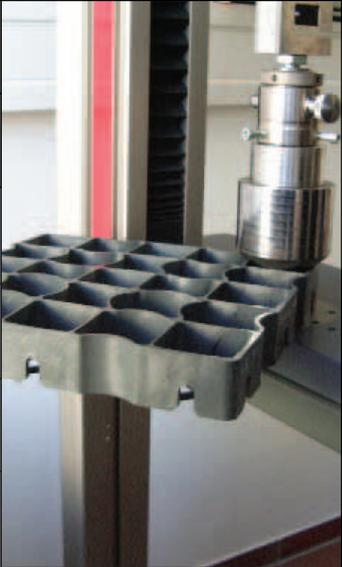
Foundation

ECORASTER® systems	ECORASTER® Mineral ECORASTER® Stone	ECORASTER® Microgreen	ECORASTER® Green
			
Care		1 time per year	4 to 8 times per year
			
Sunlight		min. 3 hours a day	4 to 7 hours a day
			
Irrigation		at construction	at construction and when required
			
Fertilization			1 time in spring and 1 time in autumn
			
Roots			
			

ECORASTER® module

TÜV-certified – unique safety interlocking system

ECORASTER® is a non-sealing ground reinforcement honeycomb grid tile for road building, civil engineering, gardening and landscaping. The grid tile consists of recycled low-density polyethylene (LDPE), is TÜV-certified, environmentally neutral, UV- and frost-resistant and has a load-bearing capacity of 800 t/m² (depending on type). The ECORASTER® warranty is 20 years subject to correct installation.

Material	Low-Density-Polyethylen (LD-PE) 100 % recycled	
Chemical stability	Non-degradable, resistant to acids, de-icing salt, ammonia, alcohols and acid rain	
Carrying load (t/m²)	Up to 800 t/m ² (10.764 ft ²) Axle load of up to 20 t	
Dimensional stability	Temperature range: -50 °C to +90 °C -58° F to +194° F	
Tensile strength of connection (kN/RM)	> 5 kN/lfm	
Pressure resistance (kN) DIN EN 124	> 50 kN	

TÜV-certification

- DIN 1072: Axle load 20 t
- load-bearing capacity: up to 800 t/m², depending on grid type.
- DIN EN ISO 124 proven
- UV resistance, certified DIN EN 60068-2-5
- Environmental neutral, OECD 202:2004
- NATO certified



100 % recycled und recyclable material.

ECORASTER® Stone system

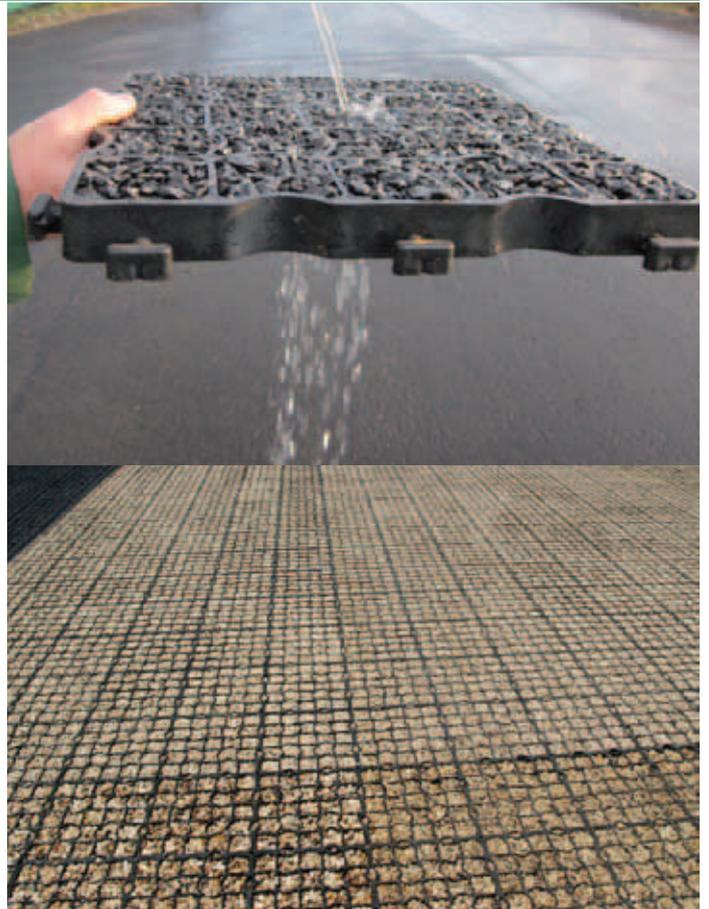
Solid, water-permeable surfaces

Here, the filling material is treated with a specially developed cross-linking agent. The ECORASTER® grid tiles are then filled with this mix, giving a hard, solid, yet water-permeable surface.

