

## RGG-GE Geotextile

### Description

Geotextile, also known as geofabric, is a water-permeable geosynthetic material made of synthetic fibers by needle punching or weaving. The finished product is cloth-like, generally having a width of 4-6 meters and a length of 50-100 meters. Geotextiles are divided into woven geotextiles and non-woven geotextiles. Geotextiles are further divided into staple fiber needled geotextiles, filament spinning clay fabrics, woven geotextiles, composite geotextiles, woven geotextiles, and singeing geotextiles.

#### Short fiber needled geotextile:

It is a kind of non-woven and industrial fabric. Polyester crimped short fibers with a fiber fineness of 6-12 denier and a length of 54-64 mm are used as raw materials. Through the opening process of the non-woven production equipment, combing, messy (short fibers intertwined), laying (standardized entanglement and fixing), acupuncture and other production processes are made into a cloth. It is applied to the reinforcement of railway subgrade, the maintenance of highway pavement, the protection of sports halls, dams, the isolation of hydraulic structures, burrowing, beach coating, cofferdams, environmental protection and other projects.

#### Polyester filament geotextile:

Polyester filament geotextile is directly made by spinning needle-punching consolidation by polyester method. The product specification is arbitrarily selected from 80-800g/m<sup>2</sup>. It is a geosynthetic material used in geotechnical engineering and civil engineering. It is made by a method of forming and solidifying polyester filaments, and the fibers are arranged in a three-dimensional structure. In addition to good mechanical properties, it also has good vertical and horizontal drainage performance and good elongation properties and high chemical stability, such as bio-resistance, acid-base resistance and aging resistance. At the same time, it also has a wide pore size range, tortuous pore distribution, excellent permeability and filtration performance.



Short fiber needled geotextile



Polyester filament geotextile

## Specification

\*Dimensions can be customized according to customers' requirement

|           |  |
|-----------|--|
| Type      | Short fiber needled geotextile           |
| Thickness | 80g/m <sup>2</sup> ~1500g/m <sup>2</sup> |
| Width     | 1m-6m                                    |
| Length    | 50m-100m                                 |

|           |   |
|-----------|---|
| Type      | Polyester filament geotextile           |
| Thickness | 80g/m <sup>2</sup> ~800g/m <sup>2</sup> |
| Width     | 2m-6m                                   |
| Length    | 30m-100m                                |

## Advantage

1. Isolation, using geotextiles to isolate building materials (such as soil and sand, sand and gravel, soil and concrete, etc.) with different physical properties (granular diameter, distribution, consistency and density). The two kinds of materials are not lost or mixed, and the overall structure and function of the materials are maintained, so that the load bearing capacity of the structure is strengthened.
2. Filtration, when the fine soil layer flows into the coarse soil layer, the water flow is passed through the good gas permeability and water permeability of the needled geotextile, and the soil particles, fine sand and small stone are effectively intercepted to maintain the stability of the water and soil engineering.
3. Drainage, geotextile is a good water-conducting material, which can form a drainage channel

4. inside the soil to drain excess liquid and gas in the soil structure.
5. Reinforced, needled geotextiles enhance the tensile strength and resistance of the soil and increase the stability of the building structure to improve soil quality.
5. Protection, the ground will spread, transfer or decompose the concentrated stress to prevent the figure from being damaged by external force.
6. Closed, geotextiles are mated with other materials (mainly asphalt or plastic film) to form an impermeable barrier in the soil layer. (for road resurfacing, etc.)
7. High fracture, because the raw material uses polyester chips, it can maintain high strength in dry and wet conditions.
8. Acid and alkali corrosion resistance, can maintain the original physical indicators in soil and water of different pH.
9. The permeability coefficient is high. Because the production process is needle-punched and non-woven, it has good water permeability and maintains water and soil properties.
10. Anti-microbial, no damage to microorganisms or insects.
11. Convenient construction, because the material is light and soft, it is convenient to transport, lay and construct.

## Application

Widely used in geotechnical engineering such as water conservancy, electric power, mine, highway and railway: (1) Water conservancy project: seawall, river embankment, lake dike reaching standard project; reservoir reinforcement project; cofferdam project; flood control and rescue. (2) Highway and railway airport engineering: soft foundation reinforcement treatment; slope protection; pavement anti-reflection crack structure layer; drainage system; green belt. (3) Electrical engineering: nuclear power plant foundation engineering; thermal power ash dam project; hydropower station project. (4) Port channel engineering: port

### Application field

1) Reinforcement in backfilling of retaining walls, or panels used to anchor retaining walls. Construct a wrapped retaining wall or abutment.

2) Reinforce the flexible pavement, repair the cracks on the road, and prevent the pavement from reflecting cracks.

3) Increase the stability of gravel slopes and reinforced soil to prevent soil erosion and freezing damage of soil during low temperature.

4) The isolation layer between the roadway and the roadbed, or the isolation layer between the roadbed and the soft foundation.

5) Isolation between artificial fill, rockfill or material field and foundation, and isolation between different frozen soil layers. Filtration and reinforcement.

6) The filter layer of the initial upstream dam surface of the ash storage dam or tailings dam, and the filter layer of the drainage system in the backfill of the retaining wall.

7) Drain the dark pipe around or the gravel drains the filter around the dark ditch.

8) Filter layer of water well, relief well or diagonal pressure pipe in water conservancy project.

9) Segregation of geotextiles between the road, airport, railroad turnouts and artificial rockfills and foundations.

10) Vertical or horizontal drainage inside the earth dam, buried in the soil to dissipate the water pressure in the gap.

11) Drainage behind the anti-seepage geomembrane in the earth dam or earth embankment or in the lower part of the concrete facing.

12) Exclude water seepage around the tunnel, reduce the external water pressure on the lining and seepage around the buildings.

13) Drainage of the base of the ground-based sports ground.

14) Roads (including temporary roads) are used to strengthen soft foundations in railways, embankments, earth-rock dams, airports, sports fields, etc.

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