



**BEMAT**  
Erosion Control Mats

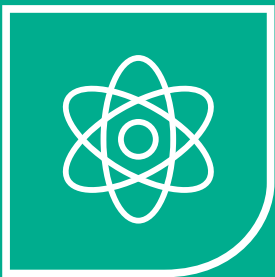
# KEY ADVANTAGES

at a glance

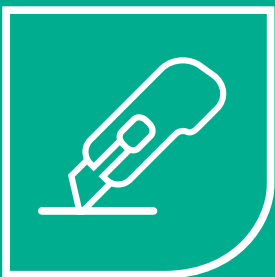
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→ Permanent erosion control



→ Excellent chemical and microbiological resistance



→ Easy to lay and to cut



# BEMAT

## Erosion Control Mats



Inclined earthworks, such as embankments, noise barriers and riverbanks, are extremely susceptible to erosion until the fill material has been fully consolidated and the surface has been covered with vegetation and root growth. Particularly heavy rainfall can lead to extensive erosion damage and earth slippages, which may result in extremely costly and sometimes repeated repair work.

These costs can be avoided by careful planning and design. Investment in suitable erosion protection measures at an early stage is cost-effective and saves designers, authorities and developers from additional costs and public criticism. The rapid establishment of an evenly greened surface is important not only for safety and stability reasons but also for the general interest in creating a green and intact environment.

For this purpose, erosion protection mats of different types are increasingly used as a stabilising layer and to help the seeds take root.



# PRODUCT DETAILS

## and properties

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BEMAT Erosion Control Mats are three-dimensional mats comprising a geonet core made from polypropylene (PP) monofilaments. The mats are used wherever the natural growth of permanent, thick vegetation cannot be ensured or would take a long time and where a rot-proof erosion control system is therefore required.

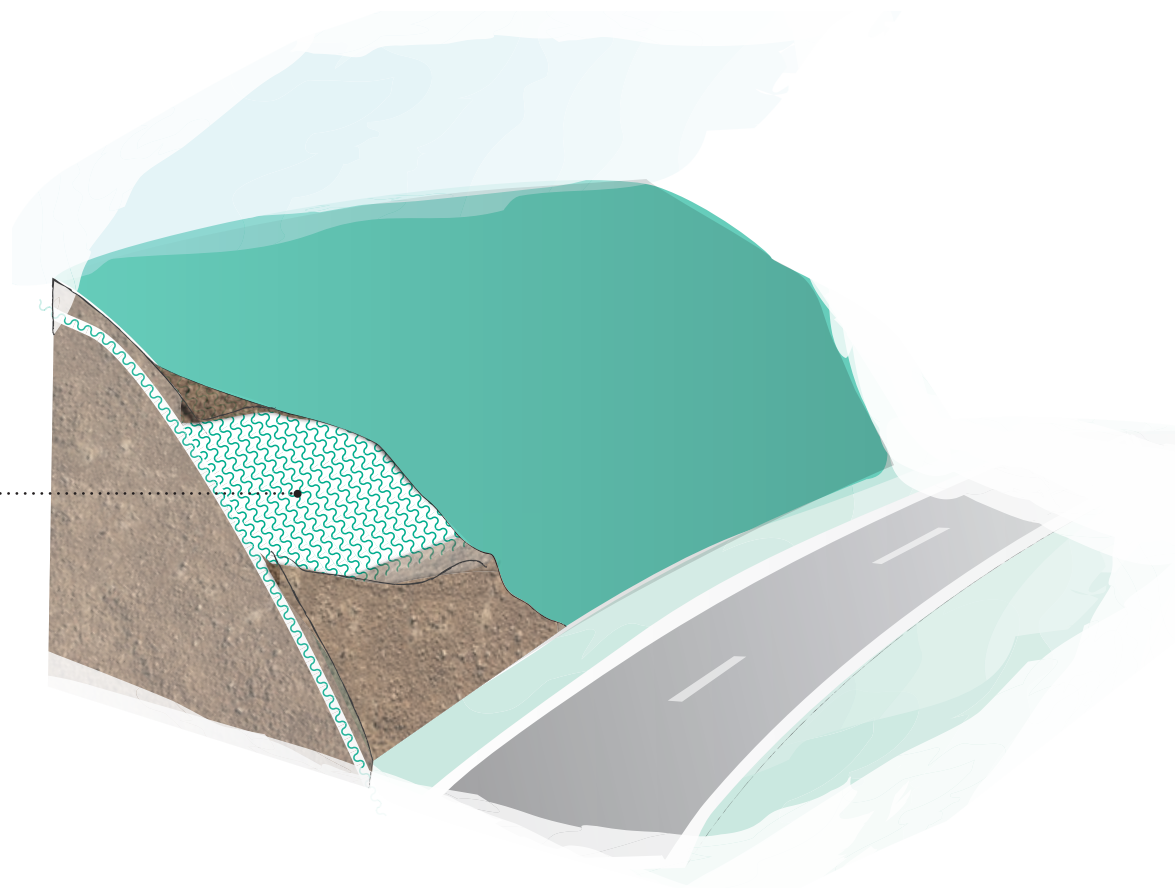
The substrate layer is held securely in place, providing effective protection against erosion and washing out. This is particularly important in the initial stages of vegetation growth and creates the basis for permanent root growth.

