

Discover the World of Geosynthetics

Product Overview

Discover our solution competence

Our products and applications

Group	Functions								Products	Page	Earthworks and Foundations				Roads and Pavements			Environmental Engineering					Hydraulic Engineering				Mining				
	Reinforcement	Separation	Filtration	Sealing	Drainage	Protection	Containment	Absorption			Walls and Slopes	Embankments	Dams	Pipeline Construction	Base Reinforcement	Asphalt Reinforcement	Railways	Groundwater Protection	Landfill Construction	Remediation	Liquid Storage	Dewatering	Canals	Dikes and Revetments	Groynes and Breakwater	Bed Protection	Infrastructure	Materials Handling	Waste Management		
Geogrids									Fortrac		06																				
									Fortrac 3D		08																				
									HaTelit		09																				
									Basetrac Grid		10																				
									Minegrid		11																				
Wovens								Stabilenka		12																					
								Stabilenka Xtreme		13																					
								Ringtrac		14																					
								Basetrac Woven		15																					
Nonwovens								Nonwoven		16																					
								Basetrac Nonwoven		17																					
Geocomposites								Basetrac Duo-C		18																					
								Basetrac Duo		19																					
								Tektoseal Active		20																					
								SamiGrid		22																					
Containers and Tubes								SoilTain Dewatering		23																					
								SoilTain Coastal Protection		24																					
								Incomat		26																					
Sealings								Tektoseal Clay		28																					
								NaBento		29																					

More sustainable construction with the ecoLine

Product solutions made of high-quality PET recycled material

Protecting the resources of our planet

With the ecoLine we are the first geosynthetic manufacturer in the world to offer you high-quality geogrid solutions made of PET recycling material – with CE marking. Thanks to this innovation, we are making our contribution to a better recycling economy and even more sustainable construction with geogrids.

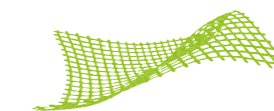
The ecoLine product solutions are characterised by their high quality and have the same performance characteristics as the original products. The recycled yarns used by us have 'proven original fibre' quality. Sustainability and durability are perfectly combined.



100 % original fibre quality from 100 % recycled PET



A world first for more sustainable construction with geogrid



HUESKER product classics made from recycled materials



Less CO₂ emissions thanks to the reduction of primary raw materials



Saving resources thanks to production with recycled PET bottles



PET recycled yarns with proven original fibre quality



Highest quality geogrid „Made in Germany“



BENEFITS

- Strengths of up to 3,000 kN/m and 100 mm mesh sizes
- High tensile stiffness and low creep
- Lower space requirement through extra-steep construction
- Uniform high tensile stiffness, even at intersections
- Less excavation and lower construction costs



Fortrac®

Immensely versatile solution for reinforced soil

Fortrac offers an all-round soil reinforcement solution. Four different raw materials cater for a tremendously broad range of applications while meeting the most strict project requirements. The extremely high tensile stiffness combined with low creep propensity of Fortrac allows for example the efficient protection of areas prone to subsidence under stringent requirements.

The high level of performance achieved by Fortrac helps to cut costs: this is because the high design high tensile stiffness allows the economical specification of lower strength values. Due to the alkali resistance of the raw material, Fortrac geogrids made of PVA are particularly economical to install, as local soils can be used even if they have extreme pH values or hydraulic binders such as cement or lime are used. In many cases, e.g. with embankment foundations, the reinforcing performance of the product can reduce the need for costintensive excavation works or allows extra-steep construction with a lower space requirement.

The manufacturing process of Fortrac geogrids eliminates any possibility of structural molecular changes that may lead to weak points, especially at the intersections. Fortrac geogrids are certified to key international assessment standards and HUESKER can provide extensive quality testing and verification data which validate the reliability of the product.

Approvals: BAM, HPQ der DB AG, GfG Gütegemeinschaft Gabionen, BBA, NorGeoSpec, NTPER

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Material	Tensile strength(s)	Coating(s)	Function(s)
PET, rPET, PVA, Aramid	Up to 3.000 kN/m	Polymer	Reinforcement



Bridging of Sinkholes



Steep Slopes/Retaining Structures



Steep Slopes/Retaining Structures

Fortrac® Systems

Efficient solutions for steep slopes and retaining structures

With systems made of Fortrac reinforced earth, you can build settlement-resistant steep slopes, slope stabilisation or embankment stabilisation, as well as retaining structures such as retaining walls or bridge abutments quickly, economically and at the same time in an ecologically sustainable manner. Fortrac Systems are modular and economical solutions for engineering structures with geogrids.



