Biaxial Geogrid

Biaxial stretched plastic geogrid is manufactured by plasticating and extruding polymer into sheets, which are then punched, heated, and stretched both longitudinally and transversely.

◆Feature

1. Bidirectional stretch plastic geogrids exhibit exceptional tensile strength in both longitudinal and transverse directions.

2. In soft soil foundation, it can provide effective bearing capacity and make it into an integrated chain system.

◆**Purpose**

Biaxially stretched geogrid is suitable for railway, highway, soft soil foundation reinforcement, as well as large area permanent bearing foundation reinforcement and other engineering fields.

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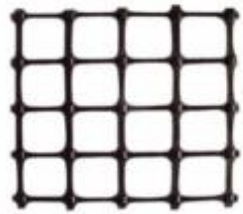


◆ **Biaxially stretched polypropylene geogrid performance parameters table**

Specifications	TGSG15-15	TGSG20-20	TGSG25-25	TGSG30-30	TGSG35-35	TGSG40-40	TGSG45-45	TGSG50-50	TGSG55-55	TGSG60-60
Vertical Tensile Strength ≥ (kN/m)	15	20	25	30	35	40	45	50	55	60
Horizontal elongation strength ≥ (kN/m)	15	20	25	30	35	40	45	50	55	60
Nominal longitudinal elongation ≤ (%)	15									
Horizontal Nominal Elongation ≤ (%)	13									
Tensile strength at 2% elongation (≥kN/m)	5	7	9	10.5	12	14	16	17.5	20	21
Tensile strength at 2% elongation (≥kN/m)	5	7	9	10.5	12	14	16	17.5	20	21
Tensile Strength ≥ (kNm) at 5% longitudinal elongation	7	14	17	21	24	28	32	35	40	42
Tensile Strength at 5% elongation ≥ (kN/m)	7	14	17	21	24	28	32	35	40	42

Four-directional plastic geogrid

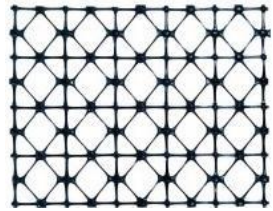
Four-directional stretch plastic geogrid is a mesh structure of geogrid made of polymer through plastic extrusion, punching and heating.

◆**Feature**

The four-directional geogrid delivers load-bearing capacity in all four directions based on node positioning, offering greater stability and efficiency compared to other plastic geogrids.

◆Purpose

Four-directional tensile plastic geogrid is suitable for foundation reinforcement in airports, highways, railways, ports and other places.



◆ **Four-directional tensile plastic geogrid performance parameters table**

Size / Project	TGDXG10-10	TGDXG15-15	TGDXG20-20	TGDXG25-25	TGDXG30-30
At 2% elongation, the shear modulus should be ≥ (kN/m) (0° and 90° directions)	125	175	225	300	350
At 5% elongation, the shear modulus should be ≥ (kN/m) (0° and 90° directions)	110	150	220	270	330
At 2% elongation, the shear modulus should be ≥ (kN/m) (45° and 135° directions)	75	125	150	200	225
At 5% elongation, the shear modulus should be ≥ (kN/m) (45° and 135° directions)	70	110	150	180	230
Tensile Strength≥(kN/m) (0° and 90° directions)	10	15	20	25	30
Nominal Elongation≤(%) (0° and 90° directions)	15				

Carbon black content (%)	2
Breadth(m)	1~6
remarks	0° is vertical and 90° is horizontal.

Woven glass fiber geogrid

The warp-knitted glass fiber geogrid is made of glass fiber warp-knitted coating.

◆Feature

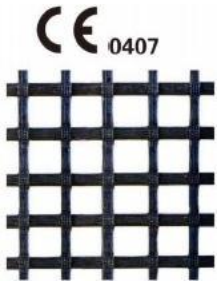
1. High tensile strength in longitudinal and transverse direction;

2. Low extension rate;

3. High tensile modulus.

◆Purpose

Woven glass fiber geogrid can be used in highway and airport pavement, water conservancy dam surface reinforcement and other engineering fields.



