# Nonwoven geotextile Geokom™

KomitexGEO

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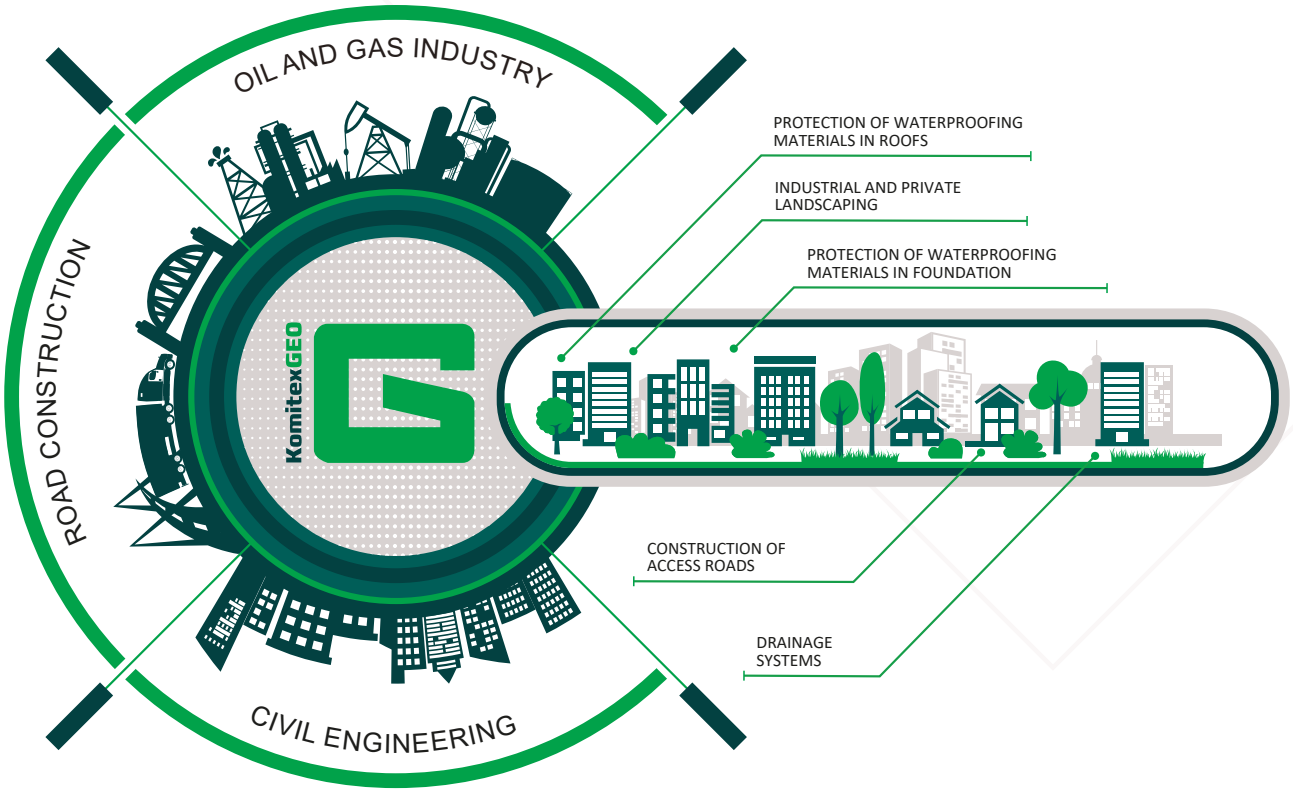
## Komitex Group is one of the largest manufacturers of nonwoven materials in Russia

**Komitex Geo** is a leading player in Russian geosynthetic market. Komitex Group has been producing nonwoven geotextile and fiber for more than 20 years. Production methods and manufacturing lines have been updated and perfected along the way in order to reach new horizons, expand over Russia and beyond. Manufacturing plant possesses ISO 9001 certificate and includes eight needle punching lines and two PP and PES fiber production lines. Production capacity of 120 millions m² of nonwoven materials is planned for 2020.

Now, Komitex Geo is one of the most successful geosynthetic companies in CIS region. More than 10 different types of products are offered to the clients providing a one-step solution for supply of geosynthetic materials. Komitex Geo is proud to offer it clients one of the largest stock availability in Russian Federation with over 10 millions m² of material in high season. Technical department with experience in usage of geosynthetic materials in construction design is helping clients boost sales with technical support.

Growing dealership network Geokom club has spread all over Russia and CIS countries. In addition, Komitex Geo is continuing its global expansion. PP and PES nonwoven geotextile Geokom™ manufactured in Russian Federation has already proved itself successful in CIS countries and starting gaining popularity in Europe.



# Nonwoven geotextile Geokom™

Nonwoven Geotextile is a geosynthetic material made from polyester and polypropylene fibers. Nonwoven geotextile Geokom is manufactured using needle-punched staple technology (production from short fibers) with an option of calendering. Staple technology is more flexible and gives an opportunity to adapt material according to customer requirements. Width of roll - 6 m max. Density range - 100-600 g/m²

## Advantages

- Resistant to rotting, decomposition, destruction
- Not exposed to microorganisms, insects and rodents
- High air and water permeability
- Insensitive to temperature differences
- High operational characteristics in various climatic conditions
- Environmentally safe
- Light weighted
- High elasticity
- Simple installation
- Resistant to mechanical damages (breaks, punctures)
- Long life-cycle
- Reasonable price

## Functions

- Separation - geotextile is used as a layer between different layers of ground, preventing their intermixing and subsidence.
- Protection - geotextile in composite protects other geosynthetic materials from mechanical damages.
- Drainage - geotextile protects different layers in drainage systems, collects and drains water.
- Filtration - geotextile prevents silting and mixing of different layers of ground.

