Discover the World of Geosynthetics

Product Overview
At HUESKER, every 7th employee is an engineer.

Discover our

Solution Competence

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

Services provided by our engineers

- Geotechnical design
  Our engineers assist design practices by performing verifiable design calculations in accordance with international codes of practice.
- Technical consulting
  We will recommend the appropriate product types for your specific requirements.
- Project-specific placement plans
  We can provide typical design details and installation instructions.

Product services

- Custom-designed product solutions
  We will partner you in developing custom-fabricated products to meet your particular requirements.
- Alternative solutions
  We can propose alternative design solutions as well as recommendations for adjustments and optimisation.

Documents

- Certificates
  Our products have BAM, BBA, EBA, SVG and IVG certification.
- Installation guidelines
  Technical guidelines will help you to ensure the best-practice installation of your product on site.
- Tender documents
  We would be happy to provide you with proposals for your specification texts.

On-the-spot

- On-site instruction
  Where required, our application technicians can offer installation assistance related to the specifics of product installation.
- Installation aids
  For certain products we can offer you installation aids to facilitate the application of our products.
- Training
Our products and applications

Group | Functions | Products | Page | Earthworks and Foundations | Roads and Pavements | Environmental Engineering | Hydraulics Engineering | Mining

Geogrids
- Fortrac (06)
- Fortrac 3D (07)
- Basetrac Grid (08)
- HaTelit (09)
- Minegrid (10)

Wovens
- Stabilenka (11)
- Robute (12)
- Ringtrac (13)
- Basetrac Woven (14)

Nonwovens
- Nonwoven (15)
- Basetrac Nonwoven (16)

Geocomposites
- Basetrac Duo-C (17)
- Basetrac Duo (18)
- SamiGrid (19)
- Tektoseal Active (20)
- Tektoseal Sand (21)

Containers and Tubes
- SoilTain Dewatering (22)
- SoilTain Coastal Protection (23)
- SoilTain Protect (24)
- Incomat (25)

Sealings
- Tektoseal Clay (26)
- NaBento (27)
Erosion control 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 of choice for erosion control.
**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 polypropylene 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 (20-80 kN/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.

---

**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 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 straightforward refurbishment of the 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

---

**Benefits**

- Up to threefold 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

---

**Technical Specifications**

<table>
<thead>
<tr>
<th><strong>Basetrac Grid</strong></th>
<th><strong>HaTelit</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
<td>PET, PVA, Glass</td>
</tr>
<tr>
<td><strong>Tensile strength(s)</strong></td>
<td>Biaxial up to 100 kN/m</td>
</tr>
<tr>
<td><strong>Coating(s)</strong></td>
<td>Bituminous</td>
</tr>
<tr>
<td><strong>Function(s)</strong></td>
<td>Reinforcement</td>
</tr>
</tbody>
</table>

---

**Technical Specifications**

<table>
<thead>
<tr>
<th><strong>Basetrac Grid</strong></th>
<th><strong>HaTelit</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
<td>PP, PET</td>
</tr>
<tr>
<td><strong>Tensile strength(s)</strong></td>
<td>Biaxial up to 80 kN/m</td>
</tr>
<tr>
<td><strong>Coating(s)</strong></td>
<td>Polymer</td>
</tr>
<tr>
<td><strong>Function(s)</strong></td>
<td>Reinforcement</td>
</tr>
</tbody>
</table>
**Minegrid**

- **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

- **Material**
  - PET, PVA

- **Tensile strength(s)**
  - Up to 1,000 kN/m standard

- **Coating(s)**
  - Flame-resistant, anti-static

- **Function(s)**
  - Reinforcement, Protection

**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.

**Stabilenka**

- **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 30-year-plus track record
  - The only woven geotextile with BBA certification
  - Suitable for use in large panels

- **Material**
  - PET

- **Tensile strength(s)**
  - Uniaxial up to 2,500 kN/m; biaxial up to 500 kN/m

- **Function(s)**
  - Reinforcement, Separation, Filtration

**Worldwide reputation for supreme strength.**

Stabilenka is one of our heaviest-duty reinforcement products, with high strengths of up to 2,500 kN/m uniaxial and 500 kN/m biaxial to cater for extreme applications. 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 and strict quality assurance regime operated by HUESKER.

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 stiffness coupled with low creep – the uniformly high tensile strength serving to minimize structural deformation. Stabilenka is made from yarn approved by the BAM (German Federal Institute for Materials Research and Testing) for use even in landfill construction.

Stabilenka – the last word in reinforcement.
Robutec®

Unbeatable strength to master the toughest of challenges.

Robutec reinforcement products combine the strength of Stabilenka with the two additional benefits of a unique raw material. Firstly, it is acid- and alkali-resistant for pH values between 2 and 13, allowing its use with all soil types, including even peat. Secondly, the high-modulus material provides even greater axial stiffness coupled with extremely low creep. The immediate load take-up guarantees very low structural deformation, which is a key advantage in design e.g. for sinkhole protection.

Robutec offers tensile strengths of up to 2,800 kN/m (uniaxial) and 500 kN/m (biaxial) to cater for extreme applications. Moreover, in many cases, cost savings can be achieved by specifying a single layer of Robutec 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, Robutec reigns supreme in its class.

<table>
<thead>
<tr>
<th>Robutec</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
<td>PVA/PP</td>
</tr>
<tr>
<td><strong>Tensile strength(s)</strong></td>
<td>Uniaxial up to 2,800 kN/m; biaxial up to 500 kN/m</td>
</tr>
<tr>
<td><strong>Function(s)</strong></td>
<td>Reinforcement, Separation, Filtration</td>
</tr>
</tbody>
</table>

Ringtrac®

A pioneering foundation system.

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.

GEC’s are ideal for constructing embankment foundations for development land reclamation and as a reliable foundation system in earthquake regions - 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 (0.4–1.0 m) 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 water-permeable 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.

<table>
<thead>
<tr>
<th>Ringtrac</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
<td>PET, PVA</td>
</tr>
<tr>
<td><strong>Tensile strength(s)</strong></td>
<td>Up to 600 kN/m</td>
</tr>
<tr>
<td><strong>Function(s)</strong></td>
<td>Reinforcement, Separation, Filtration, Drainage (foundation element)</td>
</tr>
</tbody>
</table>
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 fulfill a separation, filtration and stabilization 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.

**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**

- Temporary Roads
- Permanent Roads and Pavements

---

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.

**Nonwoven**

<table>
<thead>
<tr>
<th>Material</th>
<th>PP, PET, PA, PEHD, PAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function(s)</td>
<td>Separation, Filtration, Protection</td>
</tr>
<tr>
<td>Weight</td>
<td>Up to 4,000 g/m² (optionally with woven fabric reinforcement)</td>
</tr>
</tbody>
</table>
Separation and filtration for base applications.

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 aver 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 $E_{50} > 35$ MN/m²) and complement the other products in the Basetrac range for base course applications.

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 construction 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.

<table>
<thead>
<tr>
<th>Basetrac Nonwoven</th>
<th>Basetrac Duo-C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material</td>
<td>PP, blended fibre, PP, PET, PVA</td>
</tr>
<tr>
<td>Function(s)</td>
<td>Separation, Filtration, Reinforcement, Separation, Filtration</td>
</tr>
<tr>
<td>Grammage</td>
<td>Up to 350 g/m²</td>
</tr>
<tr>
<td></td>
<td>Composite (geogrid and nonwoven)</td>
</tr>
</tbody>
</table>
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.

Product of choice 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 fulfill 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.
**Tektoseal® Active**

Containment absorption with Active Geo-Composites.

HUESKER’s Tektoseal Active sets new benchmarks in eco-efficient construction and environmental measures for groundwater protection and contaminated site remediation.

The active geocomposite products are available in a variety of forms. Specifically for groundwater protection, we offer numerous barrier and filter products for applications involving contaminated surface water and leachate.

Tektoseal Active delivers a reliable geosynthetic decontamination solution in cases where it is not feasible to relocate the polluted material.

Tektoseal Active AS is a mechanically reinforced oil absorption agent that reliably binds petrochemical products. An ideal solution for contaminant adsorption is Tektoseal Active AC with its activated carbon core. Tektoseal Active CP is ideal for applications where heavy metals and also radioactive materials have to be removed safely and permanently.

Our engineers will analyse your individual requirements and provide you with a solution which is literally tailor-made to your needs. In addition to rolls up to 5 m width, we also supply large panels which, if necessary, can be stitched together on site.

**Tektoseal Active**

| Material | Oil absorbing polymer, different types of activated carbon, natural calcium phosphate |
| Top/bottom layer | Polypropylene (PP)/polyester (PET) woven or nonwoven, geogrid to protect |
| Function(s) | Adsorption of petrochemical products/contaminant adsorption with activated carbon/long-term binding of heavy metals and radioactive (radioactive substances) |
| Contaminants | Oil, diesel, petrol, kerosene, VOC, TBT, PAH, PCB, Pb, U, Pu, Cd, Zn, Sr e.g. |

**Tektoseal® Sand**

Easy filter installation underwater and protective layer system for landfills.

Tektoseal Sand is a three-layer geocomposite with encapsulated quartz sand that allows the installation of a geotextile filter under difficult site conditions.

Tektoseal Sand lends itself to use wherever, given the local hydraulic conditions, the installation of standard geotextile filters would be impossible or would necessitate undue cost and effort. The higher weight per unit area achieved by the quartz sand filling simplifies installation and offers enhanced protection against displacement. This allows the trouble-free, filtration-stable installation of revetments even under water.

The Tektoseal Sand PR 10.000 product can also be used as a combined protective layer system for the bottom linings of landfill sites. The combination of nonwovens certified by the German Federal Institute for Materials Research and Testing and a centrally arranged sand content of 10,000 g/m² offers proven long-term protection of polymer liners in a landfill environment. In addition to its excellent protective performance, this hybrid solution exhibits outstanding frictional properties in slope areas and is relatively cost-effective to install.

**Tektoseal Sand**

| Material | Certified nonwovens, encapsulated quartz sand |
| Sand content | Up to 10,000 g/m² |
| Function(s) | Displacement-resistant filter for underwater installation, protective layer system for landfill bottom linings |
Efficient sludge dewatering.

SoilTain® 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.

<table>
<thead>
<tr>
<th>SoilTain® Dewatering</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
<td>PP</td>
</tr>
<tr>
<td><strong>Function(s)</strong></td>
<td>Filtration, Drainage, Containment</td>
</tr>
<tr>
<td><strong>Storage volume(s)</strong></td>
<td>Up to 1,600 m³</td>
</tr>
<tr>
<td><strong>Circumference(s)</strong></td>
<td>Up to 28 m</td>
</tr>
</tbody>
</table>

Economical and eco-friendly coastal protection.

SoilTain® 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.

<table>
<thead>
<tr>
<th>SoilTain® Coastal Protection</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
<td>PP, PET</td>
</tr>
<tr>
<td><strong>Function(s)</strong></td>
<td>Reinforcement, Separation, Filtration, Containment, Protection</td>
</tr>
<tr>
<td><strong>Types</strong></td>
<td>Bags, containers, tubes</td>
</tr>
<tr>
<td><strong>Storage volume(s)</strong></td>
<td>0.3–700 m³</td>
</tr>
</tbody>
</table>
**SoilTain® Protect**

The ultimate geomembrane protection.

SoilTain Protect is an innovative geotextile containment system manufactured utilizing state-of-the-art weaving technology, which provides a tubular system interconnected into a singular geosynthetic mattress configuration.

SoilTain Protect must be utilized wherever it is required to avoid solar and UV exposure on geomembranes. It increases the storage space, as waste, e.g. tailings or coal ash is being used to fill the containers. This HUESKER solution reduces construction time and the risk associated with the movement of operational plant and equipment over the primary liner. It provides positive enhancement to the economic, environmental and social sustainability of containment operations.

**Table:**

<table>
<thead>
<tr>
<th>SoilTain Protect</th>
<th>Incomat®</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
<td>PA/PE/PET</td>
</tr>
<tr>
<td><strong>Types</strong></td>
<td>Standard, Flex, FP and Crib</td>
</tr>
<tr>
<td><strong>Function[s]</strong></td>
<td>Sealing, Protection</td>
</tr>
<tr>
<td><strong>Mat thickness(es)</strong></td>
<td>Up to 60 cm</td>
</tr>
</tbody>
</table>

**BENEFITS**

- Elimination of heavy construction equipment on top of primary geomembranes
- Elimination of greatest threat to liner integrity
- Reduction of construction traffic
- Increased storage space for waste (e.g. tailings, coal ash)

**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 (8-60 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 50-year-plus track record of success, you can rest assured that opting for Incomat is the right decision.
Easy-to-install, cost-effective seal.

Tektoseal is the new bentonite mat in HUESKER’s construction range. Though less than 10 mm thick, the mat delivers better sealing performance than mineral liners. At the same time it significantly reduces the necessary earthworks and spoil transportation.

The incorporated nonwoven improves 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 80–90% montmorillonite content, automatically seals minor mechanical damage that may otherwise remain unnoticed, thereby enhancing long-term reliability.

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

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, customers can state the quantity of encapsulated bentonite, choose between calcium and sodium bentonite and other mineral mixes, and specify one of several coatings. The unique bitumen emulsion coating provides enhanced protection against drying-out by reducing water migration from the inside to the outside of the product. The expanded shale coating increases shear resistance by improving friction behaviour at the interface with the surrounding soils.

The fact that NaBento bentonite mats can accommodate up to 10% elongation – i.e. more than twice 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.

<table>
<thead>
<tr>
<th>Tektoseal Clay</th>
<th>NaBento</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Material</strong></td>
<td>PET (carrier geotextile)/ PP (cap geotextile)/ bentonite powder (sodium or calcium)</td>
</tr>
<tr>
<td>Bentonite content</td>
<td>Up to 7 kg/m²</td>
</tr>
<tr>
<td>Hydraulic conductivity k</td>
<td>3·10⁻¹¹ [m/s]</td>
</tr>
<tr>
<td>Function(s)</td>
<td>Sealing</td>
</tr>
</tbody>
</table>

| Bentonite content | Up to 15 kg/m² |
| Hydraulic conductivity k | RL-N: 5·10⁻¹¹ [m/s] | RL-C: 7·10⁻¹¹ [m/s] |
| Function(s) | Sealing |