SHANDONG GREENLAND ENGINEERING MATERIAL CO., LTD.

ISO9001: 2015, ISO45001: 2018, ISO14001: 2015, CE, CNAS, CRCC



Geogrid Products: Biaxially stretched HDPE geogrid



Biaxially stretched HDPE 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 HDPE geogrid]

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Biaxially stretched HDPE 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.

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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.

- 1. Increase the bearing capacity of the road (ground) foundation and extend its service life.
- 2. Prevent road (ground) collapse or cracks, and maintain a beautiful and tidy ground.
- 3.Convenient construction, time-saving, labor-saving, shortened construction period, and reduced maintenance costs.
- 4. Prevent cracks in culverts.
- 5. Strengthen soil slopes to prevent soil erosion.
- 6. Reduce the thickness of the cushion layer and save costs.
- 7. Support the stability and greening environment of the slope planting mat.

SPECIFICATIONS OF BIAXIALLY STRETCHED HDPE GEOGRID

Biaxially Stretched HDPE Geogrid						
ITEM	TGSG15- 15	TGSG20- 20	TGSG30- 30	TGSG40- 40	TGSG45- 45	TGSG50- 50
width (m)	1-6m					
Extends the rice longitudinal stretch to submit every time the strength (KN/m)≥sqm	15	20	30	40	45	50
Extends the rice crosswise stretch to submit every time the strength (KN/m)≥ sqm	15	20	30	40	45	50
ongitudinally to submit the elongation ratio,%≤	16					
Crosswise submits the elongation ratio,%≤	13					
2%Time longitudinal crosswise elongation ratio drawing force,KN/m	5	7	10.5	14	16	17.5
5%Time longitudinal crosswise elongation ratio drawing force,KN/m	7	14	21	28	32	35

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PROJECTS CASE OF BIAXIALLY STRETCHED HDPE GEOGRID



[Foundation reinforcement in Sudan]

BIAXIALLY STRETCHED HDPE 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.

[Landfill Application in Tunisia]

• It reinforces old asphalt concrete road surface and asphalt surface layer, and prevents damage.

• It is used for rebuilding cement concrete road surface into composite road surface and restraining reflection caused by lock contraction.

• It is used in road expansion and improvement project and crack caused by old combination position and uneven sedimentation.

• It is used in soft soil base reinforcement treatment, is favorable for soft soil water separation and concretion, restrains sedimentation effectively, distributes stress uniformly and improve overall strength.

• It is used for prevention contraction crack caused by new rode semi-rigid base layer, and reinforcing and preventing road surface crack.

• HDPE geomembrane is suitable for aquaculture industry: intensive, factory breeding ponds, fish ponds, lining of shrimp ponds, sea cucumber circle slope, etc.