## Polyester (PES) nonwoven geotextile

- Made from recycled raw material
- Full cycle production (production of fiber from PET bottles and caps)
- UV-resistant
- Low cost
- Stable high physical and mechanical performance
- Distinction in colors (color depends on the color of the fiber / PET bottle)
- Calendered / non calendered

## Polypropylene (PP) nonwoven geotextile

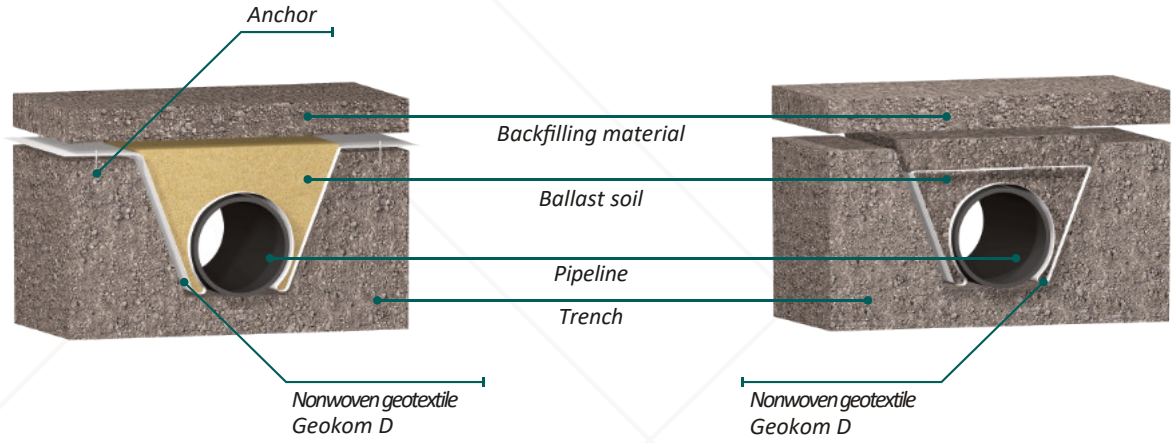
- Made from virgin polypropylene granules
- High biological resistance. No decay, no mold
- Stable high physical and mechanical performance
- High resistance to aggressive alkaline and acidified environments
- UV-stabilizer or color can be added (originally white)
- Calendered / non calendered

# Oil and gas industry

Geotextile is widely used in the construction and development of oil and gas fields. The use of geotextile in difficult weather conditions and problematic climatic zones is particularly effective. In the oil and gas industry, geotextile can be used at different stages.

For example, geotextile is successfully used to ballast and protect pipelines insulation. Geotextile creates a separation layer between the pipes and the protective structure of bunding, ensuring stability of the pipeline position in the trench and reinforcing the filling ground. Geokom provides durable protection of pipes and other functional layers of waterproofing agents against corrosion and mechanical damages.

Moreover, geotextile successfully prevents erosion processes and performs drainage function by letting groundwater pass, but at the same time detain even the smallest soil particles. In addition, construction and development of the fields begins with construction of roads, thus geotextile is used from the very first stages of land development and exploration of the oil and gas field.

