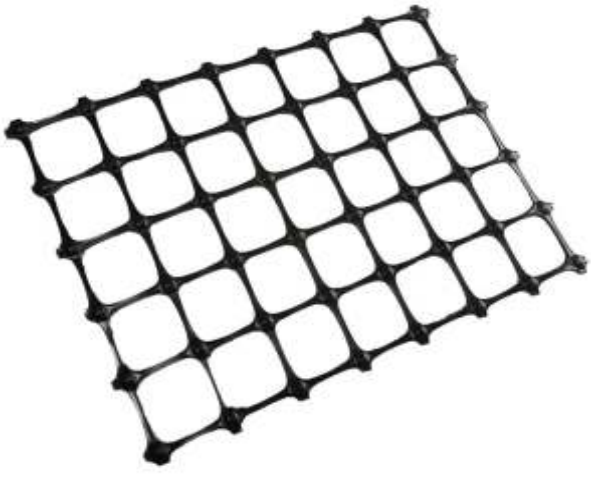
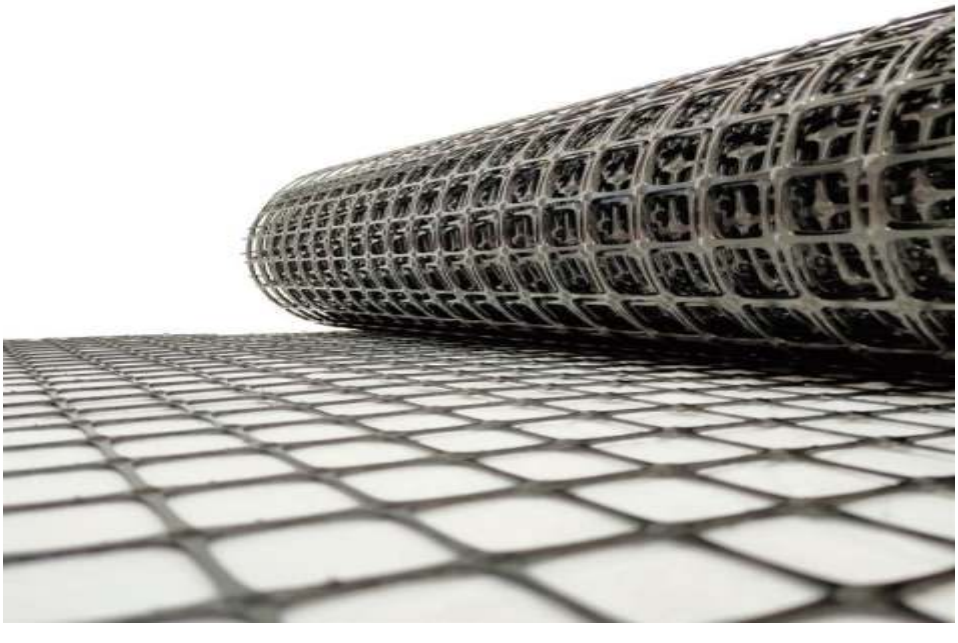


Biaxially stretched PP geogrid

Biaxially stretched polypropylene geogrid is made of high molecular polymer, which is plasticized and extruded into sheets, punched, heated and then stretched longitudinally and transversely.

PP biaxial geogrid is a versatile geosynthetic material that offers excellent reinforcement and stabilization properties. With its high tensile strength, durability, and interlocking structure, it is suitable for a wide range of civil engineering applications. Whether it is road construction, slope stabilization, landfill projects, or coastal protection, PP biaxial geogrid provides an effective solution for enhancing soil stability and extending the lifespan of infrastructure projects.

Biaxially stretched plastic geogrids have great tensile strength in both longitudinal and transverse directions. This structure can provide a more effective chain system for bearing and diffusing forces in soil, suitable for large-scale permanent bearing foundation reinforcement.