◆ Performance parameters of woven glass fiber geogrid

Project \ Size		EGA30-30	EGA50-50	EGA60-60	EGA80-80	EGA100-100	EGA120-120	EGA150-150	EGA200-200
Mesh center spacing (mm)		25.4×25.4 or 12.7x12.7 or as specified							
Fracture strength ≥ (kN/m)	warp direction	30	50	60	80	100	120	150	200
	broad wise	30	50	60	80	100	120	150	200
Extension rate ≤ (%)	warp direction	4							
	broad wise	4							
temperature tolerance (℃)		-100~280							
Breadth(m)		1~6							

Basalt fiber geogrid

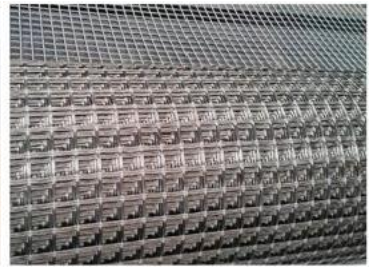
Basalt fiber geogrid is made of basalt fiber as raw material, using special weaving process and surface coating process.

◆Feature

1. High tensile strength;
2. Good alkali resistance;
3. Low extension rate;
4. Good durability;
5. Excellent high temperature resistance;
6. It has good compatibility with asphalt mixture.

◆Purpose

It is suitable for highway, bridge and airport pavement reinforcement, which can effectively avoid the occurrence of cracks and ruts, effectively reduce the project cost, prolong the service life of the project and save the maintenance cost. It can also be used as the reinforcement material of high temperature composite material, construction engineering and underground hidden engineering reinforcement material.



◆ Basalt fiber geogrid performance parameters table

Specifications / Project		BFG40-40	BFG60-60	BFG70-70	BFG90-90	BFG110-110	BFG130-130	BFG160-160
Mesh size (mm)		12.7X12.7 or 25.4X25.4 or 40.0 x 40.0 or 50.8X50.8						
break strength	warp direction	40	60	70	90	110	130	160
≥(kN/m)	broadwise	40	60	70	90	110	130	160
elongation at break	warp direction	4						
≤(%)	broadwise	4						
temperature		-40℃~170℃						

tolerance （℃）	
Breadth(m)	1~6

Woven polyester geogrid

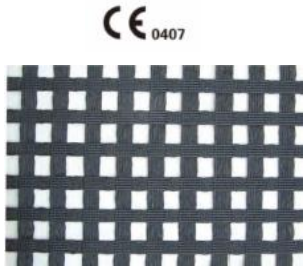
The woven polyester geogrid is made of high strength and high tensile modulus polyester industrial filament, woven and coated, and is known as "soft steel fiber".

◆Feature

1. High tensile strength;
2. High tear strength;
3. Strong bonding with soil gravel.

◆Purpose

It is mainly used for railway and highway soft soil foundation reinforcement.



◆ Performance parameters of woven polyester geogrid

Project \ Size		GSJ25-25	GSJ50-50	GSJ80-80	GSJ100-100	GSJ120-120	GSJ150-150	GSJ200-200	GSJ250-250	GSJ300-300
tensile strength	warp direction	25	50	80	100	120	150	200	250	300
≥(kN/m)	broad wise	25	50	80	100	120	150	200	250	300
Nominal Elongation≤(%)		13								
Mesh center spacing (mm)		25.4×25.4 (or set as required)								
Breadth(m)		1~6								

Steel-plastic geogrid

Steel-plastic geogrid is a mesh structure formed by high-strength steel wire and polyethylene as the main materials, supplemented with other additives, and formed into high-strength tensile strips through melt extrusion composite process, and then welded with a certain spacing of longitudinal and transverse arrangement.

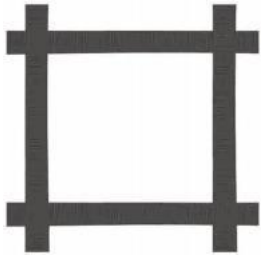
◆Feature

1. High strength, small creep, adapt to all kinds of environmental soil;

2. It can effectively improve the embedded lock and bite effect of the reinforced bearing surface, and enhance the bearing capacity and stability of the foundation.