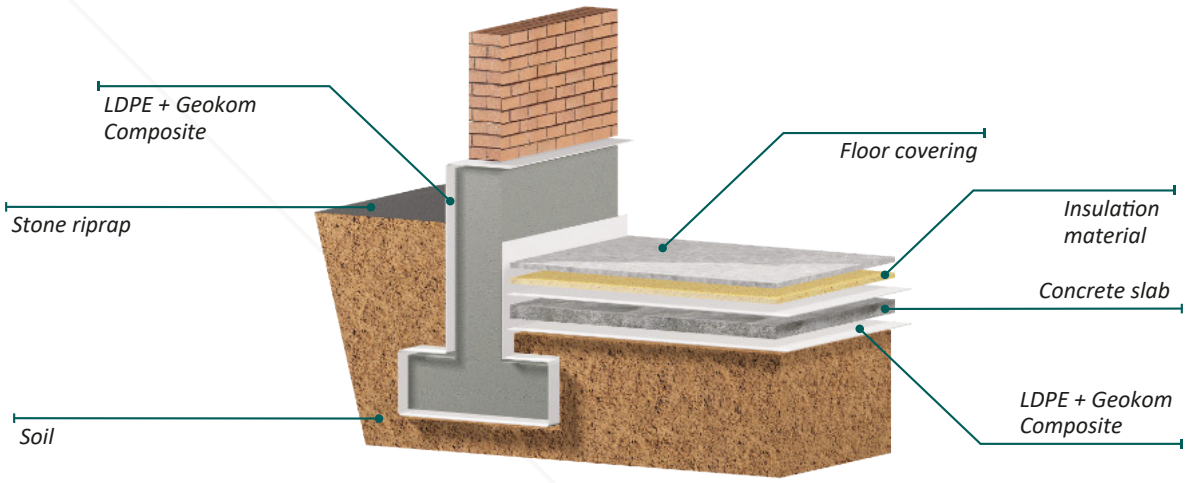


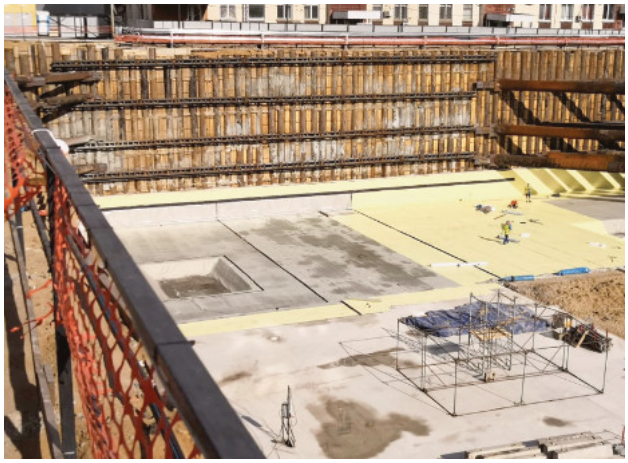

# Construction of foundation and roofing



Nonwoven geotextile Geokom™ is used in construction of buildings and structures on the soil from sedimentary rocks or containing a large number of organic components. Geotextiles under the foundation increases the bearing capacity of the base. The use of geotextile solves the problem of soft soils and base reinforcement. Geotextile protects the foundation from leakage of underground waters, premature destruction. Geotextile also improves the quality of concrete foundation. It prevents leakage of liquid components of a cement grout in the ground and keeps the initial set of characteristics of the concrete.

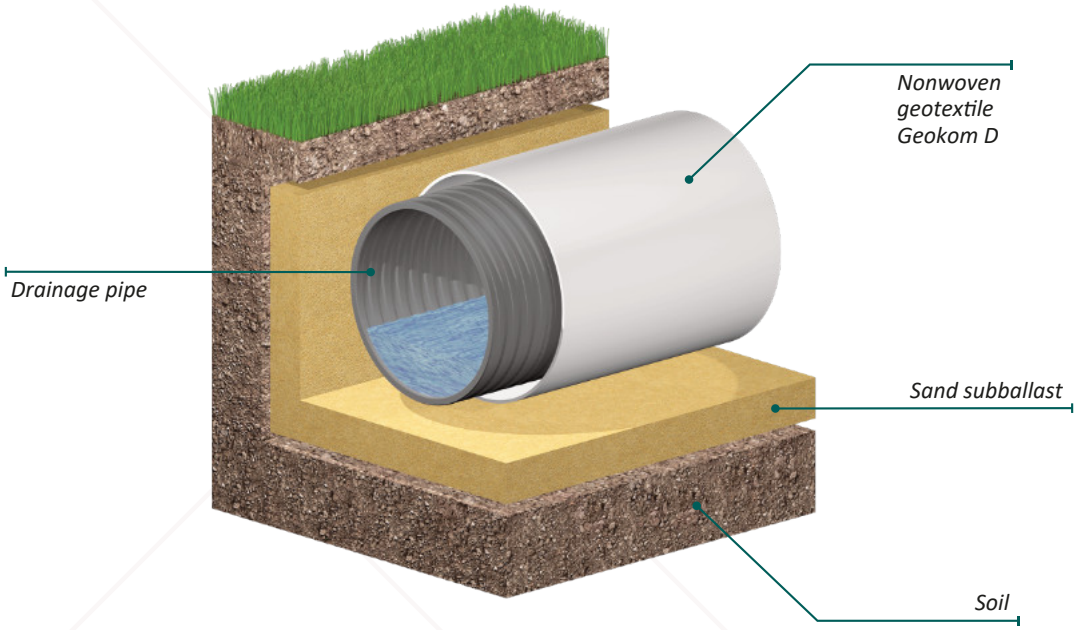
For several types of roofing systems it is necessary to use geosynthetic materials to prevent the destruction of roof. Today, waterproofing membrane is considered to be one of the simplest, affordable and effective material. It is an excellent waterproofing agent. However, membrane alone is sensitive to mechanical damage, but in combination with geotextile for roofing, membrane has longer lifecycle. Another common use of nonwoven geotextile for construction of an industrial roof is separation of a PVC membrane from polystyrene foam and mineral wool. Thus, nonwoven geotextile Geokom™ protects waterproofing materials, increasing the overall life of the building.

