Biaxial Geogrid

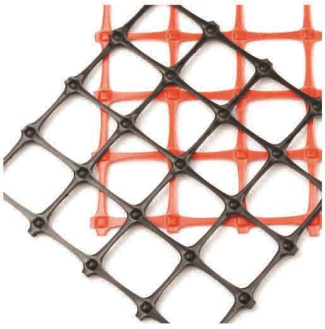
Product Introduction

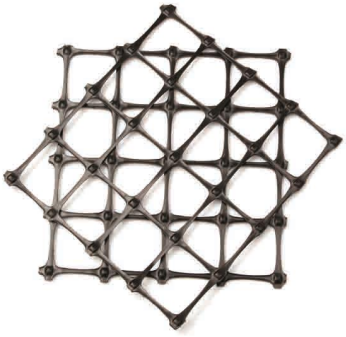
What is a Biaxial Geogrid?

Biaxial Geogrids are manufactured from polymeric materials such as polypropylene (PP). The manufacturing process usually involves extruding a polymer sheet, then perforating it, and finally stretching it in both perpendicular directions (longitudinal and transverse) under heat. This biaxial stretching process aligns the polymer molecules in both directions, giving the geogrid high tensile strength and low elongation in both axes.

The grid typically has square or rectangular apertures, designed to effectively interlock with granular fill materials like crushed stone or sand.

Biaxial Geogrids are widely used in road and railway subgrade reinforcement, soft soil foundation treatment, slope stabilization, retaining walls, and in the construction of airports, parking lots, and industrial areas where high bearing capacity is required.



Biaxial Geogrids reinforce and stabilize soil through a combination of key mechanisms, making them particularly effective in engineering applications where multi-directional reinforcement is required:

Mechanical Interlock and Aggregate Confinement:

- The geogrid's longitudinal and transverse ribs form a rigid "cage" that effectively confines these embedded soil particles laterally.This confinement prevents the soil particles from moving or spreading outward under load.

Stress Transfer and Load Spreading:

- When vertical loads (e.g., from vehicles or structures) are applied to a pavement or foundation, the biaxial geogrid effectively transfers and distributes these localized stresses over a much larger area of the underlying soil. Because the geogrid possesses high tensile strength in two directions, it acts like a "tensioned membrane", spreading the load more uniformly. This helps prevent issues like pavement cracking, rutting, and inadequate foundation bearing capacity.

Increased Bearing Capacity:

- Through the combined effects of interlock, confinement, and load spreading, biaxial geogrids significantly enhance the load-bearing capacity of weak subgrades. This means that for a given load, the use of a biaxial geogrid can allow for a reduction in the required thickness of the road base or foundation layers, leading to savings in material and construction costs.



Product Specifications

Index Properties	Test Method	Unit	GG1515	GG2020	GG2525	GG3030	GG4040	GG4545	GG5050
Polymer	-	-	PP						
Minimum Carbon Black	ASTM D 4218	%	2						
Tensile Strength @ 2% Strain	ASTM D 6637	kN/m	5/5	7/7	9/9	10.5/10.5	14/14	16/16	17.5/17.5
Tensile Strength @ 5% Strain	ASTM D 6637	kN/m	10.5/10.5	14/14	17/17	21/21	28/28	32/32	35/35
Ultimate Tensile Strength	ASTM D 6637	kN/m	15/15	20/20	25/25	30/30	40/40	45/45	50/50
Junction Effciency	GRI GG2	%	93/93						
Flexural Rigidity	ASTM D 7748	mg-cm	250,000	750,000	1,000,000	2,000,000	4,800,000	6,000,000	8,000,000
Aperture Stability	COE Method	m-N/deg	0.32	0.5	0.65	0.75	0.98	1.05	1.10
Roll Width	-	m	3.95/5.95						
Roll Length	-	m	75	50					



Product Gallery