#### SHANDONG GREENLAND ENGINEERING MATERIAL CO., LTD.

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



GeogridnProducts: Fiberglass Geogrid Composited Geotextile



### Fiberglass Geogrid Composited Geotextile

Fiberglass geogrid composited geotextile is a composite of geogrid and geotextile. There are two composite forms. The first composite form is a composite of fiberglass geogrid or polyester geogrid and polvester filament geotextile: the second composite form is a composite of two-way plastic geogrid and geotextile. The principle of fiberglass geogrid composite geotextile is to combine fiberglass geogrid and geotextile. Fiberglass geogrid has the advantages of high strength, high stiffness, corrosion resistance, light weight, etc. and can enhance the tensile properties of soil. Geotextiles have functions such as filtration and isolation, which can prevent soil from degranulating and resist erosion. The combination of the two can make the fiberglass geogrid composite geotextile not only have the stress transmission function of the fiberglass geogrid, but also have the protective effect of the geotextile, which can effectively enhance the tensile properties and corrosion resistance of the soild polyethylene (P.E) with other assistants.

Fiberglass Geogrid Composited Geotextile is a composite of fiberglass geogrid, polyester geogrid and plastic geogrid combined with nonwoven geotextile or fabric through adhesive and hot melting methods. The non woven geotextile surface is rough and not easy to slide during the construction. It enables the reinforced geogrid composite stay smooth in the process of paving. It is a kind of innovative composite geosynthetic materials, which organic combining the excellent performance of geogrid and geotextile. This product can be designed according to actual requirement.



#### [Fiberglass Geogrid Composited Geotextile]

When geogrid geomembranes are combined with woven or non woven geotextile for specific application like drainage,erosion control,bank embankment,etc. then they are designed as Geocomposite.



Fiberglass Geogrid Composited Geotextile Features:

- High tensile strength and low elongat ion ratio;
- No long-term creep;
- Thermal stability;
- The compatibility of asphalt is high;
- Physical chemistry stability is good;
- Aggregate embedded locks and limit characteristics;

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#### ADVANTAGES OF FIBERGLASS GEOGRID COMPOSITED GEOTEXTILE

Fiberglass geogrid – an inexpensive substitute for polyester geogrids (geogrid), can be used both for laying in asphalt, and in the ground. But, as a rule, it is used for reinforcing asphaltic concrete.

The main difference between polyester and fiberglass geogrid under operating conditions is a shorter period of intended use (3 years of geogrid from geotextile vs. 8 years of geogrids from polyester), and also the installation technology, when installing a geogrid on the basis of fiberglass – it is important to maintain the geogrid's tension, the slightest deflection during installation it can make the further exploitation of the geogrid irrelevant, since the reinforcement effect in case of deflections will be insignificant.

Composite geogrids are a multifunctional geogrid designed to reinforce weak subgrades. Such a separation layer is often recommended in base course applications for subsoils with a CBR of less than 3% or in applications where fines or clay should be prevented from moving into the reinforced aggregate above. The biaxial geogrid provides soil reinforcement and the non woven geotextile provides separation and filtration. The high elongation capacity of monofilament nonwoven geotextiles ensures that the inter-locking ability of the composite geogrid with the fill material is not reduced and stress is transferred to the geogrid.

Composite geogrids are manufactured by heat bonding a polypropylene biaxial geogrid to a needle punched nonwoven geotextile.

They combine stabilisation of problematic soils with the additional functions of long term separation and filtration. Composite geogrids are used extensively for road and railway construction, landfills, airports and hydraulic engineering and also to provide crack control and pavement reinforcement of roads. The benefits of installing the geosynthetic interlayer between the old pavement and new overlay include:

- · Waterproofing the pavement
- · Delaying the appearance of reflective cracks
- · Lengthening the useful life of the overlay
- · Added resistance to fatigue cracking

### SPECIFICATIONS OF FIBERGLASS GEOGRID COMPOSITED GEOTEXTILE

Fiberglass Geogrid Composited Geotextile								
Project/Size		HS30-30	HS40-40	HS50-50	HS60-60	HS80-80	HS100-100	HS120-120
Elongation rate %		≤3	≤3	≤3	≤3	≤3	≤3	≤3
Tensile strength (KN/M)	Vertical	30	40	50	60	80	100	120
	Horizontal	30	40	50	60	80	100	120
Tearing intensity (KN/M)	0.08-0.42							
Complex style	Complex warp knitting reinforcement							
Penetrating parameter	K x(10-1-10-3)K=1.0-9.9							
Equation mesh size	0.07-0.2							
Width(M)	1-6m							
Other	Special specifications can be customized as required							

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#### PROJECTS CASE OF FIBERGLASS GEOGRID COMPOSITED GEOTEXTILE



[Airport subgrade reinforcement in Sudan]

# FIBERGLASS GEOGRID COMPOSITED GEOTEXTILE CONSTRUCTION

Construction method of Fiberglass Geogrid Composited Geotextile:

• The construction of grid composite geotextile is relatively simple and has very good plasticity.

• Before construction, strict survey and design of road projects are required to determine the location and quantity of geotextiles.

• Then the on-site cutting and arrangement are carried out according to the design requirements, and the soil surface can be covered after treatment.

• During the construction process, you need to pay attention to the tension of the geotextile. It should not be excessively tense or relaxed to avoid affecting the soil.



[Road support in Tunisia]

## APPLICATION OFFIBERGLASS GEOGRID COMPOSITED GEOTEXTILE:

(1)Road surface reinforcement of road, railway and airport road.

(2)Maintenance, reconstruction and widening of the old road surface.

(3)Reinforcement of soil roadbed, irrigation channels and water dams.

(4)Strengthens, the bridge connection surface.



### MAIN SPECIFICATION OF FIBERGLASS GEOGRID COMPOSITED GEOTEXTILE:

Fiberglass geogrid can complex polyester/polypropylene nonwoven or woven geotextile

- 1.Width: normal width 3.9m,1.0m-6.0m
- 2.Length:nomal is 50m/100m,or as per your request.
- 3. The glassfiber geogrid tensile strength can be 25-
- 4.25kN/m to 200-200kN/m

The geotextile weight can be  $10g/\ensuremath{\text{m}}^2$  to  $1200g/\ensuremath{\text{m}}^2$