

Construction Nets

Geogrid



Geogrids are made by extruding a polymer, such as polypropylene or high-density polyethylene, into sheets, which are then stamped into a regular mesh pattern and stretched. It is a geosynthetic material with an open grid-like appearance.

It can be stretched in different directions, and are generally divided into uniaxial geogrids and biaxial geogrids. In addition to, there are also the multi-axis plastic geogrids (triax plastic geogrids and quad-axis plastic geogrids). It is widely used for retaining wall reinforcement, highway, railway, slope foundation reinforcement and subgrade reinforcement, etc.

FEATURES

- ✓ Made of HDPE or PP, durable, high rigidity and strength.
- ✓ UV stabilizer is added to make it can be used in outdoors for a long time.
- ✓ Chemical resistant and biological resistant.
- ✓ High tensile strength and uniform load distribution over a large area.
- ✓ The joints between ribs are formed in one piece to make it have a stable structure to enhance the load-bearing capacity of the subgrade and extend the lifespan of the road.
- ✓ It helps to solve civil and geotechnical engineering problems in or on the ground and provides a stabilization or reinforcement function.
- ✓ Simple installation and operation, low construction costs.

Uniaxial Plastic Geogrid

It is a geogrid that is stretched laterally to form a long rectangular grid pattern. Uniaxial plastic geogrid generally has a compact structure, good bending stiffness and high strength and is widely used in retaining walls, steep slopes, embankments, bridge abutments and collapse repair projects for reinforcement.



Uniaxial Plastic Geogrid (PP)

Model	Content of Carbon Black (%)	Tensile Strength (kN/m)	Tensile Strength at 2% Elongation (kN/m)	Tensile Strength at 5% Elongation (kN/m)	Limit Creep Strength(kN/m)	Nominal Elongation (%)
TGDG35	≥ 2.0	≥ 35.0	≥ 10.0	≥ 22.0	≥ 15	≤ 10.0
TGDG50	≥ 2.0	≥ 50.0	≥ 12.0	≥ 28.0	≥ 21	≤ 10.0
TGDG80	≥ 2.0	≥ 80.0	≥ 26.0	≥ 48.0	≥ 30.2	≤ 10.0
TGDG120	≥ 2.0	≥ 120.0	≥ 36.0	≥ 72.0	≥ 41	≤ 10.0
TGDG160	≥ 2.0	≥ 160.0	≥ 45.0	≥ 90.0	≥ 49	≤ 10.0
TGDG200	≥ 2.0	≥ 200.0	≥ 56.0	≥ 112.0	≥ 64	≤ 10.0

Uniaxial Plastic Geogrid (HDPE)

Model	Content of Carbon Black (%)	Tensile Strength (kN/m)	Tensile Strength at 2% Elongation (kN/m)	Tensile Strength at 5% Elongation (kN/m)	Limit Creep Strength(kN/m)	Nominal Elongation (%)
TGDG35	≥ 2.0	≥ 35.0	≥ 7.5	≥ 21.5	≥ 16	≤ 11.5
TGDG50	≥ 2.0	≥ 50.0	≥ 12.0	≥ 23.0	≥ 21	≤ 11.5
TGDG80	≥ 2.0	≥ 80.0	≥ 21.0	≥ 40.0	≥ 31	≤ 11.5
TGDG120	≥ 2.0	≥ 120.0	≥ 33.0	≥ 65.0	≥ 46	≤ 11.5
TGDG160	≥ 2.0	≥ 160.0	≥ 47.0	≥ 93.0	≥ 60	≤ 11.5

Biaxial Plastic Geogrid

It is a geogrid that is stretched both horizontally and vertically compared with laterally stretched uniaxial geogrid.

It is widely used in highways, railways, airports, docks for soft foundation treatment and in slopes, embankments, bank protection, road widening, highway pavement, airport road surface and other projects for reinforcement.



Biaxial Plastic Geogrid (PP)

Model	Content of Carbon Black (%)	Longitudinal/Transverse Tensile Strength (kN/m)	Longitudinal/Transverse Tensile Strength at 2% Elongation (kN/m)	Longitudinal/Transverse Tensile Strength at 5% Elongation (kN/m)	Longitudinal/Transverse Nominal Elongation (%)
TGDG1515	≥ 2.0	≥ 15.0	≥ 5.0	≥ 7.0	≤ 15.0/13.0
TGDG2020	≥ 2.0	≥ 20.0	≥ 7.0	≥ 14.0	≤ 15.0/13.0
TGDG2525	≥ 2.0	≥ 25.0	≥ 9.0	≥ 17.0	≤ 15.0/13.0
TGDG3030	≥ 2.0	≥ 30.0	≥ 10.5	≥ 21.0	≤ 15.0/13.0
TGDG3535	≥ 2.0	≥ 35.0	≥ 12.0	≥ 24.0	≤ 15.0/13.0
TGDG4040	≥ 2.0	≥ 40.0	≥ 14.0	≥ 28.0	≤ 15.0/13.0
TGDG3535	≥ 2.0	≥ 35.0	≥ 12.0	≥ 24.0	≤ 15.0/13.0
TGDG4040	≥ 2.0	≥ 40.0	≥ 14.0	≥ 28.0	≤ 15.0/13.0

Multi-Axial Plastic Geogrid

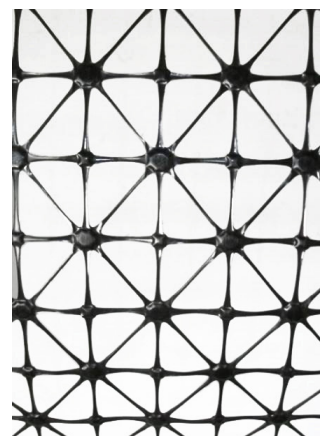
Multi-axial plastic geogrid is generally divided into 2 types, they are triaxial plastic geogrid and quad-axial plastic geogrid.

✓ Triaxial Plastic Geogrid

It is a geogrid that is stretched along equilateral directions to form a triangular structure, and it has a higher tensile strength than uniaxial and biaxial plastic geogrids. It is widely used in the transportation field that requires high load-bearing capacity.

✓ Quad-Axial Plastic Geogrid

It is the most stable and durable structure among all geogrids. PP quad-axial plastic geogrid has great UV resistance, chemical and biological resistance. In addition, its stretching along transverse, longitudinal and 45 degree directions provide the maximum tensile strength for geogrids.



Multi-Axial Plastic Geogrid (PP)

Model	Content of Carbon Black (%)	Tensile Strength (kN/m)	Tensile Strength at 2% Elongation (kN/m)	Tensile Strength at 5% Elongation (kN/m)	Nominal Elongation (%)	Secant Modulus at 2% Strain (kN/m)	Secant Modulus at 5% Strain (kN/m)
TGDXG10×4 PP	≥ 2.0	≥ 10.0	≥ 4.0	≥ 6.0	≤ 13.0	≥ 200	≥ 120
TGDXG15×4 PP	≥ 2.0	≥ 15.0	≥ 6.0	≥ 8.0	≤ 13.0	≥ 300	≥ 160
TGDXG20×4 PP	≥ 2.0	≥ 20.0	≥ 8.0	≥ 16.0	≤ 13.0	≥ 400	≥ 320