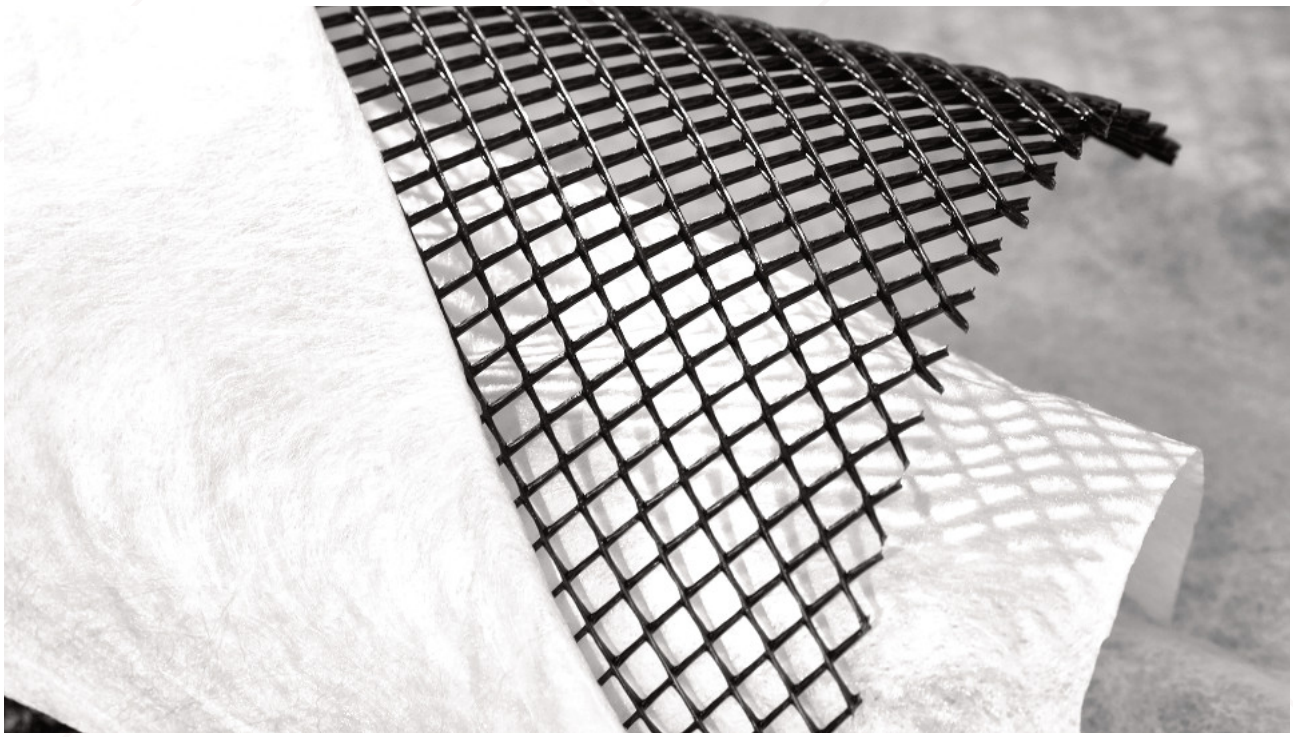


# Drainage systems

Drainage systems currently represent a relevant step in adjustment of engineering networks in construction, especially under different climatic zones and conditions. Geotextile separates different layers of ground, prevents deformation processes, intermixing and siltation. Geotextile is also used as a one or two layer wrapper of drainage pipes. The first layer stiffens the construction, and the second layer performs the filtering function, providing free transmission of water and preventing accumulation of silt and litter in system.



Geotextile allows to implement various ideas of geoplastic landscape transformation in gardens. Using nonwoven material, new design compositions can be created, transforming the appearance of the yard.

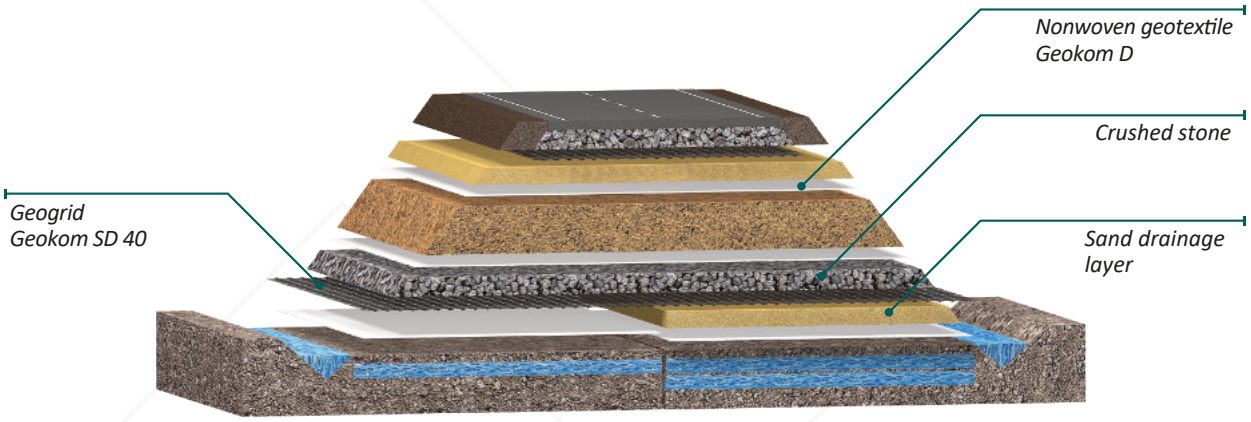
Geotextile for landscaping fits within different forms and elements therefore it is widely applied in a construction of multi-level landscape objects: multi-level flower beds, garden paths, paving slabs, terraces, green roofs, reservoirs and pools. Nonwoven geotextile Geokom™ stops soil slipping, prevents erosion. It keeps decorative plantings in original state, stopping germination of weeds and sprouts.

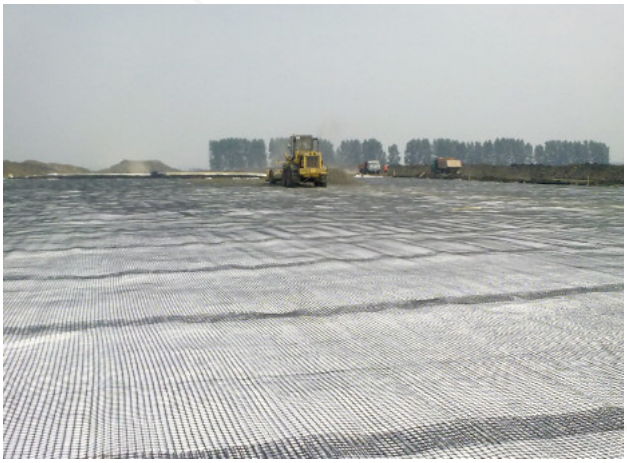
Nonwoven geotextile Geokom™ is also used for the construction of ponds and hydraulic engineering structures as a protection for waterproofing materials. Moreover, nonwoven polypropylene geotextile allows to lay it down with the thermally bonded overlap.


# Road construction

Nowadays, nonwoven geotextile is an essential material in road construction industry. Nonwoven geotextile Geokom™ is used for the construction of railroads, auto-roads, traffic interchanges, tunnels and bridges. The using of this material is a practical solution for road design. One of the main functions of nonwoven geotextile Geokom™ is separation of different layers of the road bed, which increases the road durability.

Geokom™ is resistant to mechanical damage in aggressive environment and contains a wide range of positive qualities. It does not rot, has a long service life and is environmentally friendly. The use of geotextile in road construction allows not only to obtain high quality pavement, but also to save money on bulk materials (crushed stone).