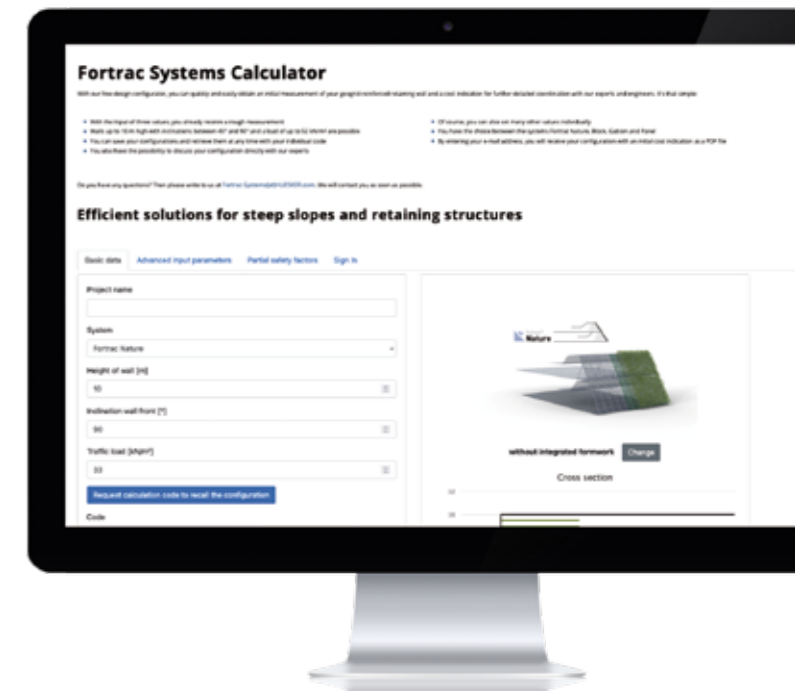
Fortrac Systems Calculator

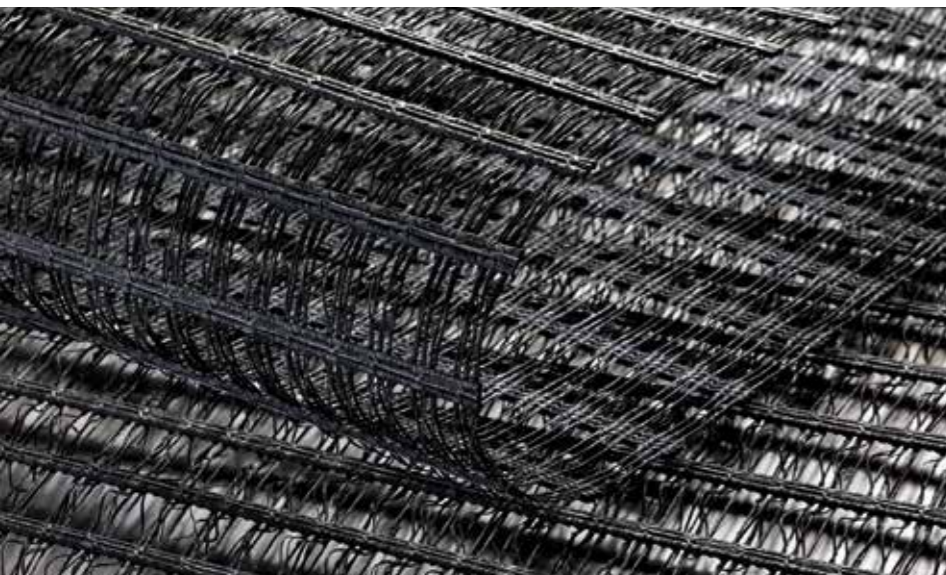
Calculate geogrid-reinforced retaining walls quickly and easily

With our free design configurator, you can quickly and easily obtain an initial measurement of your geogrid-reinforced retaining wall and a cost indication for further detailed coordination with our experts and engineers.

On page 31 you will find direct access to the free Fortrac Systems Calculator.

Click here to go to our videos!





BENEFITS

- Combined reinforcement and erosion control
- 3D structure for improved erosion resistance
- Firm rooting for rapid vegetation growth
- Allows steeper construction
- Straightforward installation with no "memory effect"

Fortrac® 3D

Slope stabilisation made easy

Fortrac 3D – a reinforcement grid with a three-dimensional structure – offers a supreme combination of reinforcement and erosion control and facilitates vegetation on steep slopes. The optional planting of vegetation creates natural-looking, visually appealing structures.

Fortrac 3D is manufactured from a flexible material that makes it fast and straightforward to install, without any "memory effect" (i.e. it shows no tendency to roll up after un-rolling). The product's durability is further enhanced by the polymer coating, which protects against UV radiation and installation damage.

Fortrac 3D is the product for anti-slip reinforcement and erosion control.

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Material	Tensile strength(s)	Coating(s)	Function(s)
PET, PVA	Up to 300 kN/m	Polymer	Reinforcement, Protection (erosion protection)



Dams and Dikes



Landfill Construction



Landscape Construction



BENEFITS

- Up to fourfold increase in maintenance intervals
- Straightforward, cost-effective installation
- Excellent bond with asphalt layer thanks to bitumen coating
- Roll widths between 3–5 m to match required size
- Flexible, robust material

HaTelit®

The benchmark in asphalt reinforcement

HaTelit asphalt reinforcement is HUESKER's durable and cost-effective solution for the rehabilitation of asphalt pavements. The reinforcement grid's flexibility and strength not only permits its installation on milled surfaces, but also extends the service life of asphalt pavements, even under high loads.

The bituminous coating ensures optimum bonding between the biaxial reinforcement and the asphalt layer. Stress concentrations are reduced and reflective cracking thereby actively retarded.

Particularly advantageous is the fact that HaTelit and asphalt have similar coefficients of thermal expansion. This minimizes the occurrence of internal stresses, thus allowing homogeneous integration of the geogrid in the asphalt layer. The wafer-thin nonwoven backing, which facilitates the laying operation, and customized roll widths help to speed up installation while cutting costs.

HaTelit boasts a long track record of quality on which you can fully rely. HaTelit C is also available in the environmentally friendly ecoLine version. Made of high-quality PET recycling material, HaTelit eco shows the same technical properties as the original product.

HaTelit BL builds on the advantages of HaTelit and is specially designed for the rehabilitation of small asphalt and concrete pavement areas. The integrated, self-adhesive bitumen sheet allows fast and straight-forward refurbishment of the asphalt.

Approvals: RAL quality mark, EPD

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Material	Tensile strength(s)	Coating(s)	Function(s)
PET, rPET, PVA, Glas	Biaxial up to 100 kN/m	Bituminous	Reinforcement



Rehabilitation of Asphalt Pavements



Permanent Roads and Pavements



Rehabilitation of Concrete Pavements with Asphalt



BENEFITS

- Increased bearing capacity in all soil conditions
- Cost savings due to lower base material requirement
- Straightforward installation with no "memory effect"
- Project-specific product selection up to 80 kN/m biaxial
- Efficient mobilization of forces even at low strains

Basetrac® Grid

Base reinforcement for use in all soil conditions

Basetrac Grid is the standard product for base reinforcement applications available in two raw materials. The alkali resistance of the polypropylen material allows its use even in cement-stabilized soils. The flexible material exhibits no memory effect (i.e. it shows no tendency to roll up after laying), allowing much faster and easier installation than with similar products.

The high interaction flexibility allows good interaction between soil and reinforcement grid. Cost savings can be achieved through project-specific selection of the required strength (20-80kN/m). The high-tensile geogrid, which is polymer-coated to protect against UV radiation and installation damage, provides reliable long-term reinforcement for base courses.

Basetrac Grid has been shown to reduce the quantity of base material needed, in comparison to unreinforced constructions. All this makes Basetrac Grid a safe and durable solution for base reinforcement.

Approvals: HPQ of DB AG, NorGeoSpec



On page 31 you will find direct access to the free BaseCalculator. With the BaseCalculator you can easily find the right product for your application.

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Material	Tensile strength(s)	Coating(s)	Function(s)
PP, PET, rPET, PVA	Biaxial up to 80 kN/m	Polymer	Reinforcement



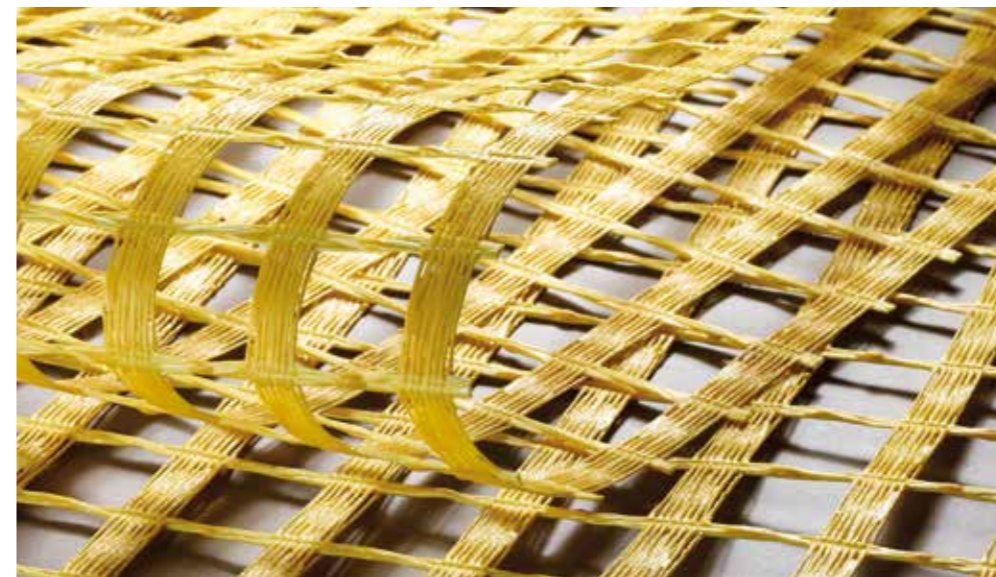
Temporary and Permanent Roads



Railways



Working Platforms



BENEFITS

- Safe long-term support with negligible deformation
- Long service life in all areas of a mine or quarry
- FRAS rating meets all requirements of Mine Safety and Health Administration (MSHA)
- High visibility coating

Minegrid®

The original Minegrid – reliable, safe and sustainable

For more than 20 years Minegrid has been used to recover longwalls, support ribs, and reinforce highwalls in mines and quarries around the world. Minegrid has proven itself in the most extreme conditions and has always been the industry standard for quality.

