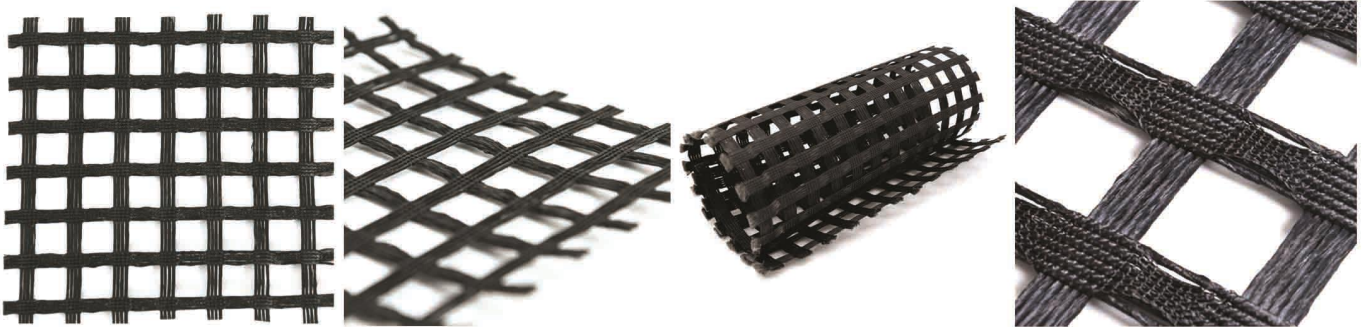


Polyester Warp Knitted Geogrid

Product Introduction

Polyester Warp Knitted Geogrid is a grid-shaped geosynthetic material made from high-strength polyester fibers that are manufactured using a warp-knitting process. It's often coated with a polymer (like PVC) to enhance its durability and resistance to environmental factors. It's sometimes referred to as "fiber soft steel" due to its reinforcing capabilities.



How it Works:

Polyester Warp Knitted Geogrid works by providing tensile reinforcement to soil, much like rebar reinforces concrete. Here's a breakdown of its mechanism:

Interlocking and Confinement:

- When the geogrid is laid within a soil or aggregate layer (e.g., in a roadbed or retaining wall), the open apertures (holes) of the grid allow the soil particles to interlock with the geogrid ribs. This interlocking mechanism creates a strong bond between the geogrid and the soil.

Load Distribution:

- As external loads are applied (e.g., from traffic on a road), the geogrid helps to distribute these loads over a wider area. Instead of the load being concentrated in a small section of soil, the geogrid transfers and disperses the stress, reducing the likelihood of localized deformation or failure.

Increased Shear Resistance:

- By confining the soil particles and preventing their lateral displacement, the geogrid significantly increases the soil's shearing resistance. This means the soil can withstand greater shear forces before deforming or collapsing.

Reduced Deformation and Settlement:

- The high tensile strength and low elongation of the polyester fibers mean that the geogrid can withstand significant pulling forces with minimal stretching. This helps to prevent excessive deformation, settlement, and cracking in the reinforced soil structure, extending its lifespan.

Improved Bearing Capacity:

- By improving the soil's strength and stability, the geogrid enhances the overall bearing capacity of the foundation or structure. This allows the reinforced soil to support heavier loads than it could otherwise.

In essence, the Polyester Warp Knitted Geogrid acts as a tension-resisting element within the soil mass, transforming a weak, unreinforced soil into a stronger, more stable composite material.

Common Applications:

Polyester Warp Knitted Geogrids are widely used in various civil engineering projects, including:

- Road and Railway Construction: Reinforcing soft subgrades to improve bearing capacity, prevent rutting, and delay reflective cracks.
- Embankment and Slope Reinforcement: Stabilizing slopes and preventing erosion.
- Retaining Walls: Providing internal reinforcement to increase the strength and stability of earth-retaining structures.
- Landfills: Reinforcing liner systems and access roads.
- Airport Pavements and Parking Lots: Enhancing the load-bearing capacity of foundations.
- Water Conservancy Projects: Reinforcing dams and river channels.

Product Specifications

Index Properties		Test Method	Unit	PET30-30	PET50-50	PET60-60	PET80-80	PET100-100	PET120-120	PET150-150	PET400-400	
Ultimate Tensile Strength	MD	EN ISO 10139	kN/m	30	50	60	80	100	120	150	400	
	CD		kN/m	30	50	60	80	100	120	150	400	
Elongation At Maximum Load	MD		%	13								
	CD		%	13								
Approximate Mesh Size			mm	12.7×12.7			25.4×25.4	40×40				
Roll Width		-	m	1-6								
Roll Length		-	m	50-200								

Index Properties		Test Method	Unit	PET40-25	PET50-35	PET60-30	PET80-30	PET100-30	PET150-30	PET200-30	PET400-50	PET600-50	
Ultimate Tensile Strength	MD	EN ISO 10139	kN/m	25	35	30	30	30	30	30	50	50	
	CD		kN/m	40	50	60	80	100	150	200	400	600	
Elongation At Maximum Load	MD		%	13									
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Product Gallery

