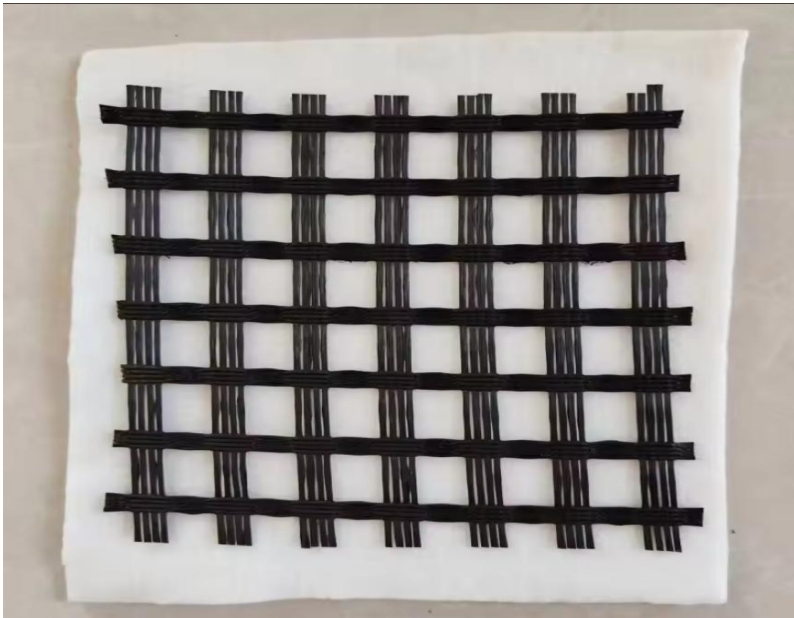




## Warp Knitted Polyester grid Composite Geotextile

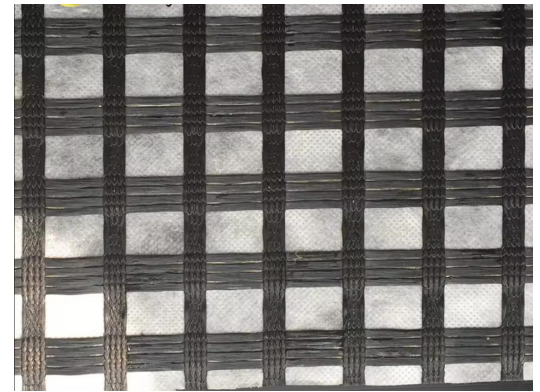
Warp-knitted polyester grid composite geotextile is a new geotechnical material made of polyester fiber (or synthetic fiber) as reinforcing material and compounded with broken needle-punched non-woven geotextile. Warp knitted polyester grid composite geotextile can be used for reinforcement, isolation and protection, and has good water gathering and water conduction functions. Because its solid matrix and pores are continuous phases and have a porous filtering effect, it is a multifunctional geocomposite material and is also a high-level base material for geocomposite applications in the world today.

Warp-knitted polyester grid conforms to geotextile, which is different from general woven fabrics. Its characteristic is that the intersection points of warp and weft are not bent, and each is in a straight state. Bind the two firmly with binding wires, which can synchronize evenly, withstand external forces and distribute stress. When the external force is applied to tear the material, the yarns will gather along the crack to increase the tear resistance.



[Warp Knitted Polyester grid Composite Geotextile]

When warp knitting is compounded, the warp knitting binding thread is used to repeatedly pass between the warp, weft yarns and the fiber layers of the short fiber needle punched geotextile, so that the three are integrated into one. Therefore, the warp-knitted composite geotextile not only has the characteristics of high tensile strength and low elongation, but also has the performance of needle-punched fly woven fabric. Therefore, the warp-knitted composite geotextile can be used for reinforcement, isolation and protection. It has a three-dimensional overall normal and horizontal function of better water gathering and water conduction. Because its solid matrix and pores are continuous phases and have a porous filtering effect, it is a multifunctional geocomposite material and is also a high-level base material for geocomposite applications in the world today.



### Warp Knitted Polyester grid Composite Geotextile Features:

- The stabilizing effect of reinforcement: it can transfer or distribute the local stress acting on the soil to a larger area, stably limiting the deformation and settlement of geotechnical engineering during long-term use.
- Isolation effect: Geotextiles are used to isolate different geotechnical structural materials to form interfaces, so that they can exert their respective characteristics and overall effects according to design requirements.
- Protective effect: Geotextile has good puncture resistance and good protective performance.
- Drainage and reverse filtration: Geotextile can allow water to pass through and block the loss of sand particles. Placing the geotextile horizontally in the flowing liquid channel with suspended particles has the function of blocking fine mud particles and allowing liquid to pass through.

## APPLICATION

Warp-knitted polyester grid composite geotextile are used extensively for road and railway construction, landfills, airports and hydraulic engineering and also to provide crack control and pavement reinforcement of roads.