Minegrid is manufactured and woven under tension from high-tenacity synthetic materials such as polyester [PET] and polyvinyl alcohol [PVA]. Our highly sophisticated Minegrid is coated with a flame-resistant, anti-static coating, which meets all the requirements of the Mine Safety and Health Administration. Minegrid has an unequalled safety record, and mines and quarries depend on Minegrid to enhance safety, production, and profitability in their operations. Standard tensile strengths range from 35 kN/m to 1,000 kN/m however, HUESKER is capable of manufacturing tensile support solutions which goes well beyond this.



Material	Tensile strength(s)	Coating(s)	Function(s)
PET, rPET, PVA	Up to 1,000 kN/m standard	Flame-resistant, anti-static	Reinforcement, Protection



Longwall Recovery, Highwall and Rib Support



BENEFITS

- High strengths of up to 2,500 kN/m for unique applications
- Single product combining three functions: reinforcement, separation and filtration
- World-famous brand with 50-year-plus track record
- The only woven geotextile with BBA certification
- Suitable for use in large panels

Stabilenka®

The worldwide unique woven reinforcement fabric

Stabilenka is with high strengths of up to 2,500 kN/m uniaxial and 1,000 kN/m biaxial, the world's strongest woven reinforcement fabric (next to Stabilenka Xtreme). Its impeccable track record has earned it a worldwide reputation. Not surprisingly, it is the only woven product on the market with BBA certification for supreme quality and reliability.

This is achieved by the state-of-the-art manufacturing process of moduli exceeding 25,000 kN/m and strict quality assurance regime operated by HUESKER. Numerous certifications and proven resistance of up to 120 years, to chemical, physical and microbiological action have made Stabilenka one of the best performing woven reinforcement products anywhere in the world.

Stabilenka is capable of meeting even the most challenging project requirements. Individual sheets can, for example, be stitched together into large panels such as those needed for sludge lagoon capping or underwater installation. The constituent raw material offers high tensile stiffness coupled with low creep – the uniformly high tensile strength serving to minimize structural deformation.

Approvals: BBA, IVG, NORGeoSpec, EPD, NTPEP

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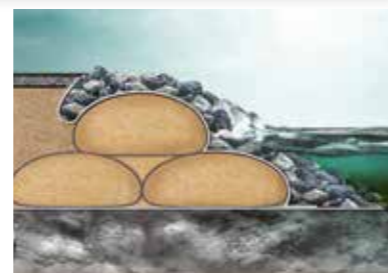
Material	Tensile strength(s)	Function(s)
PET, rPET	Uniaxial up to 2,500 kN/m; biaxial up to 1,000 kN/m	Reinforcement, Separation, Filtration



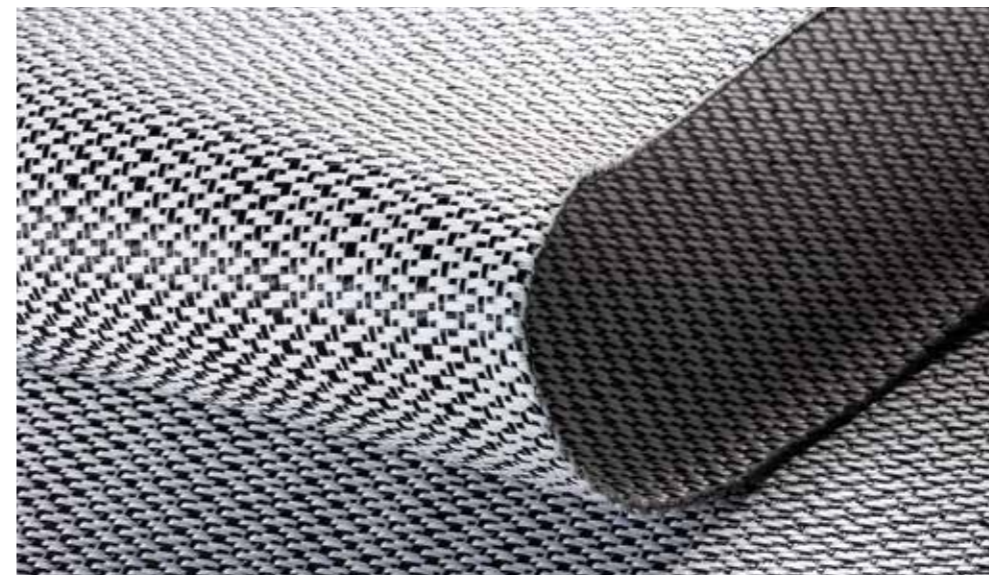
Embankments on Soft Soil



Geotextile Encased Columns



Land Reclamation



BENEFITS

- High strengths of up to 2,800 kN/m for extreme applications
- High tensile stiffness coupled with low creep
- High durability in soils with pH values of 2 to 13
- Woven fabric sheet for reinforcement, separation and filtration

Stabilenka® Xtreme

Highest strength even under alkaline conditions

Stabilenka Xtreme consist of PVA and is acid- and alkaliresistant for pH values between 2 and 13, allowing the use with all soil types, including even peat. Stabilenka Xtreme ist manufactured from special multifilament yarn that allows the achievement of moduli exceeding 45,000 kN/m. The high-modulus material provides even greater axial stiffness coupled with extremely low creep. The immediate load take-up guarantees very low structural deformation and thus offers maximum reliability for your projects.

Stabilenka Xtreme offers tensile strengths of up to 2,800 kN/m uniaxial and 1,400 kN/m biaxial to cater for extreme applications. Moreover, in many cases, cost savings can be achieved by specifying a single layer of Stabilenka Xtreme reinforcement instead of a multi-layer solution.

The product combines three functions in one: reinforcement, separation and filtration. By virtue of its strong and versatile performance, Stabilenka Xtreme reigns supreme in its class.

Stabilenka – the last word in reinforcement.

