

## Welding Steel Plastic Geogrid



Steel-plastic geogrid is a mesh structure made of high-strength steel wire and polyethylene as the main materials, adding other additives, and forming high-strength tensile strips through melt extrusion according to the process, and then arranged vertically and horizontally at a certain distance and then welded. Most often, this product is used to strengthen the foundation of roads, thereby reducing the cost of construction materials and preventing cracks and ruts due to the handling of the road surface.

The steel plastic composite geogrid uses high tensile steel wire(or other fiber) specially handled and polyethylene (P.E) with other assistants.

Welding Steel Plastic Geogrid has great friction with soil, and the contact area of Geogrid and soil reaches more than 20%-50%. Under low strain, it can produce extremely high tensile modulus. The synergistic action of the rib to the rib has a great locking effect on the soil. With polypropylene as the main material, adding anti aging agent and other auxiliaries, through extruding and drawing forming, it becomes a high strength refined strip. It is arranged in a certain distance and vertically and horizontally, and the welding point is welded by special reinforcement bonding.



### Welding Steel Plastic Geogrid Features:

- High strength, small creep, adaptable to various environmental soils;
- It can effectively improve the interlocking and interlocking effect of the reinforced bearing surface, and enhance the bearing capacity and stability of the foundation;
- HDPE geomembrane has good chemical stability performance, and can resist the corrosion of strong acid, alkali, and oil is a better anticorrosive material;
- The steel wires of the longitudinal and transverse ribs of the steel-plastic geogrid are woven into a mesh, and the outer wrapping layer is formed at one time. The steel wires and the outer wrapping layer can coordinately function, and the elongation at failure is very low (not more than 3%);
- The width of the steel-plastic grating can reach 6 meters, achieving efficient and economical reinforcement effect;
- The high-density polyethylene used in the steel-plastic grille can ensure that: it will not be corroded by acid, alkali, salt solution or oil under normal temperature conditions; it will not be dissolved by water or invaded by microorganisms. At the same time, the polymer properties of polyethylene are sufficient to resist aging caused by ultraviolet radiation.



[Welding Steel Plastic Geogrid]

HDPE geomembrane has environmental stress-resistant cracking performance, anti-seepage performance, high resistance, high resistance puncture, extension rate, and abrasion resistance. Product stretching strength, low temperature resistance, high temperature resistance, anti-aging, high tearing strength, high adhesion performance.

## APPLICATION

Welded steel-plastic geogrids can be widely used in highways, railways, embankments, bridge abutments, construction access roads, docks, revetments, flood control embankments, dams, tidal flat management, cargo yards, slag yards, airports, sports fields, environmentally friendly buildings, and soft soil foundation reinforcement, retaining walls, slope protection and road surface resistance and other civil engineering projects.

1. It reinforces old asphalt concrete road surface and asphalt surface layer, and prevents damage;
2. It is used for rebuilding cement concrete road surface into composite road surface and restraining reflection caused by lock contraction;
3. It is used in road expansion and improvement project and crack caused by old combination position and uneven sedimentation;
5. It is used for prevention contraction crack caused by new road semi-rigid base layer, and reinforcing and preventing road surface crack.

## SPECIFICATIONS OF WELDING STEEL PLASTIC GEOGRID

Item		GSZ30-30	GSZ40-40	GSZ50-50	GSZ60-60	GSZ80-80	GSZ100-100	GSZ150-150
Each linear meter breaking force KN/m $\geq$	Vertical	30	40	50	60	80	100	150
	Horizontal	30	40	50	60	80	100	150
Elongation ratio % $<$	Longitudinal	3						
	Horizontal	3						
2%Time elongation ratio drawing force(KN/m) $\geq$	Vertical	27	32	45	54	67	84	127
	Horizontal	27	32	45	54	67	84	127
Spot peeling strength N $\geq$		30						

NO.	Ultimate tensile strength per extended meter-KN/m		Elongation at break %		Ultimate tensile strength per linear meter after 100 freeze-thaw cycles KN/m		Per linear meter after 100 freeze-thaw cycles Elongation at break %		mesh size mm		Frost Resistance Indicator $^{\circ}$ C	Adhesion, solder joints Limit peel force N
	Longitudinal	Horizontal	Longitudinal	Horizontal	Longitudinal	Horizontal	Longitudinal	Horizontal	Longitudinal	Horizontal		
BWGEO30-30	30	30	$\leq 3$	$\leq 3$	30	30	$\leq 3$	$\leq 3$	232	232	-35	$\geq 100$
BWGEO40-40	40	40	$\leq 3$	$\leq 3$	40	40	$\leq 3$	$\leq 3$	149	149	-35	$\geq 100$
BWGEO50-50(A)	50	50	$\leq 3$	$\leq 3$	50	50	$\leq 3$	$\leq 3$	220	220	-35	$\geq 100$
BWGEO50-50(B)	50	50	$\leq 3$	$\leq 3$	50	50	$\leq 3$	$\leq 3$	125	125	-35	$\geq 100$
BWGEO60-60(A)	60	60	$\leq 3$	$\leq 3$	60	60	$\leq 3$	$\leq 3$	170	170	-35	$\geq 100$
BWGEO60-60(B)	60	60	$\leq 3$	$\leq 3$	60	60	$\leq 3$	$\leq 3$	107	107	-35	$\geq 100$
BWGEO70-70	70	70	$\leq 3$	$\leq 3$	70	70	$\leq 3$	$\leq 3$	137	137	-35	$\geq 100$
BWGEO80-80	80	80	$\leq 3$	$\leq 3$	80	80	$\leq 3$	$\leq 3$	113	113	-35	$\geq 100$
BWGEO100-100	100	100	$\leq 3$	$\leq 3$	100	100	$\leq 3$	$\leq 3$	95	95	-35	$\geq 100$



## PROJECTS CASE OF WELDING STEEL PLASTIC GEOGRID



[Reinforcement of soil foundation in Ghana]



[Reinforcement of railway soft soil foundation in Tanzania]

### WELDING STEEL PLASTIC GEOGRID CONSTRUCTION

#### Construction method of Welding Steel Plastic 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.

- 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.