# Municipal solid waste landfills

Geosynthetic materials are effective construction solution for waste landfills. The landfills for municipal solid waste (MSW) might be potentially dangerous not only for soils, but also for atmosphere and groundwaters.

The geomembrane is used to protect soil from wastes. Geotextile protects geomembrane from eventual punctures from solid waste.

Nonwoven geotextile is resistant to aggressive environments, safe durable, strong, environmentally friendly, and UV-resistant.

Geosynthetic materials maintain their characteristics during the lifetime of MSW Landfills.


# Surface of drainage construction

## Problem

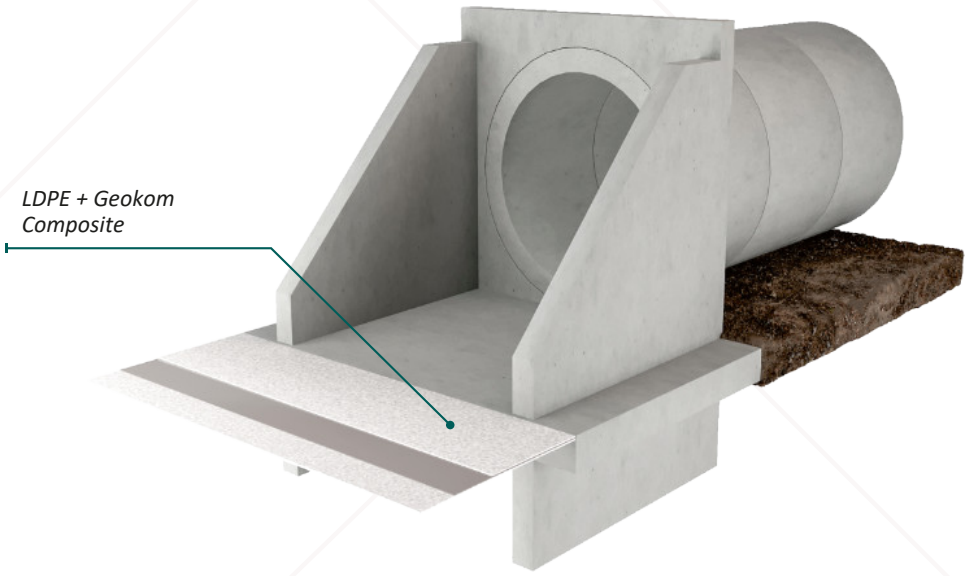
Low water flow capacity of drainage trenches due to overgrowth with grass. Low service life of commonly used reinforcing materials (crushed stone, concrete). Destruction of drainage trenches due to water erosion.

## Solution

For modernization and enhancing the reliability of constructions for strengthening drainage trenches.

## Advantages of implementing the solution with nonwoven geotextile Geokom D as one of layers of construction

Less other materials needed and therefore reduced transport costs. Improving. Prevention of erosion and water infiltration into the ground. Higher water flow capacity without overgrowth with grass