◆Purpose

Steel-plastic geogrid can be widely used in highway, railway, dam, port and other soft land foundation engineering, as well as high and large retaining wall engineering.



◆ Performance parameters of steel-plastic geogrid

Project \ Size	GSZ30-30	GSZ50-50	GSZ60-60	GSZ70-70	GSZ80-80	GSZ100-100	GSZ120-120
Longitudinal and transverse ultimate tensile strength ≥ (kN/m)	30	50	60	70	80	100	120
Nominal Elongation (Longitudinal and Transverse) ≤ (%)	3						
Minimum separation force at connection point (N)	300				500		

Plastic mine geogrid

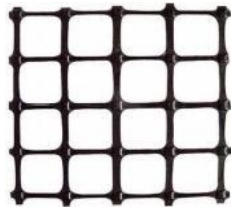
Mining plastic geogrid is made of modified polypropylene and other high molecular polymers, extruded and stretched.

◆Feature

1. High strength: high strength, corrosion resistance, can effectively replace metal mesh;
2. Low weight: can reduce labor intensity, improve work efficiency, easy to install and use;
3. Safety: Anti-static, flame retardant, can effectively prevent the generation of static sparks.

◆Purpose

It is suitable for false roof support and roadway support in underground working face of coal mine and non-coal mine, and can also be used for engineering support such as subway and tunnel.


◆ Performance Parameters Table of Plastic Geogrid for Mining Applications

Size / Project	Fake use	Guard
Breadth(m)	0.5~6	0.5~6
Pore size (mm)	(30~100)±1.5	(30~100)±1.5
Longitudinal Tensile Strength per meter (kN/m)	15~50	15~50
Lateral Tensile Strength per meter (kN/m)	15~50	15~50
Product surface resistance value <(Ω)	1.0×10^{9}	10×10^{9}
The flameless burning time of the product is ≤ (S) (alcohol blast burner)	10	10

High strength polyester fiber net for mining

Mining high strength polyester fiber net is a kind of geosynthetic material woven and coated with high strength polyester industrial filament.

◆Feature

Compared with metal mesh, it has the features of light weight, high strength, flame retardant, anti-static, corrosion resistance, etc., and is easy to install and use, making it the best alternative to metal mesh.

◆Purpose

It is widely used in underground working face false roof support, roadway support and permanent roadway support and reinforcement in coal mine and metal mine.

◆ Performance Parameters Table of High-Strength Polyester Fiber Mesh for Mining Applications

Project \ Size		80-80	150-150	200-200	300-300	400-400	600-600	800-800	1000-1000	1200-1200
Grid size (mm)		50.8×50.8 or 76.2×76.2 or set as required								
Mesh size (mm)		40×40 or 50×50 or set as required								
Fracture strength ≥ (kN/m)	warp direction	80	150	200	300	400	600	800	1000	1200
	broadwise	80	150	200	300	400	600	800	1000	1200
Tensile elongation ≤ (%)		25								
Product surface resistance value <(Ω)		1.0×10^{9}								
Time of flameless combustion of the product ≤ (s) (alcohol blast burner)		10								

High strength pipe protective cover plate

The high-strength pipeline protective cover plate is a novel geosynthetic material manufactured through processes including warp-knitted consolidation and anti-corrosion treatment of high-strength polyester industrial filaments.

◆Feature

Compared with traditional concrete cover plates, it offers advantages such as lower cost, lighter weight, higher strength, flame retardancy, and corrosion resistance, along with convenient construction and installation, making it a superior alternative to conventional solutions.

An excellent alternative to concrete cover plates.

◆Purpose

It is used for ground protection projects of various oil and gas pipelines to prevent third-party construction from damaging underground pipelines through excavation.