Unlike other stone adhesive resins based on polyurethane resin, this material was specially developed for outdoor use. Its defining feature is that it is resistant to moisture, both when used to glue wet stones and during wet weather. The cross-linking agent can be used in temperatures above 10°C. The application time of up to 20 minutes is user-friendly, as is the curing time of 3 to 6 hours (depending on ground and air temperature).

Examples of applications:

- Parking areas
- HGV loading areas and road surfaces
- Road shoulder reinforcement



ECORASTER SOFTGROUND® system

The rubber mat system for barrier-free parking areas

This system allows for the installation of water-permeable car parks with a surface that complies with the public requirements for barrier-free construction.

The entire system (blue or black) comprises non-skid SOFTGROUND® rubber mats, which can be directly inserted into the ECORASTER® E30 grid tiles.

The blue version makes disabled parking spaces instantly recognisable as such and the appropriate symbol completes the marking.



ECORASTER® erosion control

Steep slopes, riverbanks and embankments

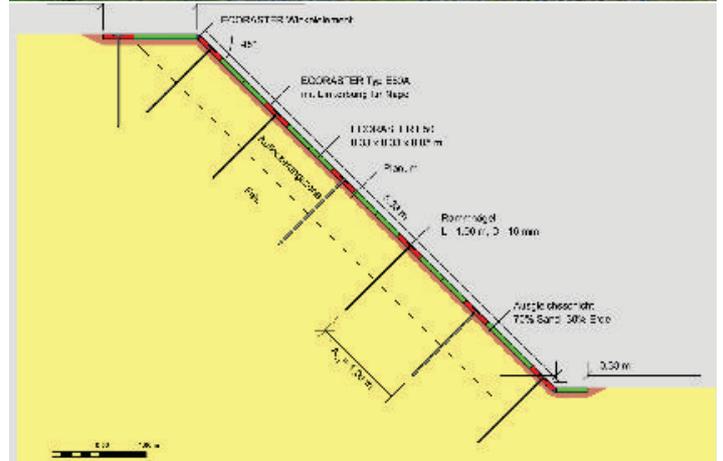
The erosion of banks and embankments is a natural phenomenon with multiple contributing factors. Reinforcement systems are required to prevent ground erosion and damage to buildings and constructions.

Reinforcement systems that maintain water-permeability and preserve plant life are gaining in ecological importance, as are rainwater reservoirs. In the areas of road building and landscaping, ECORASTER® systems offer an efficient solution for reinforcing embankments. The ECORASTER® grid tiles provide solid reinforcement and greatly improve the mechanical properties of the ground.

In order for the goal of application to be optimally achieved, the following preparatory measures may prove necessary prior to installing the grid tile system, depending on the condition of the ground and other baseline factors:

- clearing/removal of loose stones and/or other unsuitable ground material
- clearing/disposal of vegetation
- filling of cavities or grooves
- shaping and/or levelling

Note: Prepare planum according to the condition of the area.



ECOSEDUM PACK®

Complete greening system for all standard roofs, pre-planted with sedum

Made from 100% recycled material, its specially developed honeycomb structure retains the optimal amount of water, which saves precious rainwater.

This greatly reduces the run-off coefficient and results in lower rainwater management charges where applicable.

To install, the modules are placed on top of the functioning roof waterproofing without any preparatory work. Roof pitches of up to 35% (19°) and sloping roofs up to 10 m [10.93 yards] in length are feasible without anti-slip intermediate brackets.

The compact size of 400 x 600 mm [15.74 in x 23.62 in] ensures efficient installation even on small and narrow sections of roof. Thanks to its water storage function, the green spaces do not have to be specially watered.



Examples of ECORASTER® in use

There are many different types of ECORASTER® grid tiles available, catering for all sorts of applications. Reinforcement of paths on golf courses, substrates for table tennis courts, playgrounds, cycle lanes, verge reinforcements, trade fairs and much more besides.



Long-term protection of lawns on a site used for open-air events and trade fairs.



Decorative drainage strips which take advantage of the diversity of ECORASTER® grid tiles.



Verge (curbing/edging) reinforcements and side strips are no trouble thanks to the stability and high load-bearing capacity of the ECORASTER® tiles.



The quick greening solution allows rail and tram lines to be integrated into the natural green landscape easily.



Heavy equipment, such as HGVs and forklifts can travel on service roads and storage areas without any problems.



Golf course paths reinforced with Ecoraster® grid tiles are suitable for use all year round. Driving ranges can also be reinforced with these tiles.



Equestrian sport is a big field of application for Ecoraster®. Outdoor riding arenas, paddocks, stables, horse walkers and round pens are feasible, and much more besides.

Jälleenmyyjä:



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Any questions about ECORASTER® ? We are keen to answer any question you might have. Just give us a call +49 9233 7755 0 or send us an email at info@purus-plastics.de.

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