BEMAT Erosion Control Mats can be used on slopes with gradients of up to 1:1.5.





BEMAT Erosion Control Mats



BEMAT RF Erosion Control Mats combined with a geogrid have been specially developed to cope with the specific problems presented by very long or very steep slopes. The geogrid absorbs the calculated tensile forces. This prevents the surface of the slope from sliding downwards.

BEMAT Erosion Control Mats are also successfully employed in water engineering. Installed in the bed or embankment areas of bodies of water, they prevent the earth and the top layer of substrate from slipping and prevent erosion caused by waves.

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#### Fixing materials:

The erosion control mats are held in place with special wooden posts or metal fixings, depending on the type of application. These make sure that the erosion control mats are securely bonded to the subgrade and prevent them from becoming detached under the effects of weather conditions.



# FUNCTIONS

## BEMAT Erosion Control Mats

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### Erosion control

BEMAT Erosion Control Mats can be used to prevent the soil particles from being removed by water and wind. The growth of vegetation layers, which can often take years, is accelerated and protected by BEMAT Erosion Control Mats.

The three-dimensional random structure of the fibres in BEMAT Erosion Control Mats gives the soil and seeds the support they need until natural growth can take over the task completely.





# APPLICATIONS

## BEMAT Erosion Control Mats

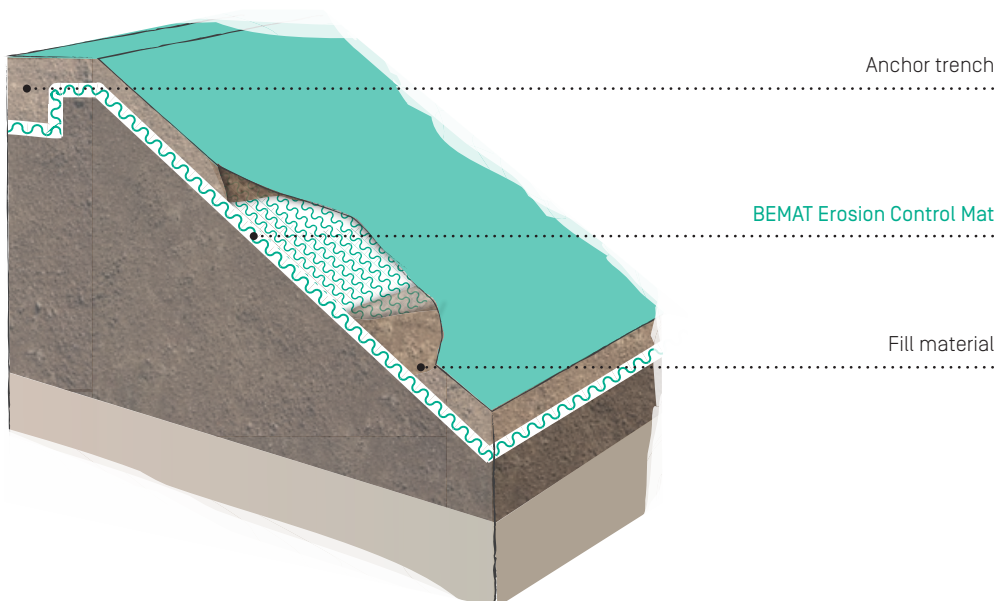
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### Inclined surfaces

In highway and water engineering there are many types of sloping earthworks that require efficient erosion protection. Noise barriers, dams, dykes, rainwater retention basins, riverbanks and landfill sites are all typical fields of application for BEMAT Erosion Control Mats.