◆ Performance parameters of high strength pipeline protective flexible cover plate

project	numeric value		
specifications	400-400	600-600	800-800
Width(m)	≥2.5	≥2.5	≥2.5
length （m）	≥100	≥100	≥100
Longitudinal and Transverse Tensile Strength (kN/m)	≥400	≥600	≥800
elongation at break （%）	≤25	≤25	≤25
Mesh size A (mm)	30≤A≤80	30≤A≤80	30≤A≤80
Mesh size B (mm)	30≤B≤80	30≤B≤80	30≤B≤80
Strand width C (mm)	20≤C≤70	20≤C≤70	20≤C≤70
Beam width D (mm)	20≤D≤70	20≤D≤70	20≤D≤70

Flame retardation requirements	inflaming retarding	inflaming retarding	inflaming retarding
A denotes the length of the inner hole in the flexible mesh, B its width, C the width of the longitudinal bars of the mesh ribs, and D the width of the transverse bars.			

Carbon fiber grille

Carbon fiber grating is made of carbon fiber as raw material, using special fiber weaving and electrostatic removal weaving process, and then using special surface coating process to process; concrete components made of carbon fiber high strength composite material, thickness is only 1/4 of the original steel structure concrete components.

◆Feature

1. High tensile strength and high strain resistance;
2. Small product thickness;
3. Excellent creep resistance;
4. Good weather resistance and corrosion resistance.

◆Purpose

It is suitable for the reinforcement of civil engineering structures such as tunnels, subways and Bridges, which can greatly prolong the service life of the project and save a lot of maintenance or reconstruction costs. It can also be used for prefabricated buildings, especially for the reinforcement of building walls in earthquake-prone areas.

Geocell

Geocell is a three-dimensional honeycomb structure made of polymer extruded plates and ultrasonic welding.

◆Feature

It can be stretched freely and folded up during transportation. When in use, it can be unfolded to fill soil, stone or concrete materials, forming a structure with strong lateral limit force and large stiffness.

◆Purpose

1. Can be used as a cushion layer to enhance the bearing capacity of weak foundation or sandy soil;
2. It can be laid on the slope to form a slope protection structure;
3. Can be used to build support structures.

◆ Geocell performance parameter table

Project specifications	Grain size sheet tensile yield strength (MPa)		Welding tensile strength (N/cm)		Tensile strength of intercellular connections Middle of the sheet (N/cm)		Tensile strength at the junctions between the grating groups Edge (N/cm)	
	Material: PP	Material: PE	Material: PP	Material: PE	Material: PP	Material: PE	Material: PP	Material: PE
TGLG-50-400	≥23.0	≥20.0	≥100	≥100	≥120	≥120	≥200	≥200
TGLG-100-400								
TGLG-150-400								
TGLG-200-400								

High strength welded geocell

High-strength welded geocells are three-dimensional honeycomb structures created by stretching high-molecular polymer sheets to achieve high tensile strength and low elongation, then welding them through thermal fusion. These cells are flexible enough to fold during transportation and expand for filling with soil, rock, or concrete, forming structures with exceptional lateral restraint and high stiffness.

◆Feature

1. The Grooming Sheet exhibits high nominal tensile strength and low nominal elongation;
2. The node connection is stable and will not move;
3. The connection strength at the node connection is high;
4. The traditional plane reinforcement is upgraded to three-dimensional reinforcement, which has better reinforcement effect;
5. There is no metal connector at the connection of the grid node, and the long-term connection strength at the connection is high;
6. Resistant to acid and alkali corrosion, as well as salt corrosion, it can adapt to the engineering environment of strong acid or strong alkali. It will not undergo hydrolysis reaction in the water environment for a long time, and the strength of the chamber will not be reduced.

◆Purpose

It can be used for road, railway, desert, marsh, beach, airport, port and other civil engineering field soft foundation treatment, backfill of the platform, loess wet settlement roadbed treatment, and can also be used for salt soil, expansive soil and other roadbed reinforcement and slope control engineering.

◆High-strength welded geocell performance parameter table

order number	Project	unit	metric
1	Nominal Tensile Strength of Grout Panel	kN/m	≥120
2	Nominal Elongation	%	≤10
3	Node connection peel strength	kN/m	≥40
4	Connection shear strength	kN/m	≥80
5	Grid density	g/cm³	<1.0

Note: 1. Black, uniform color;

2. The height of the grid node connection is greater than the nominal height of the grid panel.
3. The mesh size is (40±3)×(40±3) cm;
4. The single network area is ≥50m²
5. The grid node is connected by hot-melt welding without metal connectors.
6. The geocell is acid and alkali resistant, inorganic salt corrosion resistant, and can adapt to any PH value or salt filling environment.