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Material	Tensile strength(s)	Funktion(s)
PVA, PP	Uniaxial up to 2,800 kN/m; biaxial up to 1,400 kN/m	Reinforcement, Separation, Filtration



Embankments on Soft Soil



Sludge Lagoon Remediation



Bridging of Sinkholes



- BENEFITS**
- Cylindrical seamless reinforcement sleeve for uniform tensile strength and axial stiffness
 - Robust foundations, even in extremely soft/liquefied soils and in earthquake regions
 - Megadrain function for rapid soil consolidation
 - Cost savings through project-specific product selection

Ringtrac®

Reliable ground improvement for weak soils

Ringtrac is the key component in an innovative foundation system suitable for use in wide-ranging soil conditions. Combining high tensile strength and axial stiffness, the seamless, cylindrical reinforcement sleeve creates a clearly defined column regardless of soil conditions, even in extremely soft conditions. Ringtrac is used to construct GEC's.

Ringtrac columns are ideally suited for embankment foundations even in very low bearing soils, land reclamation and as a safe foundation system in earthquake areas – with the flexible material serving to enhance the ductility of the sand columns. Ringtrac is available in a range of different strengths, raw materials and diameters (57 cm – 95 cm) to meet your project-specific requirements and financial targets. The column length is also variable (up to at least 30 m), thereby allowing the construction of very deep column foundations. By doubling up as megadrains, the waterpermeable Ringtrac columns ensure rapid soil consolidation.

Ringtrac is also a suitable temporary formwork sleeve when installing concrete columns in extremely soft or karst soils. Through HUESKER's technical design service, you also have optional access to the expert support of the company's engineers.

Ringtrac offers the perfect all-round solution.



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Material	Tensile strength(s)	Function(s)
PET, PVA	Up to 600 kN/m	Reinforcement, Separation, Filtration, Drainage (foundation element)



Geotextile Encased Columns (GEC)



- BENEFITS**
- Increased bearing capacity in all soil conditions
 - Straightforward installation with no "memory effect"
 - Project-specific product selection up to 100 kN/m biaxial strength
 - Possible use in large panels

Basetrac® Woven

Separation, filtration and stabilization in a single product

Basetrac Woven is typically used to stabilize surfaces in road and pavement construction. The fine-meshed texture of Basetrac Woven enables it to fulfil a separation, filtration and reinforcement function. Cost savings can be achieved through project-specific selection of the required biaxial strength (up to 100 kN/m) and the use of large panels to simplify installation over wide areas.

Often specified as an alternative to nonwovens, Basetrac Woven guarantees reliable application in accordance with the German M Geok E-StB („Guidance Paper on the Use of Geosynthetics in Earthworks for Roadbuilding Projects“). The alkali resistance of the constituent material allows its use in cement-stabilized soils.

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Material	Zugfestigkeit	Funktion
PP	Biaxial up to 100 kN/m	Reinforcement, Separation, Filtration, Stabilization



Temporary Roads



Permanent Roads and Pavements



BENEFITS

- Certified quality for a wide range of applications
- No need for mineral filters or protective layers
- Wide-ranging configurations allow cost-effective product selection
- Long service life
- Fast and straightforward installation

Nonwoven

Separation, filtration, protection, containment

HUESKER nonwovens serve a wide variety of functions, including separation, filtration, protection and containment. In addition to the benefits of supreme product quality and versatility, customers can also choose from a wide range of options to obtain a cost-effective solution tailored to their projects. Products are available with widths from 0.5 up to 6.0 m and weights from 100 up to 4,000 g/m². A variety of raw materials can be specified, with or without woven reinforcement.

Our nonwovens eliminate the need for mineral filters and protective layers. The more compact layer structure may also – e.g. in the case of landfill sites – boost the facility’s capacity. The possibility of using coarse-grained excavation material with the nonwoven further cuts costs due to the reduction of transportation volumes.

Given that the product is industrially manufactured, constant quality over the full area is guaranteed. The material’s flexibility make it fast and easy to install. When custom-fabricated as sand containers, the product allows the accurate and reliable positioning of fill.

HUESKER nonwovens offer an incredibly versatile solution for diverse applications.

Approvals: BAM, BAW, ÖNORM

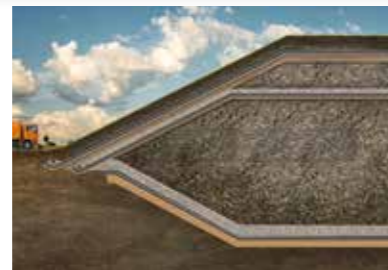
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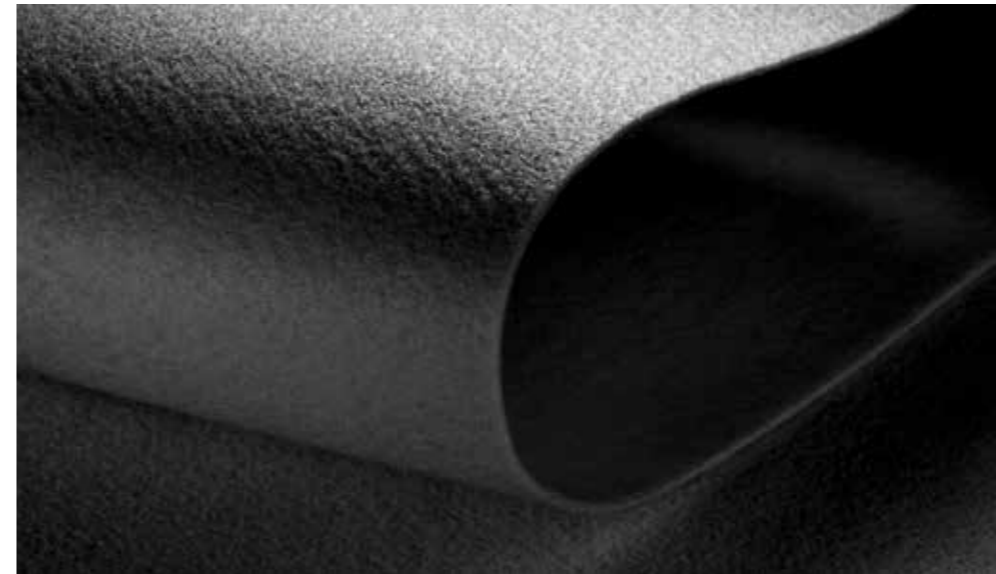
Material	Function(s)	Weights
PP, PET, PA, PEHD, PAN	Separation, Filtration, Protection	Up to 4,000 g/m ² (optionally with scrim reinforcement)



Revetments



Landfill Construction



BENEFITS

- Increased bearing capacity in all soil conditions
- Straightforward installation with no “memory effect”
- Project-specific product selection up to 100 kN/m biaxial strength
- Possible use in large panels

Basetrac® Nonwoven

Separation, filtration and stabilization in a single product

Basetrac Nonwoven serve two functions: separation and filtration. In base course constructions, Basetrac Nonwoven products serve the purpose of separating the base course material from the subgrade and preventing a “pumping effect”, i.e. the infiltration of fine soil particles into the base course. They avert the loss of base course material, which may otherwise sink into the subgrade, and thereby maintain the shear strength of the base course. In addition to the benefits of high product quality and versatility, customers can also choose from a range of options to obtain a cost-effective solution tailored to their projects. Products are available with widths from 1 to 5 m and weights from 100 to 350 g/m² with different raw materials.

