



Practical applications:

Rainwater retention basin

Bloxx | E50 | A50 | S50

Designing rainwater retention basins

Emergency overflows:

Storage structures require an emergency overflow as a matter of principle. The overflow area must be appropriately reinforced.

Product recommendation:

- ECORASTER® E50
- ECORASTER® S50
- ECORASTER® A50



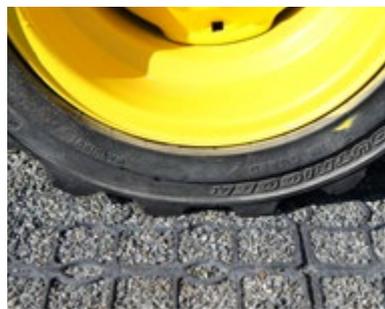
Embankments:

Embankments must be stable and accessible for maintenance work (incline 1:3).

Steeper inclines are possible, but require stronger reinforcement.

Product recommendation:

- ECORASTER® A50

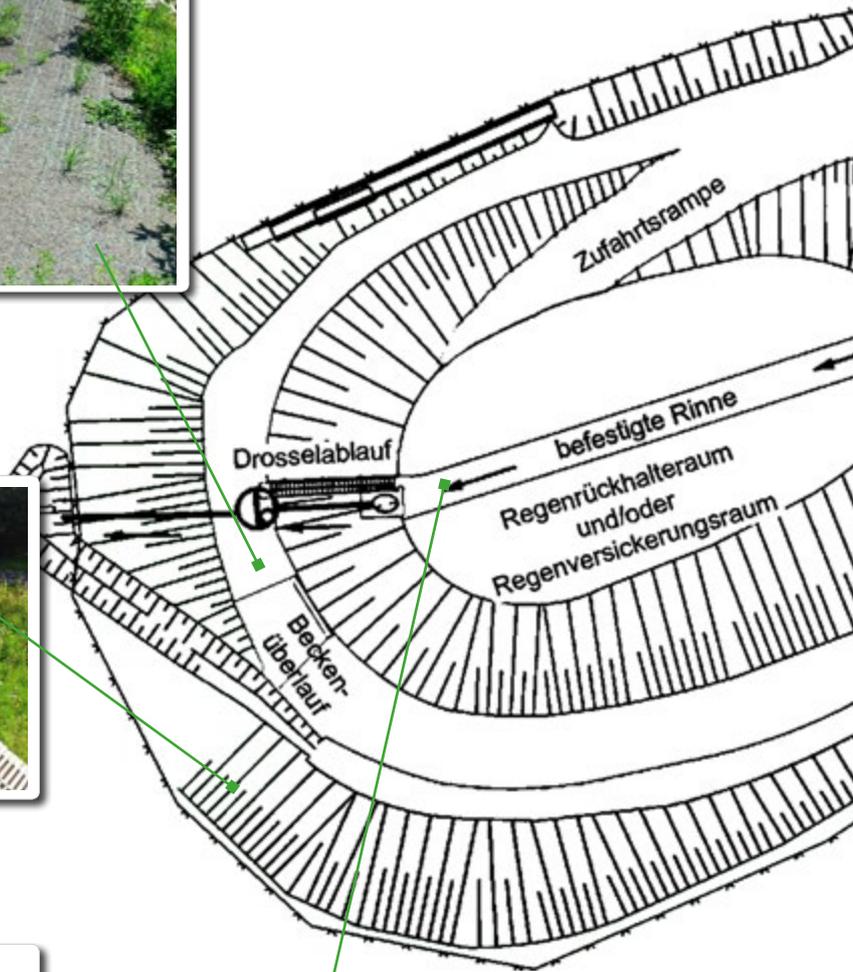


Floor space:

Point loads and maneuvering movements significantly impact the durability of these areas.

Product recommendation:

- ECORASTER® E50
- ECORASTER® Bloxx



Basin floors:

Permanent inlets should be drained via a fixed drain channel. The basin floor should be inclined in the direction of this drain channel with a minimum gradient of 3%.

Product recommendation:

- ECORASTER® S50
- ECORASTER® A50

Useful accessories:

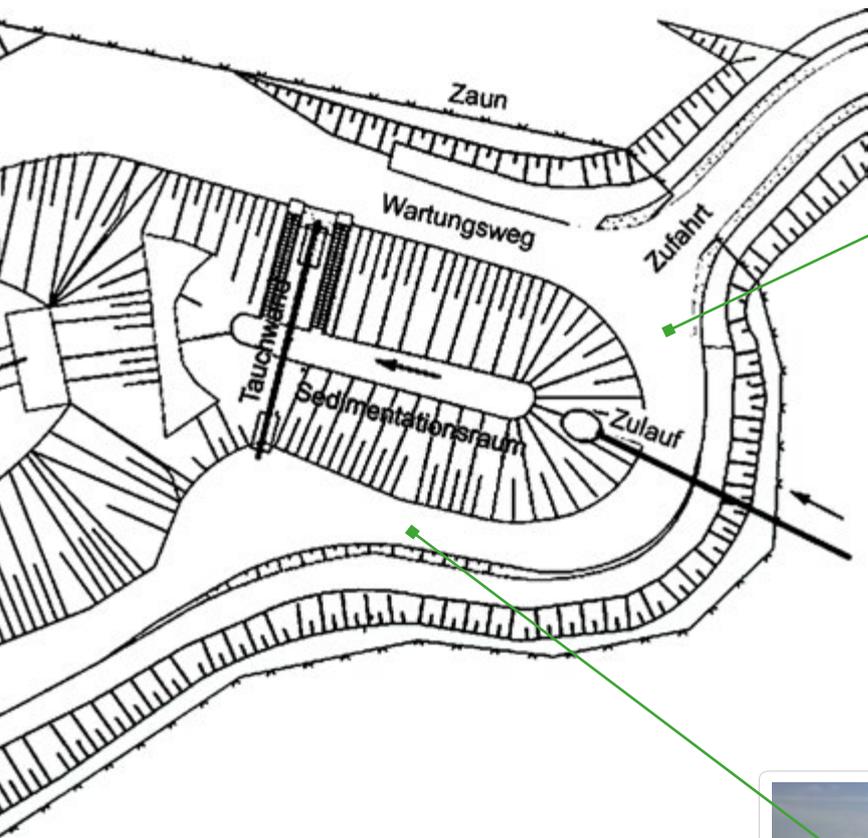


Curved element:

The curved element is flexible but securely fastens to the composite system allowing for easy installation in bends and curves. This highly durable product is made from 100% recycled material and is commonly used for installation on verges or as part of edge reinforcement systems.

With its robust quality and quick installation, the Ecoraster product range has been impressing planners, architects and building companies for decades.





Access roads & ramps:

Robustness and durability are a must. Ramps must be at least 3 m wide and usually have a maximum inclination of 1:8. Maneuvering movements and high axle loads can damage surfaces without reinforcement and result in permanent grooves and erosion damage.

Product recommendation:

ECORASTER® E50

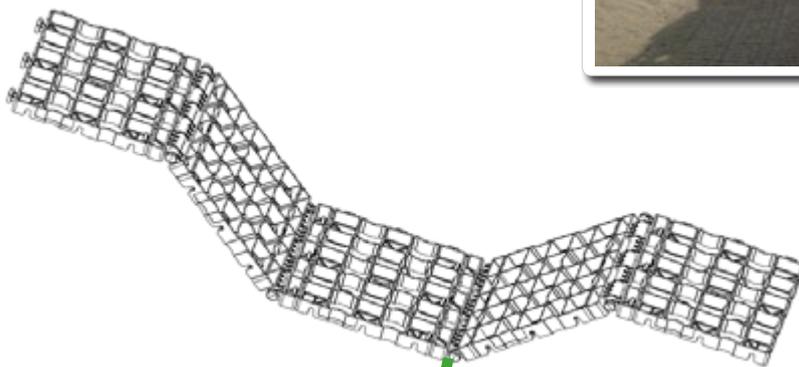


Maintenance routes:

Must be able to withstand high loads and forces. Surface stabilization with permeable construction methods are highly advisable.

Product recommendation:

ECORASTER® E50
ECORASTER® Bloxx



Universal angle element:

The universal angle element can be installed seamlessly in the composite structure and allows for individual adjustment to the terrain without compromising the stabilizing system.

The real advantage: All products in our ground reinforcement system range are fully compatible.

The universal angle element can be continuously adjusted up to 180° and is particularly suited for collars and basin floors.

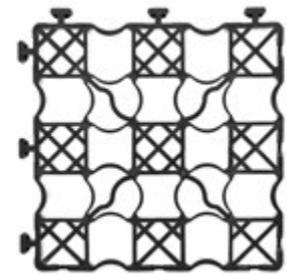
Installation on a slope: ECORASTER® A50

With more than 200 expansion joints per m² and 36 connection elements per m², the ECORASTER® element is able to counteract the prevailing forces on the embankment. Topsoil erosion, the destruction of the ground surface, e.g. by serrated recesses, and the loss of nutrients and linear erosion through flowing rainwater are minimized by the system properties after professional installation.