Short fiber non-woven geotextile

Short fiber non-woven geotextile is manufactured from short-cut fibers using carding and needle-punching equipment. ◆Feature

The short fiber non-woven geotextile has the excellent properties of corrosion resistance, aging resistance, high strength, dimensional stability and good filtration.

The main function is to enhance, isolate, reverse filter and drain, which is widely used in water conservancy, highway, railway, landfill and other fields.

◆ **Performance parameters of short fiber non-woven geotextile**

Project		Nominal fracture strength (kN/m)								
		3	5	8	10	15	20	25	30	40
1	Lateral and longitudinal fracture strength (kN/m) ≥ Lateral and longitudinal fracture strength (kN/m) ≥	3.0	5.0	8.0	10.0	15.0	20.0	25.0	30.0	40.0
2	Nominal fracture strength corresponds to elongation of 1%	20~100								
3	bursting strength /KN	0.6	1.0	1.4	1.8	2.5	3.2	4.0	5.5	7.0
4	Mass deviation rate per unit area/%	±5								
5	Breadth deviation rate/%	-0.5								
6	1% thickness deviation	±10								
7	Equivalent aperture Oo (Os)/mm	0.07-0.20								
8	Vertical permeability coefficient (cm/s)	K x (10^-1 to 10^-3), where K ranges from 1.0 to 9.9								
9	Strength for longitudinal and transverse tearing / KN ≥ Strength for longitudinal and transverse tearing / KN ≥	0.10	0.15	0.20	0.25	0.40	0.50	0.65	0.80	1.00
10	Acid-alkaline resistance (strong retention rate)% ≥ Acid-alkaline resistance (strong retention rate)% ≥	80								
11	Antioxidant performance (strong retention rate)% ≥ Antioxidant performance (strong retention rate)% ≥	80								
12	Ultraviolet resistance (strong retention rate)% ≥ Ultraviolet resistance (strong retention rate)% ≥	80								

Note 1: If the actual specifications fall between adjacent specifications in the table, the corresponding assessment indicators shall be calculated by linear interpolation. If the specifications exceed the range in the table, the assessment indicators shall be determined by both parties through negotiation.

Note 2: The standard values for items 4 to 6 are based on design or agreement.

Note 3: Items 9 to 12 are reference indicators, which are used as internal control of production. If required by users, they are evaluated according to the actual design value.

Polypropylene filament spunbonded needle-punched geotextile

Polypropylene filament spun adhesive needle-punched geotextile is made of polypropylene as raw material, processed by spinning, air flow laying net, needle-punching and other processes.

◆Feature

Polypropylene filament spunbond needle-punched geotextiles deliver exceptional performance with high tensile strength, puncture resistance, corrosion resistance, antimicrobial properties, aging resistance, high-temperature tolerance, and superior water permeability, filtration capacity, and soil retention. Compared to polyester filament geotextiles, these materials exhibit superior strength and enhanced tear/puncture resistance. Notably, they demonstrate exceptional acid and alkali resistance, maintaining stable performance in alkaline environments even when exposed to cement, fly ash, lime, and other alkaline materials for extended periods without hydrolysis.

◆Purpose

It is mainly used in high-speed rail ballastless track isolation layer, tunnel waterproof lining layer, airport runway isolation layer, highway crack-proof base cloth, water conservancy project bank protection, landfill, emergency engineering foundation treatment, ecological slope protection and other engineering fields.