Basetrac Nonwoven products meet all relevant application standards, such as the HPQ for railway engineering (German manufacturer-related product qualification). They are typically specified for soils of adequate bearing capacity (strain modulus $E_{V2} > 35 \text{ MN/m}^2$) and complement the other products in the Basetrac range for base course applications.

Approvals: HPQ of DB AG, IVG

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Material	Function(s)	Grammage
PP, blended fibre	Separation, Filtration	Up to 350 g/m ²



Permanent Roads and Pavements



Temporary Roads



- BENEFITS**
- Enhanced bearing capacity for very soft soils
 - Straightforward installation with no "memory effect"
 - Large selection of products for cost-effective construction
 - Lower base layer material requirement
 - Structural integrity of base course enhanced through excellent interlock of grid with soil

Basetrac® Duo-C

Ideal for very soft soils

Basetrac Duo-C is the product of choice for base reinforcement on soils with low bearing capacity. The integral nonwoven separates the high-grade base material from the soft subgrade. Moreover, the large range of product types and the flexible material, which is HUESKER's hallmark, allow straightforward, cost-effective installation with no "memory effect".

Basetrac Duo-C is a composite material – geogrid plus nonwoven – that combines reinforcing and separating functions. This reduces the base material depth requirement while offering reinforcing.

The product offers performance quality and reliability in very soft soil conditions.

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Material	Tensile strength(s)	Coating(s)	Function(s)
PP, PET, PVA	Biaxial up to 110 kN/m	Polymer	Reinforcement, Separation, Filtration



Temporary and Permanent Roads



Railways



Working Platforms



- BENEFITS**
- Specially DB-approved for reinforcement of railway lines
 - Enhanced bearing capacity for very soft soils
 - Ideal for sludge lagoon remediation
 - Customisation by stitching sheets into large panels
 - Wide-ranging possible configurations allow cost-effective product selection

Basetrac® Duo

A unique type of reinforcement

Basetrac Duo offers excellent reinforcing performance, especially for special applications. Apart from its use in road and highway construction, Basetrac Duo is a proven base reinforcement for railway lines.

Basetrac Duo comprises a combination of a nonwoven geotextile and a reinforcement grid that ensures an excellent interlock with the granular layers and prevents the migration of fine soil particles from the underlying soils. The fact that Basetrac Duo can be readily stitched together into large panels also makes it ideal for sludge lagoon remediation – where the use of large panels simplifies and speeds up the capping process. The separation and filtration properties of the integral nonwoven also considerably increase stability, thereby eliminating the need for soil replacement.

Basetrac Duo truly is a reinforcement product in a class of its own.

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Material	Tensile strength(s)	Function(s)
PVA, PET, PP (nonwoven)	Up to 1,200 kN/m	Reinforcement, Separation, Filtration



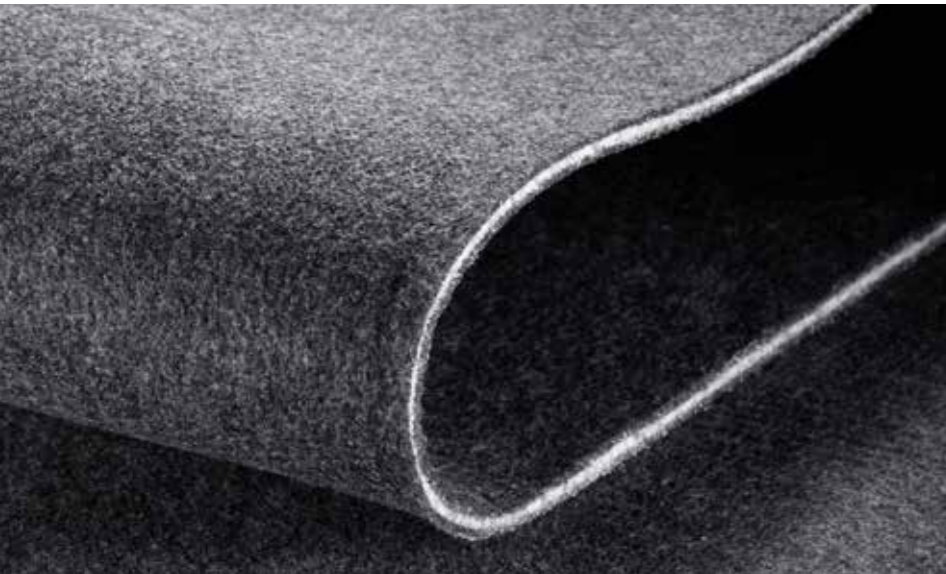
Sludge Lagoon Remediation



Railways



Permanent Roads and Pavements



- BENEFITS**
- Efficient contaminant absorption at point of infiltration
 - Straightforward installation and removal on land and in water
 - Bond with geotextiles adds mechanical stability to active granular layer
 - Stable, constant layer thickness over entire installed area
 - Tailor-made product solutions to encounter a variety of contamination situations

Tektoseal® Active

Tailor-made permeable contaminant barriers for nearly every application

Tektoseal Active is used in environmental engineering measures for groundwater protection, remediation, covering contaminated sediments and in landfill construction.

The active geocomposites are available in different product versions. The key component in each case is the active material used, which is selected to meet your specific challenge. The bond with the geotextile gives the active material a mechanical stability, which ensures that it is positionally stable and robust against external influences. Even if the relocation of contaminated material is not an option, Tektoseal Active is a reliable geosynthetic safeguarding solution. Tektoseal Active AS forms a barrier to petrochemical contaminants. A suitable agent for pollutant adsorption is Tektoseal Active AC with a core of activated carbon.

Our engineers will analyse your individual pollution situation and then provide you with a solution that is literally tailor-made. In addition to rolls up to 5.10 m wide, we can also supply we can also supply large panels, for example, which can be made up on site if required.

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Active layer	Top / bottom layer	Function(s)	Containments
Oil absorbing polymer, different types of activated carbon, Cation adsorber, Selective ion exchangers	Polypropylene (PP)/ Polyester (PET) woven or nonwoven	Pollutant absorption through, ion exchange or precipitation	Oil, NAPLs, Fuels, VOC, PAH, PCB, TBT, PFAS, Pb, Ni, Mg, As, U, e.g.