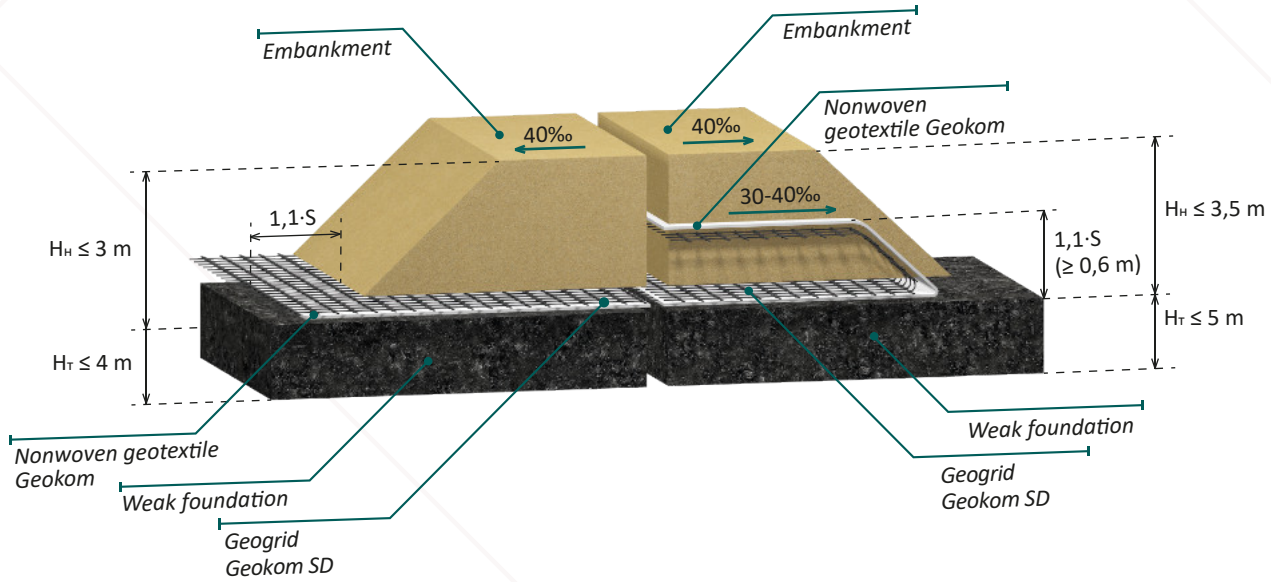


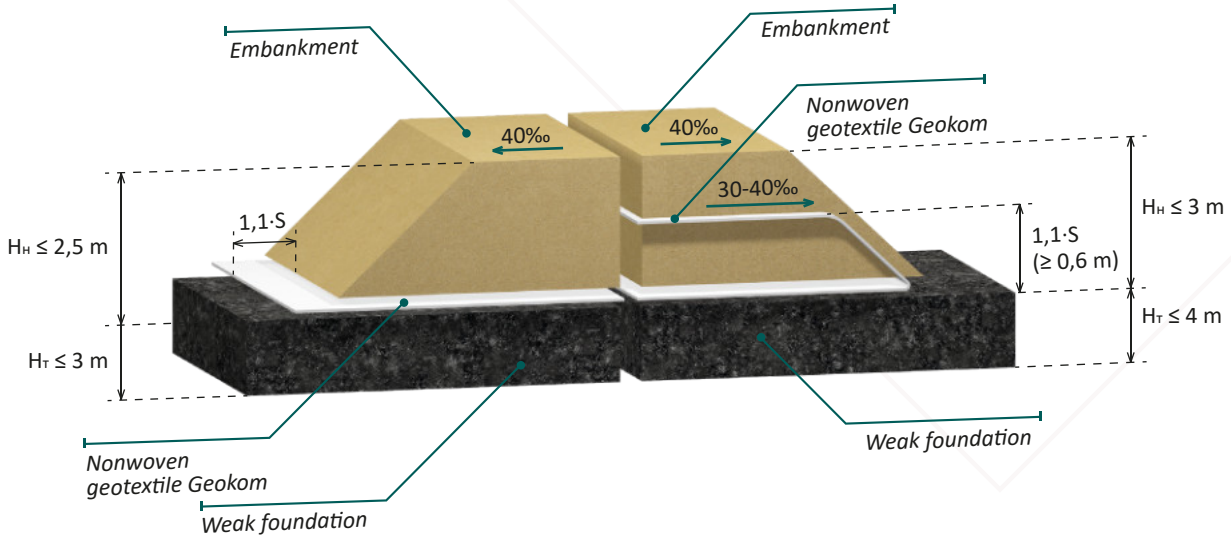
## Purpose of application / What is it for?

Creation of reinforcing and separating layers in the lower part of the embankment to ensure its stability and reduce the unevenness and deformation.

## Advantages

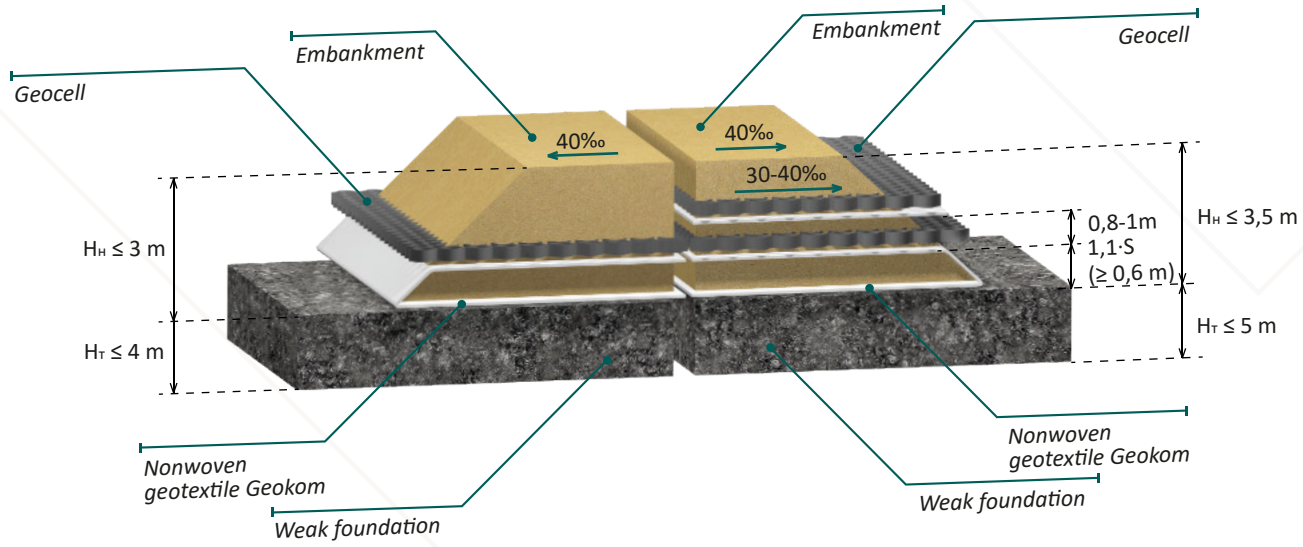
Reduced volume of earthworks and consumption of imported soil. Improved conditions for filling and compaction of the embankment as well as higher technologies and the quality of work. Less worktime needed.