[Biaxially stretched PP geogrid]

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Biaxially stretched PP geogrid Features:

- High Tensile Strength: PP biaxial geogrid is manufactured using a unique extrusion process that ensures high tensile strength in both longitudinal and transverse directions. This allows it to effectively distribute loads and provide stability to the soil .
- Excellent Durability: The geogrid is resistant to chemical and biological degradation, making it suitable for long-term applications. It can withstand harsh environmental conditions, including exposure to UV radiation, moisture, and temperature variations .
- Lightweight and Flexible: PP biaxial geogrid is lightweight, making it easy to handle and install. Its flexibility allows it to conform to irregular surfaces and accommodate differential settlements without compromising its performance.
- .Interlocking Structure: The geogrid features an interlocking structure with integral nodes and ribs. This design enhances its load distribution capabilities and prevents lateral movement of the soil particles. It also improves the connection between the geogrid and the soil, increasing its overall stability.
- Decrease underlayer thickness and save manufacturing cost.

APPLICATION

Suitable for various types of embankment and roadbed reinforcement, slope protection, tunnel wall reinforcement, and permanent bearing foundation reinforcement for large airports, parking lots, docks and freight yards.

PP biaxial geogrid is widely used in road and pavement construction to improve the bearing capacity of weak soils, prevent cracking and rutting, and extend the service life of the infrastructure.The geogrid provides reinforcement to soil structures, such as retaining walls and slopes, preventing soil erosion, and maintaining stability.

BIAXIALLY STRETCHED PP GEOGRID

BIAXIALLY STRETCHED PP GEOGRID										
Property	Test Method	Unit	1515		2020		3030		4040	
			MD	TD	MD	TD	MD	TD	MD	TD
Polymer			PP							
Mininum Carbon Black	ASTM D4218	%	2							
Tensile Strength @ 2% Strain	ASTM D6637	KN/M	5	5	7	7	10.5	10.5	14	14
Tensile Strength @ 5% Strain	ASTM D6637	KN/M	7	7	14	14	21	21	28	28
Ultimate Tensile Strength	ASTM D6637	KN/M	15	15	20	20	30	30	40	40
Strain @ Ultimate Strength	ASTM D6637	%	13	10	13	10	13	10	13	10
Junction Efficiency	GRI GG2	%	93		93		93		93	
Flexural Rigidity	ASTM D1388	Mg-cm	700,000		1,000,000		3,500,000		1,000,000	
Aperture Stability	COE Method	mm-N/Deg	646		707		1432		2104	
Roll Width		M	3.95							
Roll Length		M	50							
Roll Weight		Kg	39		50		72		105	
MD denotes machine direction. TD denotes transverse direction.										

Item	Longitudinal and Transverse Tensile Strength (KN/M)	Longitudinal and Transverse Tensile Strength (KN/M)	Longitudinal and Transverse Tensile Strength at 5% Elongation (KN/M)	Longitudinal and Transverse Normianal Elongation
1515	≥15	≥5	≥7	≤15/13
2020	≥20	≥7	≥14	
2525	≥25	≥9	≥17	
3030	≥30	≥10.5	≥21	
3535	≥35	≥12	≥24	
4040	≥40	≥14	≥28	
4545	≥45	≥16	≥32	
5050	≥50	≥17.5	≥35	
Refer to GB/T17689-2008, MT141-2005 Standard. the internal control index of the extension rate is ≤10				

PROJECTS CASE OF BIAXIALLY STRETCHED PP GEOGRID

[Cement pavement renovation in Ethiopia]

[Landfill Application in Sudan]

BIAXIALLY STRETCHED PP GEOGRID 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.

• Road and Pavement Construction: PP biaxial geogrid is widely used in road and pavement construction to improve the bearing capacity of weak soils, prevent cracking and rutting, and extend the service life of the infrastructure .

• Landfill and Mining Applications: PP biaxial geogrid is used in landfill and mining applications to enhance the stability of the soil, control soil erosion, and prevent the migration of contaminants.

• Retaining Walls and Slope Stabilization: The geogrid provides reinforcement to soil structures, such as retaining walls and slopes, preventing soil erosion, and maintaining stability. .

• Railway and Airport Construction: The geogrid is employed in railway and airport construction to improve the load-bearing capacity of the subgrade, reduce settlement, and increase the overall performance of the infrastructure.

• Coastal and Riverbank Protection: PP biaxial geogrid is utilized in coastal and riverbank protection projects to prevent erosion, stabilize the soil, and provide long-term stability to the shoreline.