Runoff filtration



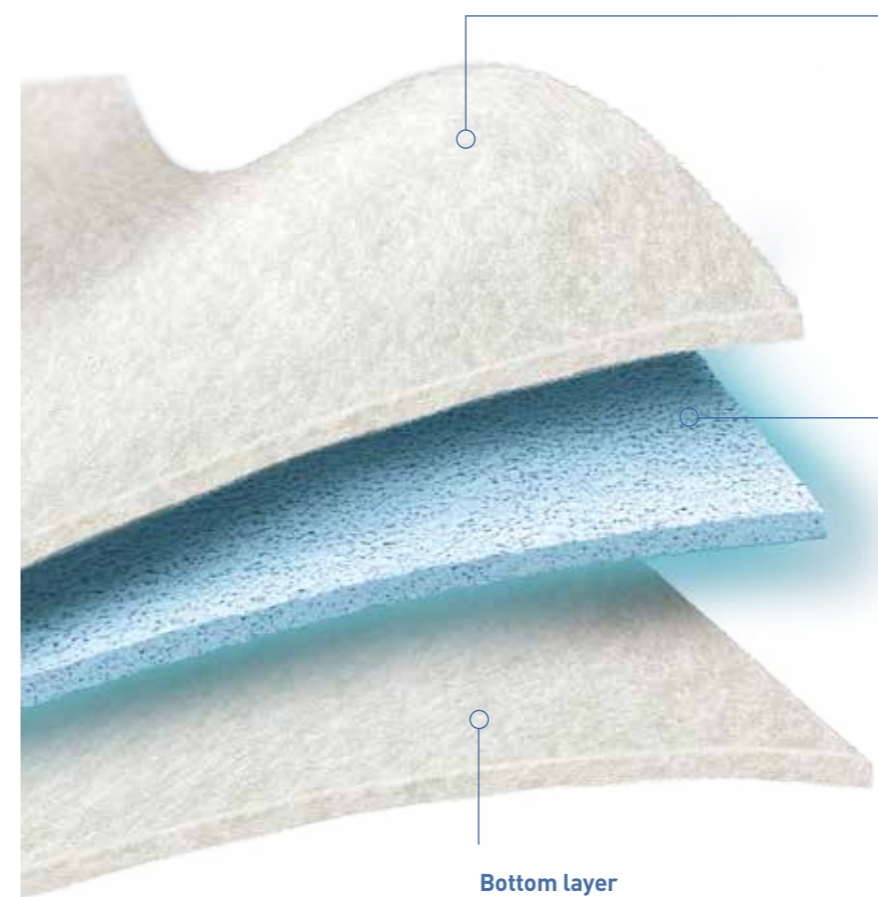
Soil capping



Landfill sealing

Active environmental protection

With tailor-made pollutant barriers



Top layer
A nonwoven or woven fabric made of polypropylene (PP) or polyester (PET), which serves as a stabilizer for the active material and as a protective layer against external influences. Raw material and basis weight are adapted to the specific requirements.

Active layer
The active layer is the heart of the Tektoseal Active products. It may contain the following substances, amongst others:

- Activated carbon
- Heavy metal binder
- Oil absorber

Bottom layer
The material of this layer can be varied according to the field of application to ensure the required strengths or protective properties. Possible materials are woven or nonwoven fabric, optionally with geogrids as reinforcement.

For PFAS

Highest performance for short and long chain PFAS



Alternative solution for long-specific applications



For heavy metals

Maximum performance with heavy metals and phosphates



For organic pollutants

Pollutant barrier for dissolved organic contaminants



Highest performance for organic pollutants in oily environments



For oils and petrochemicals

Preventive protection against contamination of oil, diesel and gasoline





- BENEFITS**
- Ideal for rehabilitation with asphalt overlay
 - of concrete pavements
 - of roads subject to height restrictions
 - of concrete surfaces damaged by alkali-silica reaction (ASR)
 - Combines stress relief with sealing and reinforcement
 - Up to threefold increase in maintenance intervals

SamiGrid®

For rehabilitation of concrete pavements with asphalt

SamiGrid adds to the benefits already offered by the time-tested HaTelit brand. With polyvinyl alcohol (PVA) as its constituent material, SamiGrid is resistant to alkaline environments. As it can be laid directly onto concrete, it is thus perfectly suited for the rehabilitation of concrete pavements using an asphalt overlay.

The bitumen coating of the reinforcement grid ensures a strong bond with the asphalt. Saturation of the nonwoven with bitumen after installation also enables SamiGrid to fulfil a sealing and stress-relieving function, making it ideal when applying an asphalt overlay to concrete surfaces damaged by alkali-silica reaction (ASR).

SamiGrid also obviates the need for an asphalt regulating course and thus offers an excellent solution for concrete roads. Depending on the climate, the combination of nonwoven and PVA grid provides stress relief or reinforcement, due to thermal expansion/contraction.

SamiGrid is an unbeatable choice for the rehabilitation of concrete pavements with asphalt.

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Material	Tensile strength(s)	Coating(s)	Function(s)
PVA	Biaxial 50 kN/m	Bituminous	Reinforcement, Sealing, Stress-Relieving



Rehabilitation of Concrete Pavements



Permanent Roads and Pavements



- BENEFITS**
- High process capacity for dewatering
 - Large-format tubes speed up progress on site
 - Cost savings for sludge disposal
 - Tubes also suitable for permanent containment
 - Enhanced stability thanks to high-tensile material

SoilTain® Dewatering

Efficient sludge dewatering

SoilTain tubes offer a fast and economical means of sludge dewatering. The large-format tubes offer high process capacity and high dewatering performance while taking up a relatively small area. This helps to speed up progress on site.

The tubes, which are made of purpose-developed, high-performance woven filter material, can be stacked to increase storage capacity. Cost savings are also achieved by the lower machinery requirement for dewatering and transportation of the sludge from the site. The tubes can even be used for permanent containment of the consolidated sludge. There is no risk of rewetting, e.g. by rainwater, even where the tubes are in use for longer periods. The final dry solids content is accordingly greater than that achievable by dredge dump dewatering. SoilTain not only acts as a reliable, long-term containment system, it also minimizes the odour emissions from the sludge.

SoilTain offers a state-of-the-art solution to sludge dewatering.

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Material	Function(s)	Storage volume(s)	Circumference(s)
PP	Filtration, Drainage, Containment	Up to 1,600 m ³	Up to 28 m



Tube Dewatering



BENEFITS

- Low-cost solution as no core material needed
- Long-term protection against erosion
- Large-volume tubes create continuous barrier spanning long distances
- Rapid colonization by marine flora and fauna
- Variety of materials to meet project-specific needs

SoilTain® Coastal Protection

Economical and eco-friendly coastal protection

SoilTain tubes for coastal protection offer a cost-effective and natural-looking alternative to concrete and stone. The tubes can be filled with locally sourced materials such as sand, thereby eliminating the need for conventional rock core material. The securely retained sand ensures the long-term protection of coastlines and river banks, with the large-volume tubes allowing the construction of a continuous barrier over long distances.

The composite version of SoilTain comprises a nonwoven and woven that are mechanically bonded. As the outer nonwoven layer encourages the natural deposition of soil particles, this serves to increase abrasion resistance and lengthen the service life. Durability is also enhanced by the higher soil retention capacity within the composite tube. Visually, the sand-coloured material blends well with the landscape setting and is rapidly colonized by marine flora and fauna.

As always, HUESKER offers a variety of constituent materials to allow economical, project-specific selection of the most suitable product.

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Material	Function(s)	Types	Storage volume(s)
PP, PET	Reinforcement, Separation, Filtration, Containment, Protection	Bags, containers, tubes	0,3–700 m ³



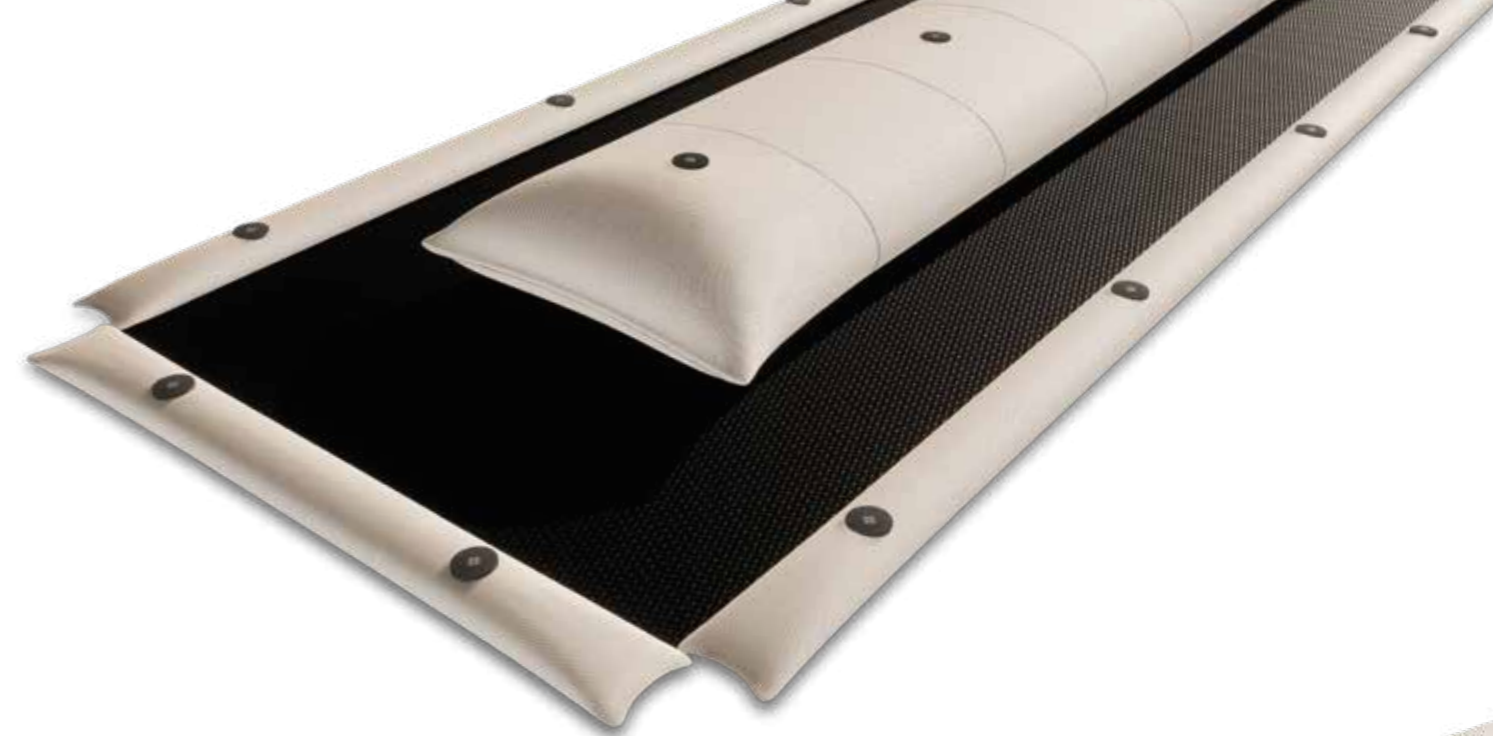
Breakwaters



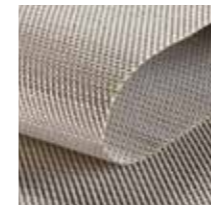
Dams and Dikes



Bank Protection



SoilTain Tubes – Container Systems – Sustainable erosion control system



SoilTain Tubes

Geotextile tubes made of high tensile fabrics for large-format heavyweight structures. Installed with a scour apron.



SoilTain Bags – the Sand Containers for all situations



SoilTain Bags Xtreme

Extremely robust Sand Bags made of a two layer needle punched non-woven of 1,200 g/m² for permanently exposed revetments and structures.



SoilTain Bags

Sand Bags made of non-wovens or composites with mass per unit weight from 600 g/m² to 1,000 g/m². For temporarily exposed or permanently covered structures made of small-format, flexible elements.





- BENEFITS**
- Uniform mattress thickness for improved sealing performance with Incomat Standard
 - Straightforward underwater installation (canal rehabilitation is possible while facility remains in service)
 - Project-specific fabrication:
 - 6 cm - 60 cm internal thickness
 - Permeable or impermeable
 - Can be stitched together into large panels at site

Incomat®

Ideal solution for protection of waterbodies (slopes and shores)

Incomat offers comprehensive protection for hydraulic engineering structures. The textile formwork acts as a surface sealing system while protecting against erosion, mechanical damage and buoyancy forces in waterbodies. The different product types – Incomat Standard, Flex, FP and Crib – deliver the ideal solution for a wide variety of requirements. The vertical spacers integrated in Incomat Standard guarantee the achievement of an exceptionally uniform mattress thickness for superior sealing performance. The fact that Incomat is also suitable for underwater installation enables many such projects to be implemented without the need to drain the canal or lower the operational water levels.

Incomat mattresses are custom-manufactured to meet project requirements. Our engineers will advise you on the ideal product thickness (6 cm - 60 cm), the maximization of mattress stability through the variation of spacer tape strengths, and the choice between permeable and impermeable product versions. This will help you to determine the most cost-effective solution for your project. The use of Incomat eliminates the need for conventional formwork erection, when using in-situ concrete slabs, thereby cutting construction times and costs in comparison to standard methods.

Given the product's 60-year-plus track record of success, you can rest assured that opting for Incomat is the right decision.

Click here to go to our videos!



Material	Function(s)	Types	Mat thickness(es)
PA, PE, PET	Sealing, Protection	Standard, Flex, FP and Crib	Up to 60 cm



Bank Protection



Canals



Bed Protection



Incomat® Pipeline Cover

Revolutionary pipe encasement system

Incomat Pipeline Cover (IPC) can be used wherever pipelines require protection against mechanical impacts or buoyancy uplift. The IPC system sets itself apart from concrete encasements installed with conventional formwork systems through its fast, efficient application.

Factory prefabrication of the geotextile formwork eliminates the need for any elaborate shuttering on site. The fact that the tailored units allow rapid assembly and optimise the concreting operation also helps to speed up the progress of the works. Furthermore, pipeline bends and varying pipe diameters can be readily accommodated by means of suitable planning and custom-manufacture.