#### Erosion control mat laid on a slip plane parallel to the slope





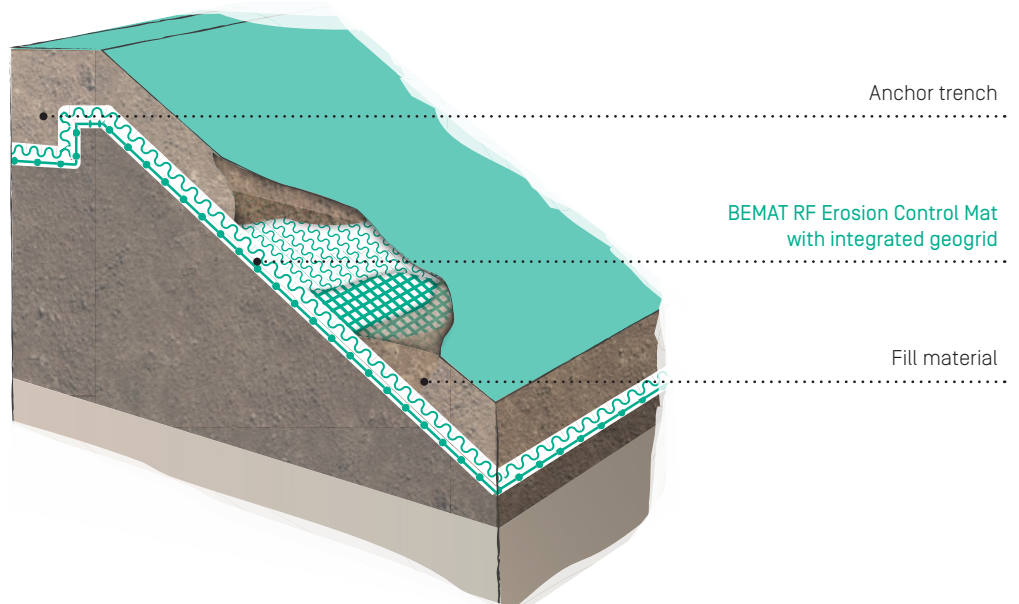
## Retaining structures

A further area of application is in retaining structures. Retaining walls and noise barrier walls are now increasingly constructed using gabions or reinforced earth techniques. In order for these structures to blend optimally into their environment, quick and permanent greening of the visible surfaces is required.

BEMAT RF Erosion Control Mats with an integrated geogrid provide the answer here. In contrast to the normal erosion control mats, erosion control mats with geogrids can absorb tensile forces.

In this type of application, the BEMAT Erosion Control Mats are laid in the construction formwork and thus form a bond with the structure. The result is a secure slope surface as a basis for suitable greening.

**Reinforced erosion control mats laid on a slip plane parallel to the slope**





# Applications matrix at a glance

We are happy to supply current data sheets, specifications, certificates and technical verifications on request.

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Properties	W 13	W 20	W 20 RF 20	W 20 RF 35	W 20 RF 55	W 20 RF 80
Product type	Erosion control mats		Erosion control mats with geogrid			
Raw material	Erosion control mat: PP		Erosion control mat: PP. Geogrid: PET			
Thickness (mm)	13	19	15	15	15	15
Maximum tensile strength longitudinal (kN/m)	2	2	25	35	55	80
Fields of application						
Dike and hydraulic structures			●	●	●	●
Landfill construction and contaminated sites		●	●	●	●	●
Green areas	●	●	●	●	○	○
Home gardens	●	●	○			
Canal structures	●	●	●	●	●	●
Coastal and shore protection		○	●	●	●	●
Retention basins	○	○	●	●	●	●
Reservoirs	○	○	●	●	●	●
Road and traffic areas	●	●	●	●	●	●
Retaining structures	●	●	●	●	●	●
Ponds	○	○	●	●	●	●
Road construction	●	●	●	●	○	○

● suitable ○ partly suitable (project-related assessment necessary)

# INSTALLATION

## BEMAT Erosion Control Mats

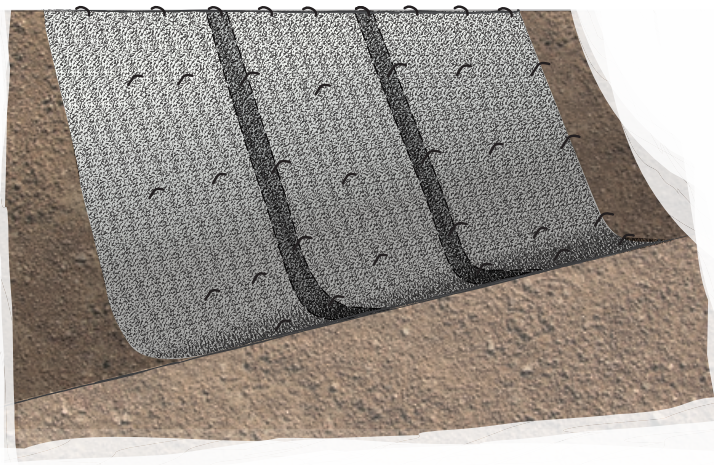
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1. The subgrade must be even and free of stones and lumps of earth.
2. The subsoil must contain sufficient humus for the vegetation to be able to grow. Otherwise, the surface must be covered with a humus layer at least 5 cm thick and screeded off to create an even surface.
3. The seed must be suited to the location and be sown evenly and in sufficient quantities.
4. The BEMAT Erosion Control Mats must lie in contact with the subgrade over their entire area, since growth and root development can only occur if direct contact is ensured.
5. The mats are fixed at grid intervals of approximately four to five fixing points per square metre, depending on the gradient.

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No tensile forces may be introduced into BEMAT Erosion Control Mats that have no integrated geogrid.



6. The BEMAT mats are then strewn with a covering of fine humus soil.

Our detailed installation and laying instructions for BEMAT Erosion Control Mats must also be followed.



# ADVANTAGES

## BEMAT Erosion Control Mats

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- Permanent erosion control
- Suitable for steep inclines (provided that stability is ensured)
- Secure bedding of seeds
- Excellent chemical and microbiological resistance
- Unaffected by temperature
- Easy to lay and to cut
- Extremely flexible and mouldable
- Many areas of application





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