◆ Performance parameters of polypropylene filament spun adhesive needle-punched geotextile

Project		metric							
		Nominal strength (kN/m)							
		6	9	12	18	24	30	42	56
1	Lateral and longitudinal tensile strength (kN/m) ≥ Lateral and longitudinal tensile strength (kN/m) ≥	6.0	9.0	12.0	18.0	24.0	30.0	42.0	56.0
2	Maximum elongation under transverse and longitudinal loads/%	40~100							
3	CBR Top Break Strength ≥ CBR Top Break Strength ≥	1.0	1.6	2.1	3.2	4.2	5.5	6.5	8.7
4	Strength for longitudinal and transverse tearing / KN ≥ Strength for longitudinal and transverse tearing / KN ≥	0.25	0.38	0.50	0.70	0.85	1.00	1.20	1.50
5	Equivalent Aperture O (mm)	0.05~0.30							
6	Vertical permeability coefficient (cm/s)	K× (10^{1}~10-3), where K ranges from 1.0 to 9.9							
7	Breadth deviation rate/% ≥ Breadth deviation rate/% ≥	-0.5							
8	Unit area quality deviation rate/% ≥ The deviation rate per unit area is ≥	-5							
9	Thickness deviation rate/% ≥	-10							

	Thickness deviation rate/% ≥									
10	Thickness coefficient of variation (CV)/% ≤ Coefficient of Variation (CV) for thickness: ≤		10							
11	Dynamic Puncture	Pore diameter in mm ≤ Pore diameter in mm ≤	34.0	31.0	27.0	20.0	17.0	14.0	11.0	7.0
12	Lateral and vertical fracture strength (sample grab method): KN ≥ Lateral and longitudinal fracture strength (sample grab method): KN ≥		0.4	0.7	1.0	1.5	2.0	2.5	3.0	4.0
13	Acid and alkali resistance*	Strong retention rate in both directions/% ≥	90							
14	UV resistance (arc lamp method)	Strong retention rate in both directions/% ≥	70							
15	Ultraviolet resistance (fluorescent UV lamp method)	Strong retention rate in both directions/% ≥	80							
"Whether to assess or not shall be determined by the two parties through negotiation, and the assessment shall be carried out according to the requirements in the form,										

Polyester filament geotextile

Polyester filament geotextile is made of polyester filament and processed by laying net equipment and needle punching equipment.

◆**Feature**

Polyester filament geotextile has the advantages of high strength, strong puncture resistance, anti-microorganism, aging resistance, high temperature resistance, superior water permeability, filtration, soil retention and so on.

◆**Purpose**

It is mainly used in engineering fields such as reinforcement and isolation. It is simple to construct and convenient to use.

◆ **Polyester filament geotextile performance parameters table**

Project		metric								
		Nominal strength (kN/m)								
		6	9	12	18	24	30	36	48	54
1	Tensile strength in both longitudinal and transverse directions / (kN/m) ≥ Lateral and longitudinal tensile strength (kN/m) ≥	6.0	9.0	12.0	18.0	24.0	30.0	36.0	48.0	54.0
2	Maximum elongation under transverse and longitudinal loads/%	30~80								
3	CBR Top Break Strength / KN ≥ CBR Top Break Strength / KN ≥	0.9	1.6	1.9	2.9	3.9	5.3	6.4	7.9	8.5
4	Strength for longitudinal and transverse tearing / KN ≥ Strength for longitudinal and transverse tearing / KN ≥	0.15	0.22	0.29	0.43	0.57	0.71	0.83	1.10	1.25
5	Equivalent bore diameter O (O mm)	0.05~0.30								
6	Vertical permeability coefficient (cm/s)	K× (10^-1 to 10^-3), where K ranges from 1.0 to 9.9								
7	Breadth deviation rate/% ≥ Breadth deviation rate/% ≥	-0.5								
8	Unit area quality deviation rate/% ≥ Unit area quality deviation rate/% ≥	-5								
9	Thickness deviation rate (%) ≥ Thickness deviation rate/% ≥	-10								

10	Thickness coefficient of variation (CV)/% ≤ Thickness coefficient of variation (CV)/% ≤		10								
11	Dynamic Poring*	Pore diameter in mm ≤ Pore diameter in mm ≤	37.0	33.0	27.0	20.0	17.0	14.0	11.0	9.0	7.0
12	Lateral and vertical fracture strength (grab test) ≥ /kN Lateral and vertical fracture strength (grab test) ≥ /kN		0.3	0.5	0.7	1.1	1.4	1.9	2.4	3.0	3.5
13	Ultraviolet resistance (xenon arc lamp method)	Strong retention rate in both directions: ≥	70								
14	Ultraviolet resistance (fluorescent ultraviolet lamp method)	Strong retention rate in both directions/% ≥	80								
"Whether to assess or not shall be determined by the two parties through negotiation, and the assessment shall be carried out according to the requirements in the form.											

Geomembrane

A geotextile membrane is a waterproof barrier material made from high molecular polymers, primarily categorized into high-density polyethylene (HDPE) and ethylene-vinyl acetate (EVA) types.

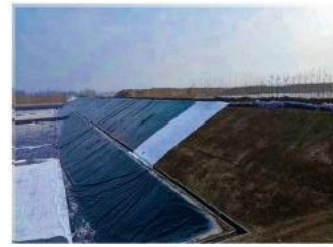
◆Feature

1. Excellent environmental stress cracking resistance and excellent corrosion resistance.

2. Has a large operating temperature range and long service life.

◆Purpose

It is mainly used in water conservancy project waterproofing, landfill, tailings storage site, subway, tunnel and other waterproofing engineering fields.



◆ Geomembrane performance parameters table

order number	Project	metric								
	Thickness (mm)	0.30	0.50	0.75	1.00	1.25	1.50	2.00	2.50	3.00
1	Density (g/cm^3)	≥0.940								
2	Longitudinal and transverse tensile yield strength (N/mm)	≥4	≥7	≥10	≥13	≥16	≥20	≥26	≥33	≥40
3	Longitudinal and transverse tensile fracture strength (N/mm)	≥6	≥10	≥15	≥20	≥25	≥30	≥40	≥50	≥60
4	Longitudinal and transverse yield elongation (%)	-	-	-	≥11					
5	Longitudinal and transverse fracture elongation (%)	≥600								
6	Longitudinal and transverse right-angle tear load (N)	≥34	≥56	≥84	≥115	≥140	≥170	≥225	≥280	≥340
7	Puncture resistance (N)	≥72	≥120	≥180	≥240	≥300	≥360	≥480	≥600	≥720
8	Carbon black content (%)	2.0~3.0								
9	Carbon black dispersion	No more than one level 3 in 10 data points. Levels 4 and 5 are not allowed.								
10	Atmospheric Oxidation Induction Time (OIT) (min)	≥60								
11	Low temperature impact embrittlement	pass through								
12	Steam permeability coefficient ($gcm/(cm^2s.Pa)$	$\leq 1.0\times10^{-13}$								
13	dimensional stability (%)	±2.0								
Note: Technical performance specifications for thickness specifications not listed in the table shall be determined by interpolation.										

Composite geomembrane

Composite geomembrane is a waterproof material composed of geotextile and geomembrane, primarily used for seepage control. It comes in two configurations: single-layer (one fabric and one membrane) and double-layer (two fabrics and one membrane), with widths ranging from 4 to 6 meters and weights between 200 and 1500 grams per square meter.

◆Feature

The physical and mechanical properties of composite geomembrane, such as tensile strength, tear resistance and puncture resistance, are excellent.

◆Purpose

It is used in highway, railway, water conservancy, subway, tunnel, landfill and other impermeable engineering fields.

◆ Composite geomembrane performance parameters table

order	Project	metric							
	Nominal fracture strength (kN/m)	5	7.5	10	12	14	16	18	20
1	Lateral and longitudinal fracture strength ≥ (kN/m)	5.0	7.5	10.0	12.0	14.0	16.0	18.0	20.0
2	Standard strength in longitudinal and transverse directions versus elongation (%)	30~100							
3	CBR penetration strength ≥ (kN)	1.1	1.5	1.9	2.2	2.5	2.8	3.0	3.2
4	Lateral and vertical tearing strength ≥ (kN)	0.15	0.25	0.32	0.40	0.48	0.56	0.62	0.70
5	Static water pressure (MPa)	See Table 2							
6	剥离强度 ≥ (N/cm)	6							
7	Vertical permeability coefficient (cm/s)	As per design or contract requirements							
8	Breadth bias (%)	-1.0							

project	film thickness /mm

		0.2	0.3	0.4	0.5	0.6	0.7	0.8	1.0
Static water pressure (MPa)	One cloth, one film	0.4	0.5	0.6	0.8	1.0	1.2	1.4	1.6
≥	Double fabric, single film	0.5	0.6	0.8	1.0	1.2	1.4	1.6	1.8

Composite high efficiency drainage geotextile

The composite high-efficiency drainage geomembrane is composed of high-strength coarse non-woven fabric, multi-channel high-efficiency drainage belt and high-strength geomembrane, which are compounded together by special composite equipment to form a composite drainage material with high efficiency and rapid drainage function.