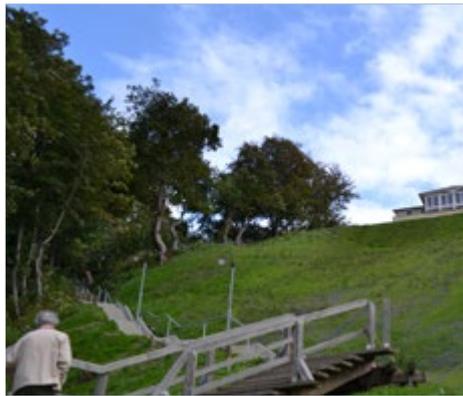
Potential fundamental landslide hazards and soil conditions should be assessed by a geological engineer with local expertise.

The system components (ECORASTER® A50 with indentation for fastening nails, angle elements, ripped ground nails, etc.) must be adapted to project requirements and the dimensioning of nails, for example, (length, diameter) and the element spacing (e.g. 1 fastening nail per m²) must be specified by the planner.

For an optimum implementation of the intended purpose, the following preparatory measures might be necessary prior to installing the ground reinforcement system (depending on soil and baseline conditions):



- Clearance/removal of loose rocks or unsuitable ground material
- Deforestation and/or clearance of vegetation
- Filling of cavities or grooves
- Profiling or leveling



Depending on circumstances, a sufficiently strong subfloor should be added to the prepared base as a bearing or leveling layer. Once installed, the ground reinforcement elements are filled with a 5 cm layer (level with the top of the elements) of suitable topsoil material or a mixture of sand and topsoil, humus and, for example, substrate, which contains fertilizer to start the re-vegetation process. The subfloor and filling material should contain a small amount of fine material in order to guarantee a certain water retention capacity of the vegetation and water permeability of the system.

Side note: **Constructed wetland Gemüse Renner**



"We used the ECORASTER® system for navigable reinforcement of the central embankment between the different plant beds and the circumferential dam - it has proven to be the best possible solution for our requirements: simple and quick installation by our own staff, smooth adaptation to the existing terrain, navigability by heavy agricultural vehicles and a truly cost-effective alternative."

(Johannes Ihle, KSM Ingenieure GmbH)

Area:	Total filter area approx. 5,800 m ²
Intake quantity:	approx. 50 m ³ /h (up to max. 80 m ³ /h)
Completion time:	Approx. 6 months
Investment:	approx. €1.3 million
ECORASTER®:	approx. 800 m ² for the reinforcement of the dam crest and paths

Technical data:

Type:	ECORASTER® E50	ECORASTER® S50	ECORASTER® A50
Dimensions:	33 x 33 x 5 cm	33 x 33 x 5 cm	33 x 33 x 5 cm
Material:	100% recycled material (LDPE)		
Wall thickness:	5 mm	2.5 mm	5 mm
Load-bearing capacity:	up to 800 t/m ² (depending on fill material)		
Safety composite system:	36 detents per m ²		
Dimensional stability:	-50 °C / 90 °C		
Deformation:	0.5% (at standard a temperature of +20 °C to +80 °C)		
Moisture absorption:	0.01%		
Solubility:	Resistant against acid, lyes, alcohols, oils and gasoline (road salt, ammonia, acid rain, etc.)		
Compressive strength:	Axle load up to 20 metric tonnes (DIN 1072)		
Area per pallet:	57.33 m ²	57.33 m ²	57.33 m ²
Weight per item:	0.98 kg	0.74 kg	0.98 kg
Weight per m ² :	8.79 kg	6.66 kg	8.79 kg



Type:	ECORASTER® Bloxx
Dimensions:	33 cm x 33 cm x 5 cm
Weight/m ² :	Approx. 85 kg (incl. paving block)
Safety composite system:	36 connecting pins/m ²
Dimensional stability:	Temperature of -50 °C to 90 °C
Dimensions Paving stone:	140 x 140 x 45 mm (per piece)
Weight per Paving stone:	Approx. 2.12 kg
Available colors for paving stones:	Gray, white, anthracite, red, nuanced, granite

ECORASTER®BLOXX is inter alia protected by German Utility Model 201014106285, Polish Utility Model W.124709; US-Patent 10094073, European Patent Application 3237682 and further applications outside of Europe.

Certificates and accreditations

- ✓ UV-resistant, tested according to DIN EN 60068-2-5
- ✓ Axle load up to 20 metric tons, tested according to DIN 1072:1985
- ✓ Highly durable, tested according to DIN EN 124:2011
- ✓ Environmentally friendly, tested according to OECD 202:2004
- ✓ Manufacturer's warranty: 20 years from date of purchase
- ✓ NATO certified
- ✓ TÜV CERT
- ✓ TÜV North "Made in Germany"

PLEASE NOTE: a. Please observe the installation guidelines on our website! Subject to modifications and errors.
b. The data contained herein is partly based on nominal dimensions which are subject to a material-related tolerance.



We develop useful and efficient reinforcement solutions for a greener environment.



Made in Germany – used worldwide.

Do you have any questions? We are happy to help:

