

Secutex[®] H



Geotextile for Hydraulic Engineering Applications



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Building on sustainable ground.

Secutex® H is a single-layered, needle-punched nonwoven geotextile for application as filter and separation layer in hydraulic engineering.

Secutex® HB is a multi-layered needle-punched staple fibre nonwoven filled with quartz sand, also called sand mat. It is used as filter and separation layer for underwater installation in hydraulic engineering applications.

TYPICAL APPLICATIONS FOR SECUTEX® H

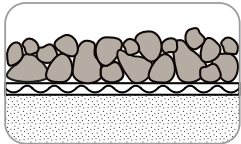


Figure 1:
Revetment system with the use of a nonwoven filter geotextile

Filter geotextile in hydraulic engineering

Secutex® H is placed between two layers of different granular materials if the coarser layer cannot retain a significant fraction of the finer-grained layer under the expected pore water flow.

Application advantages of Secutex® H filter geotextiles

- Long-term filter efficiency
- High puncture resistance
- Long-term abrasion resistance
- Prevention of soil replacement

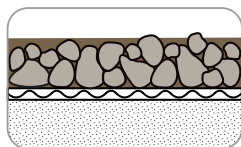


Figure 2:
Impermeable revetment system with the use of a nonwoven separation geotextile

Separation geotextile below impermeable cover layer or on top of an impermeable supporting layer

Secutex® H is used as separation geotextile to prevent an intermixing of two adjacent grain layers with different grain sizes.

Application advantages of Secutex® H filter geotextiles

- High robustness against puncture and long-term abrasion
- Adaptation to soil deformations due to their high elongation
- Excellent interface shear resistance
- Resistance to chemical and biological degradation

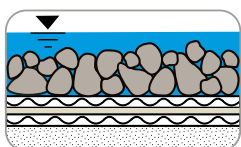


Figure 3:
Revetment system with the use of sand mats

Underwater installation of nonwoven geotextile filters

The sand mat Secutex® HB is used as a filter layer for fast and easy underwater installation.

Application advantages of Secutex® HB sand mats

- Time and cost-saving installation
- Excellent long-term filter efficiency
- High robustness
- Long-term multi-directional internal shear strength



ADVANTAGES OF SECUTEX® H

Secutex® H is the choice for all hydraulic engineering applications where a filter layer and/or a separation layer between granular layers with different grain sizes are required.

Long-term filter efficiency

Secutex® H offers long-term filter efficiency in combination with high robustness properties, like abrasion resistance and resistance to dynamic perforation loads.

High adaptability

Secutex® H nonwoven filter geotextiles and Secutex® HB sand mats provide an excellent stress-strain behaviour and adapt very well to soil deformations or settlements. In the case of deformation, the nonwoven geotextiles stretch and adapt to the changed surface. Contact erosion resulting from the direct contact between the geotextile, subsoil and the ballast layer can be prevented.

Certification

Secutex® H and Secutex® HB have been certified by the BAW (Federal Waterways Engineering and Research Institute) in Germany. Both products meet the requirements according to the “Technical delivery conditions for geotextiles and geotextile-related products on inland waterways” - 2018 edition of the Federal Ministry of Transport and Digital Infrastructure, and can be used accordingly for all application conditions defined therein.

Cost savings

The use of Secutex® H nonwovens or Secutex® HB sand mats as filter layer in revetments can result in significant relief of work in combination with cost savings. Due to the very low thickness, the material can be installed without further excavation. This results in reduced construction time and less transport and construction costs compared to mineral grain filter layers.

CO₂ reduction

Geosynthetics can replace the use of conventional building materials such as gravel, sand, etc. This means that less soil has to be transported and therefore less CO₂ is produced. This leads to a positive carbon footprint as already during the production and life cycle of these geosynthetics only little CO₂ is emitted.



Figure 4: Revetment construction with Secutex® H

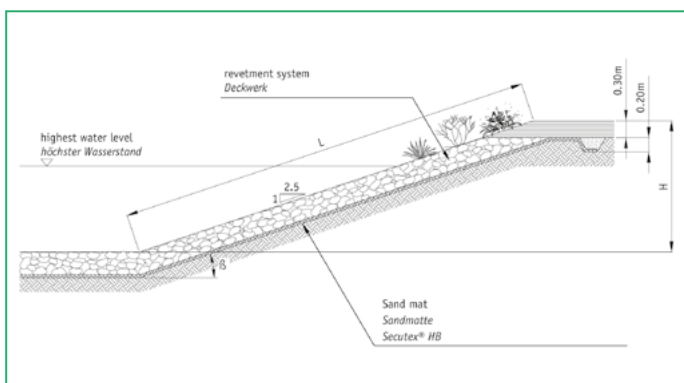


Figure 5: Geometrical details of the revetment

Approvals for the Naue Group