◆Feature

It features high water absorption and drainage efficiency, along with excellent tensile strength, tear resistance, puncture resistance, and corrosion resistance.

◆Purpose

It is suitable for highway and railway subgrade engineering. In the construction of subgrade, it is laid in multiple layers. By using the rapid water absorption and drainage function of the product, it can realize directional water guidance and drainage, discharge the water in the subgrade, protect the subgrade from rain erosion, greatly improve the construction efficiency and effectively prolong the service life of the subgrade.

◆ Composite high efficiency drainage geotextile performance parameters table

project	numeric value
specifications	16kN-2mm
width （m）	≥6
length （m）	≥50
Longitudinal and Transverse Tensile Strength (kN/m)	≥16
elongation at break （%）	30-50
CBR penetration strength (N)	≥3000
Lateral tear strength (N)	≥600
Drainage strip spacing (mm)	50≤C≤100
Drainage strip height (mm)	≥2
Stripping strength (N/cm)	≥6
Drainage efficiency (LH)	≥16

explain：

1. The drainage efficiency test method refers to Part 6 of Q/CR549.6-2017 Railway Engineering Geosynthetic Materials: Drainage Materials
2. The absorption and drainage efficiency of the product is about 15 times that of ordinary drainage composite film products.
3. The drainage composite film made of polypropylene filament geotextile with the same weight is about 3 times that of short fiber polyester geotextile drainage composite film.

3D geotextile mat

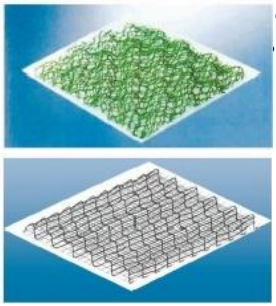
Three-dimensional geonet is a new kind of three-dimensional structure material suitable for slope protection and soil and water conservation.

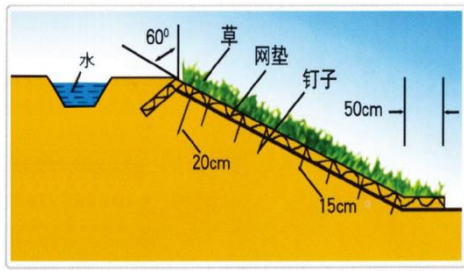
◆**Feature**

It exhibits excellent tensile strength, flexibility, and aging resistance.

◆**Purpose**

It is mainly used for slope protection of highway, railway, river, embankment, mountain etc. It can keep the land surface from being eroded by wind and rain before the turf grows; the composite prot can withstand the scouring of high water level and high flow rate pe protection materials such as concrete and stone.





◆ **Three-dimensional geotextile mat performance parameters table**

Project specifications	EM_2	EM_3	EM	EM;	3D/9.0
Unit area mass ≥ (g/m^2)	220	260	350	430	220
thickness ≥ (mm)	10	12	14	16	16
Breadth≥(m)	2.00+0.1				
Roll length ≥ (m)	300+0.1				
Vertical Tensile Strength ≥ (kN/m)	0.8	1.4	2.0	3.2	9.0
Horizontal Tensile Strength ≥ (kN/m)	0.8	1.4	2.0	3.2	9.0
remarks	Special specifications can be produced according to contract or agreement requirements				

◆ **3D suture mesh pad performance parameters table**

Project	unit	data	remarks
Pore type	-	rectangle	Special specifications can be produced
pigment	-	black	
thickness	mm	≥16	
Breadth	m	≥2	

length	m	≥30	according to contract or agreement requirements
Longitudinal Tensile Strength	kN/m	≥9	
Horizontal Tensile Strength	kN/m	≥9	