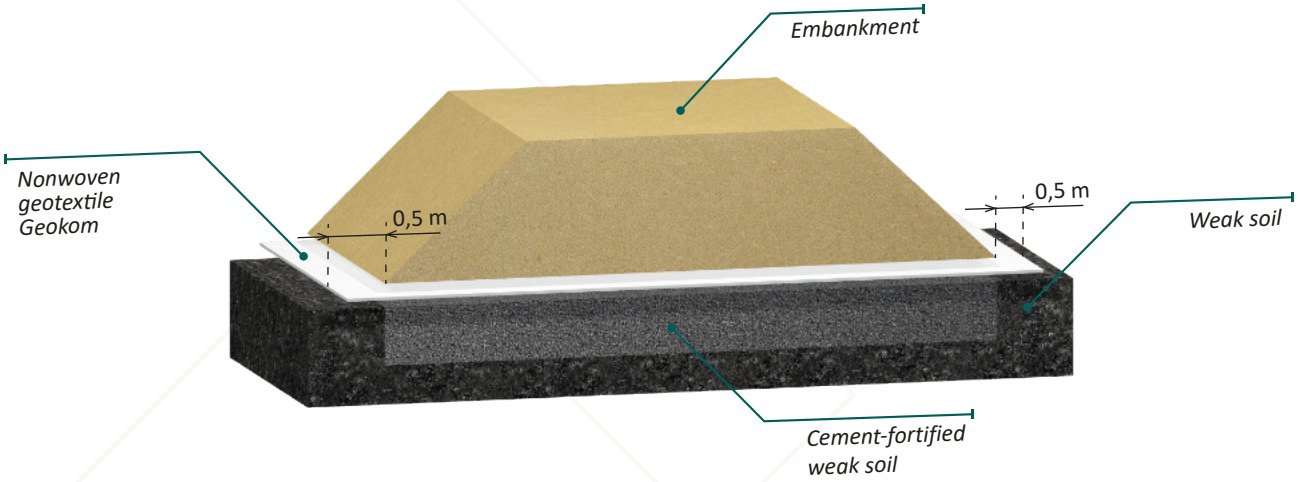


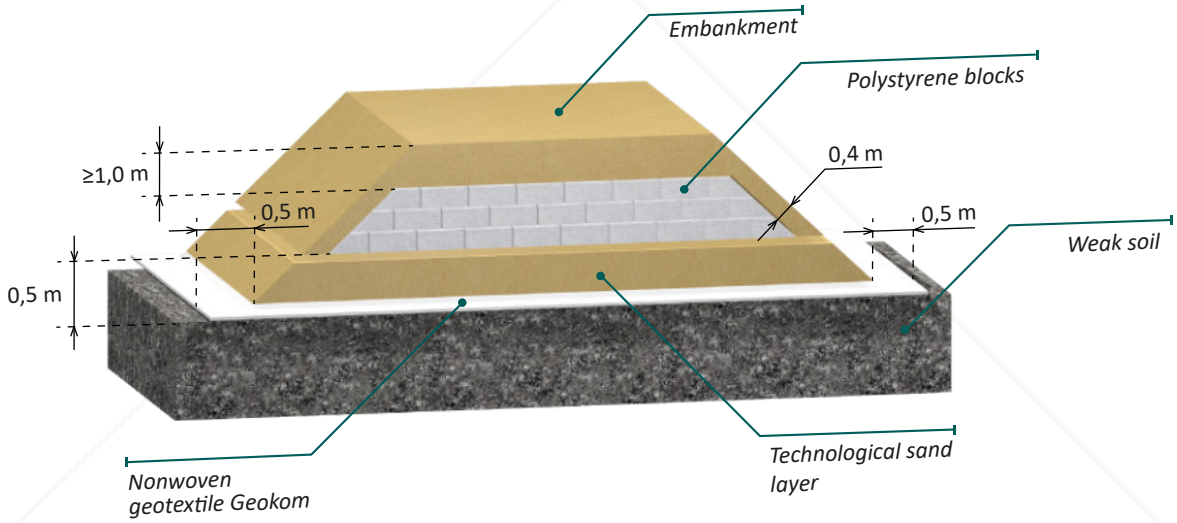




S – estimated settlement of the embankment

# Embankments on weak foundations

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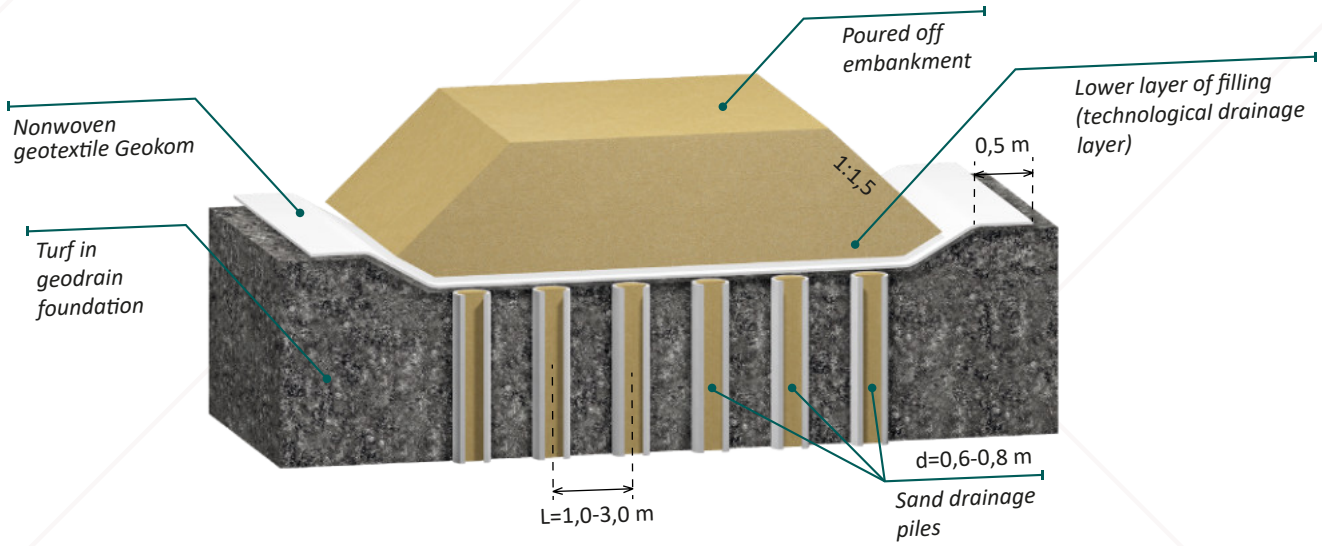