## SPECIFICATIONS OF WARP KNITTED POLYESTER GRID COMPOSITE GEOTEXTILE

Composite Geotextiles Technical Parameters							
Categories	Model	Cracking-intensity (KN/m)		Break elongation ratio (%)		Mesh Size (mm*mm)	Breadth (m)
		Longitudinal	Crosswise	Longitudinal	Crosswise		
High Strength Polyester Fiber Composite Geotextile	GPN25/150	≥25	≥25	≤20	≤20	12~50	2~6
	GPN50/150	≥50	≥50	≤20	≤20	12~50	2~6
	GPN80/150	≥80	≥80	≤20	≤20	12~50	2~6
High Strength Polyester Fiber Geogrid Composite Geotextile	GPM25/150	≥25	≥25	≤20	≤20	12~50	2~6
	GPM50/150	≥50	≥50	≤20	≤20	12~50	2~6
	GPM80/150	≥80	≥80	≤20	≤20	12~50	2~6

## ADVANTAGE OF WARP KNITTED POLYESTER GRID COMPOSITE GEOTEXTILE

This product has high strength, light weight, easy construction, acid and alkali resistance, corrosion resistance, high and low temperature resistance, anti-aging, long service life, flame retardant, antistatic and other properties. It can be widely used in coal mine unmined moving face removal, coal mining face false roof support engineering, tunneling face protection and roof protection engineering, end-to-end end-end support, coal mine anchor shot blasting tunnels, temporary and permanent support of tunnels, etc.

1. As a false roof for layered mining of thick coal seams, high-modulus, high-strength polyester filaments are bundled and woven into a matrix, and a layer of flame-retardant and electrostatically conductive coating is coated on the surface of the body. The shearer can directly hinge It breaks without causing sparks, reducing the occurrence of underground fires and gas explosions.
2. Because this component is high-modulus, high-strength polyester filament, it is light and easy to transport and construct.
3. It is suitable for the special conditions of coal mines and is resistant to acid and alkali corrosion and aging, so it has a long service life and can reduce safety hazards and production costs.
4. It is not easy to scratch workers, which facilitates construction and improves work efficiency.
5. Strong, soft, light weight and high tensile strength.
6. This product also has good properties of flame retardant and static electricity. Through the technical treatment of the coating, it has double anti-static indicators.





## PROJECTS CASE OF WARP KNITTED POLYESTER GRID COMPOSITE GEOTEXTILE



[Airport subgrade reinforcement in Sudan]



[Reinforcement of expressway in Senegal]

### WARP KNITTED POLYESTER GRID COMPOSITE GEOTEXTILE CONSTRUCTION

#### Construction method of geogrid:

- The paving surface of the geogrid should be relatively flat. After the paving layer has passed the acceptance inspection, in order to prevent longitudinal skew, first draw a white line or a hanging line on the paving layer according to the width, and then the paving can begin. Fix the ends of the grille with iron nails (8 nails per meter wide, fixed at even distances).
- After fixing the ends of the grille, use a paving machine to slowly pull the grille forward. Manually tighten and straighten it every 10 meters until one roll of grille is laid, and then lay the next roll. Volume, the operation is the same as before.
- After paving one roll, use a 6T-10T roller to roll it from the starting point in the forward direction. (If it is paved on the mid-surface layer and leveling layer, it is better to use a steel roller roller; if the grid is laid directly on the concrete pavement, it is better to use a rubber roller roller.).
- Joint paving: The unit of roll length is used as the paving section length. After the section length that should be paved with grating is covered, the overall paving quality is checked again, and then the next section is paved.
- When paving the next section, the grid and grating can be overlapped with a length of 10-15CM and fixed with iron nails or wooden wedges before continuing to pave the second section in the forward direction. By analogy, the operation requirements are the same as before.

1. Used in back-filtration protection of retaining walls, road slopes, reservoir dams, earth-rock cofferdams, tunnels, and drainage ditches.
2. It is used for drainage between road slopes, roadbeds, the backside of mountain retaining walls on Yanshan Road, the lower layer of railway ballast, and highway roadbeds and roads.
3. Used in the isolation of soft soil and rocks in building cofferdams, wharves, and embankments, the isolation and protection of landfill bottoms and anti-seepage layers, the isolation between landfill filter materials and garbage, asphalt pavements and Isolation and pavement reinforcement of roadbed.
4. Used in layered reinforcement and drainage of slopes such as highways and railways, and drainage reinforcement of backfill roadbeds and dams.
5. Used in the protection of anti-seepage layers in artificial lakes, rivers, reservoirs and other anti-seepage projects.
6. Used in landscape greening projects to isolate the grassroots layer from the green planting layer.
7. Used for drainage and reinforcement of soft foundation to enhance the bearing capacity of the roadbed.