Geotextile formwork mattress
Modified Incomat mattress with factory-fitted industrial zips for rapid pipe encasement

Vertical ties
Spacers; adaptable to project requirements; maximise dimensional stability of mattress, thus ensuring constant concrete cover

Concrete fill
Fluid concrete; easy filling via factory-fitted filler necks

Protective nonwoven (optional)
Optional incorporation of nonwoven as additional protective layer

Material	Function(s)	Length of individual units	Customised configuration
PE, PA	Protection against external impacts, buoyancy and uplift	1 m to max. 5 m (concreting sections)	Mattress length/width/thickness, filler necks, possible factory prefabrication
Environmental performance	Classed as harmless under M Geok E 2016 (Guidance Paper on the Use of Geosynthetics in Earthworks for Roadbuilding Projects) and BBodSchV (German Federal Soil Protection and Contaminated Sites Ordinance) Tested to German guideline for hygienic assessment of elastomers in contact with drinking water (Elastomer Guideline)		



BENEFITS

- Reduced volume of earthworks and spoil transportation
- Better sealing performance than with standard mineral solutions
- High shear strength through precision needling
- Straightforward, low-dust installation to speed up progress on site
- Self-healing effect to remedy unnoticed minor damage

NaBento®

The unique liner

NaBento bentonite mats offer better sealing performance than conventional mineral liners. The savings in height of up to approx. 50 cm can also be used to increase the landfill capacity.

To allow cost-effective, project-specific product selection, we offer NaBento with bentonite quantities according to state-of-the-art requirements. Moreover, you can choose between calcium and sodium bentonite, and specify one of several coatings. The unique coating made of bitumen emulsion and expanded shale provides enhanced protection against drying-out by reducing moisture migration from the inside to the outside of the product. The expanded shale increases shear resistance by improving friction behaviour at the interface with the surrounding soils and other geosynthetics.

The fact that NaBento bentonite mats accommodate up to 25% elongation – i.e. more than four times that tolerated by conventional mineral liners – makes them far less sensitive to settlement. The straightforward laying procedure speeds up installation. NaBento is specially used on landfill sites as it has been certified by LAGA according to the strict German environmental legislation.

The sealing performance offered by NaBento is guaranteed to benefit generations to come.

[Click here to go to our videos!](#)



Material	Coating(s)	Bentonite content	Hydraulic conductivity k
PET (carrier geotextile), PP (cap geotextile), bentonite powder (sodium or calcium)	Bituminous emulsion and expanded shale	Up to 15 kg/m ²	RL-N: 5·10 ⁻¹¹ [m/s] RL-C: 7·10 ⁻¹¹ [m/s]



Landfill Construction



Groundwater Protection



Dams and Dikes



BENEFITS

- Reduced volume of earthworks and spoil transportation
- Better sealing performance than with standard mineral solutions
- High shear strength through precision needling
- Straightforward, low-dust installation to speed up progress on site
- Self-healing effect to remedy unnoticed minor damage

Tektoseal® Clay

Easy-to-install, cost-effective seal

Tektoseal Clay is a mat with approx. 10 mm thickness and achieves better sealing effects than mineral sealants. At the same time, it saves on earthworks and transport.

The incorporated nonwoven ensures strong friction behaviour and allows installation on steep slopes (1:3 inclination). Compared to products with powdered bentonite, the incorporated granulated bentonite offers the advantage of low dust exposure and significantly better working conditions on site. In case of moisture exposure, this also limits the formation of a lubricating film on the surface, thereby simplifying installation. The 5.10 m roll width also speeds up the laying operations by reducing the number of overlaps.

Tektoseal exhibits low susceptibility to settlement and can accommodate up to 10% elongation without any impact on permeability. The bentonite filling, with a high swelling capacity due to its more than 70% montmorillonite content, automatically seals minor mechanical damage that may otherwise remain unnoticed, thereby enhancing long-term reliability. For landfill applications we also offer a Tektoseal Clay product according to German landfill suitability assessment (LAGA) and always with additional self-sealing edges.

Opt for Tektoseal as a truly cost-effective sealing solution for your projects.

[Click here to go to our videos!](#)



Material	Bentonite content	Hydraulic conductivity k	Function(s)
PP (nonwoven and woven), bentonite granulate (sodium)	Up to 7 kg/m ²	3·10 ⁻¹¹ [m/s]	Sealing



Water Reservoirs



Groundwater Protection



Dams and Dikes

HUESKER services

HUESKER services begin with providing the customer with initial advice and it ends with supporting the realisation of the project on site. What we provide are safe, customised, ecologically sound and economically viable project solutions.

Engineering services

Technical consulting

We will recommend the appropriate product types for your specific requirements.

Technical design

Our engineers assist design practices by performing verifiable design calculations in accordance with international codes of practice.

Project-specific placement plans

We will prepare installation and placing recommendations plus installation diagrams.

International knowledge transfer

Best-practice solutions and techniques from our global network.

Documents

Certificates and approvals

Our products have numerous certifications and approvals that are issued, for example, by BAM, BAW, BBA, EBA, HPQ of DB AG und LAGA, IVG und SVG, depending on the product type.

Tender documents

We would be happy to provide you with proposals for your specification texts.

Technical guidelines

Technical guidelines will help you to ensure the best-practice installation of your product on site.

Product services

Custom-designed project solutions

We will partner with you in developing custom-fabricated products to meet your particular requirements.

Alternative solutions

We will propose alternative design solutions as well as recommendations for adjustments and optimisations.

On-The-Spot

On-site instruction

Where required, our application technicians can offer installation assistance related to the specifics of product installation.

Installation aids

We can offer you practical installation aids to facilitate the application of our products.

Training

Product and application specific instruction.



Our software solutions

Our online software solutions guides you easily to the optimal solution for your individual construction project. In just a few clicks, you will receive suggestions for selecting the right geosynthetic material and an initial calculation. The software solutions are available to you completely free of charge and without the need for registration.

At the end of a calculation, you will receive a PDF document with all relevant parameters, which you can save and continue to use. Feel free to use the document or contact us directly. Together with our experienced engineers, we will find further individual solutions for your project.

Fortrac Systems Calculator

With our free design configurator, you can quickly and easily obtain an initial measurement of your geogrid-reinforced retaining wall and a cost indication for further detailed coordination with our experts and engineers.



Scan and find the right
Discover product solution!

BaseCalculator

The BaseCalculator will quickly calculate the required base course thickness for traffic areas subject to normal loads and, after only a few clicks, provide you with a recommendation as to the most suitable geosynthetic product.



Scan and find the right
Discover product solution!

RingtracS

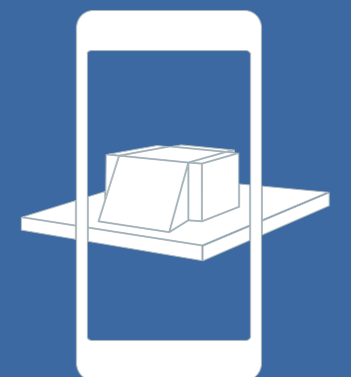
RingtracS is a design software application purpose-developed by HUESKER's engineers. It ensures the reliable project-specific design of Ringtrac system solutions with due allowance for all relevant parameters.



Feel free to contact us
personally to get a free access!

Fortrac Systems App

Discover the Fortrac Systems AR world from HUESKER and discover exactly the system that meets your requirements and challenges.



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HUESKER Synthetic is certified to ISO 9001, ISO 14001 and ISO 50001.



HUESKER Synthetic GmbH

Fabrikstrasse 13-15
48712 Gescher, Germany
Phone: +49 (0) 25 42 / 701-0
Fax: +49 (0) 25 42 / 701-499
Mail: info@HUESKER.de
Web: www.HUESKER.com