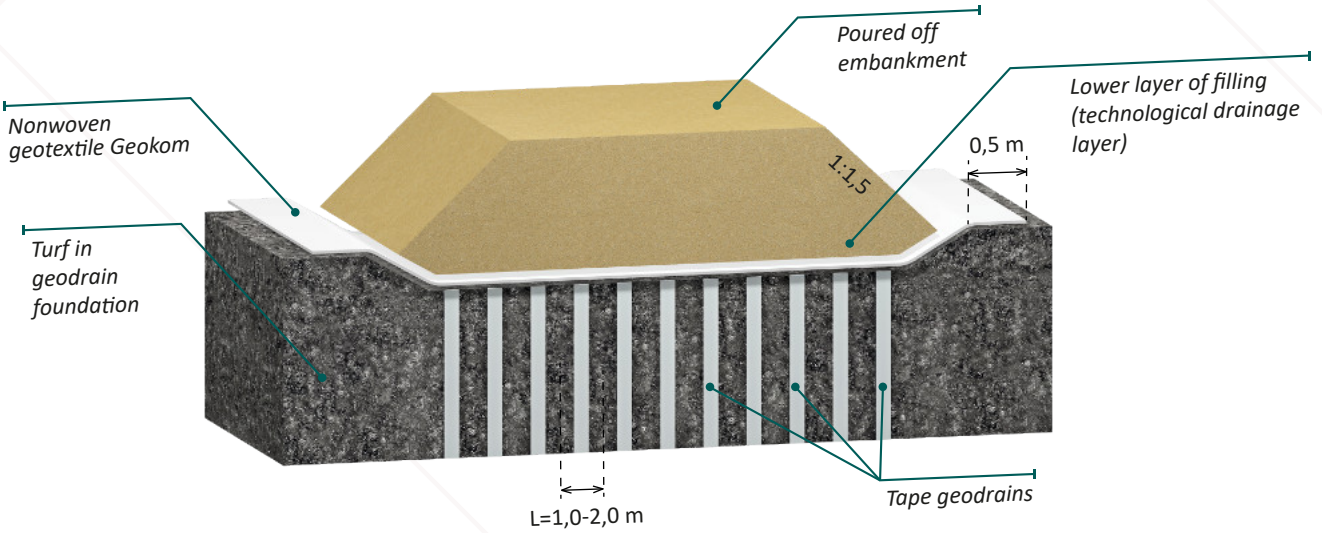


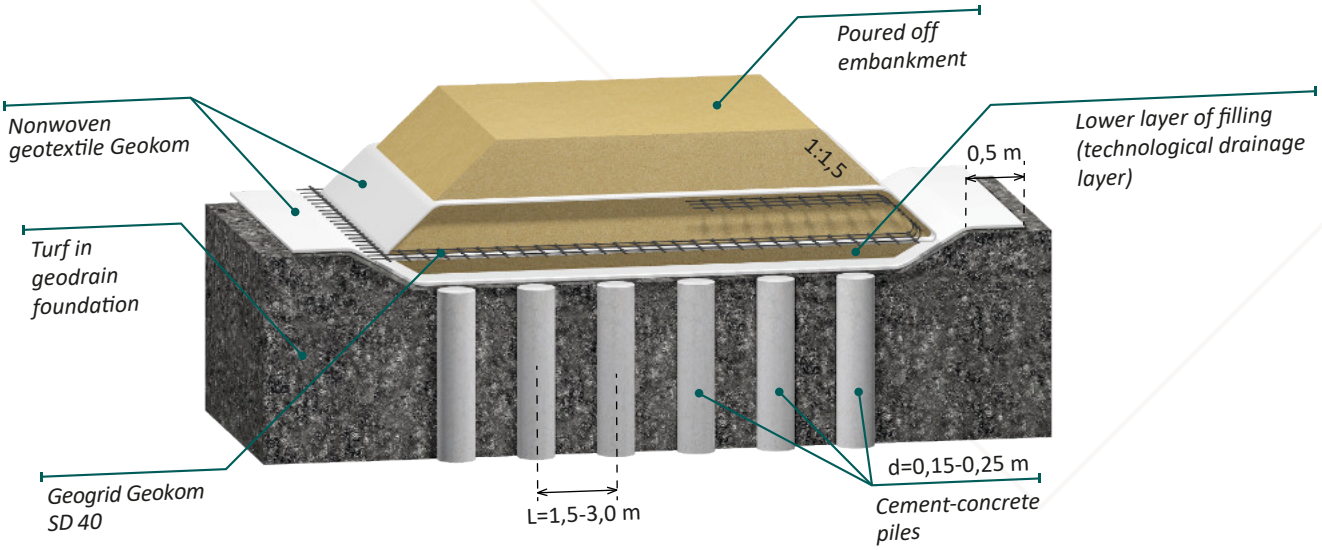

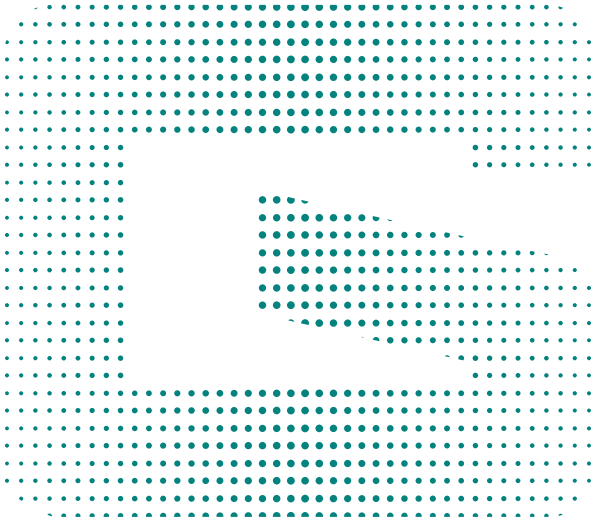

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