



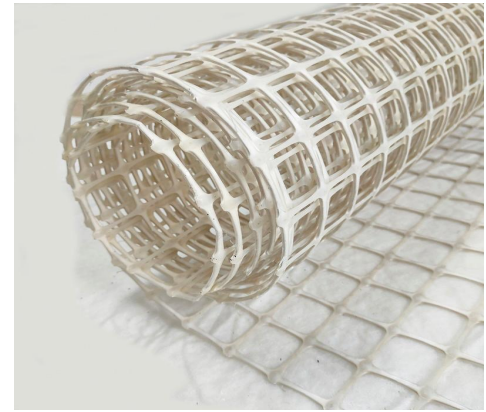
Mining Plastic Geogrid

Mining plastic geogrid is made of high molecular polymer as the main raw material, which is extruded and stretched. It is mainly used for slope reinforcement, soil stabilization, drainage ditch construction, etc. in mining projects, aiming to improve the overall stability of the soil, prevent water and soil erosion, and ensure safe production of mines.

It has high tensile modulus and tensile strength, durable resistance to mechanical damage, and makes the soil and stone can bear force under various harsh environments.

Mining Plastic Geogrid is made of polypropylene. It is produced through through several processes: extruding, punching, heating, longitudinal stretching and transverse stretching. It has a high tensile strength. After adding some percent of carbon black material, it makes the product good acid and alkali resistance, corrosion resistance and ageing resistance and durability.

Warp-knitted polyester geogrid adopts high strength polyester industrial filament, weaving warp mesh fabric through warp knitting, and processing it into geogrid by PVC coating. It is applied to the treatment of soft soil foundation and reinforcement of subgrade, dyke and other projects, so as to improve the quality of the project and reduce the cost of the project.



WARP-KNITTED POLYESTER GEOGRID Features:

- High tensile strength - the yield strength of each linear meter in both vertical and horizontal directions can reach 20-150KN, which has been tested by the Product Quality Supervision and Inspection Center of the Ministry of Transportation, Railways, and Water Resources.
- Small deformation - yield elongation of convex node steel plastic geogrid $\leq 3\%$; The yield elongation of convex node plastic geogrid is $\leq 10\%$.
- High node strength - This product uses a fused cast convex node type connection to form a grid with longitudinal and transverse ribs. Its node strength is high, with a shear strength of $\leq 1.5\text{MPa}$ at welded grid nodes and an ultimate peeling force of $\geq 300\text{N}$ at convex grid nodes.
- Long service life - plastic is a material for protecting high-strength steel wire, and it is also a force bearing material for plastic grid. It has chemical properties of acid, alkali and salt corrosion resistance, and has anti-aging and anti-oxidation properties through scientific formulation..
- Good effect - the grid network melting cast convex node structure enhances the interlocking and interlocking effect between the grid and the rock and soil, can constrain the lateral displacement of the soil.



[Warp-knitted polyester geogrid]

Polyester warp knitted geogrid adopts high strength polyester industrial filament, weaving warp mesh fabric through warp knitting, and processing it into geogrid by PVC coating. It is applied to the treatment of soft soil foundation and reinforcement of subgrade, dyke and other projects, so as to improve the quality of the project and reduce the cost of the project.

They are resistant to chemical and biological degradation, making them durable and long-lasting. Additionally, polyester geogrids have high tensile strength and low elongation, allowing them to effectively distribute loads and reduce deformation in the soil.

Geogrid Products: Mining Plastic Geogrid

APPLICATION

Mining plastic geogrid is suitable for presumptive support of underground working faces and roadway mutual support in coal mines and non-coal mines, and can also be used for engineering support such as subways and tunnels.

SPECIFICATIONS OF MINING PLASTIC GEOGRID

MINING PLASTIC GEOGRID-ASTM

Item		Test Method	TGSG	TGSG	TGSG	TGSG	TGSG	TGSG
			15-15	20-20	30-30	40-40	50-50	60-60
Ultimate tensile strength(1)(kN/m)	MD		15	20	30	40	50	60
	CD		15	20	30	40	50	60
Elongation a maximum load (%)	MD		13					
	CD		13					
Tensile strength at 2 %elongation (kN/m)	MD		5	7.5	10.5	14	18	27.5
	CD		5	7.5	10.5	14	18	27.5
Tensile strength at 5 %elongation (kN/m)	MD	ASTM D 6637	7	14	21	28	35	48
	CD		7	14	21	28	35	48
Minimum Carbon Black	%	ASTM D 4218	2					

MINING PLASTIC GEOGRID

Item	Test Method	Unit	GG1515	GG2020	GG3030	GG4040
			MD TD	MD TD	MD TD	MD TD
Polymer			PP	PP	PP	PP
Minimum Carbon Black	ASTM D 4218	%	2	2	2	2
Tensile Strength@ 2% Strain	ASTM D 6637	Kn/m	5 5	7 7	10.5 10.5	14 14
Tensile Strength@ 5% Strain	ASTM D 6637	Kn/m	7 7	14 14	21 21	28 28
Ultimate Tensile Strength	ASTM D 6637	Kn/m	15 15	20 20	30 30	40 40
Strain @ Ultimate Strength	ASTM D 6637	%	13 10	13 10	13 10	13 10
Structural Integrity						
Junction Efficiency	GRI GG2	%	93	93	93	93
Flexural Rigidity	ASTM D 1388	Mg-cm	700000	1000000	3500000	10000000
Aperture Stability	COE Method	mm-N/deg	646	707	1432	2014
Dimensions						
Roll Width	--	M	3.95	3.95	3.95	3.95
Roll Length	--	M	50	50	50	50
Roll Weight	--	KG	39	50	72	105
MD denotes Machine direction. TD denotes transverse direction.						

PROJECTS CASE OF MINING PLASTIC GEOGRID



[Foundation reinforcement in Algeria]



[Landfill Application in South Africa]

MINING PLASTIC 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.

- Various high-grade roads, railway soft roadbed reinforcement, and different soil materials for each road.
- Reinforcement, isolation, and reinforcement of soft soil foundations for embankments and waterways in hydraulic engineering, enhancing their protective capacity, and improving the bearing capacity and stability of the foundation.
- Used for reinforcing embankment slopes and retaining walls to enhance overall strength.
- Landfill liners: Polyester geogrids are used in landfill liners to provide reinforcement and prevent the leakage of hazardous materials into the environment.
- Erosion control: Polyester geogrids are used in erosion control applications, such as shoreline protection, riverbank stabilization, and land reclamation projects.

