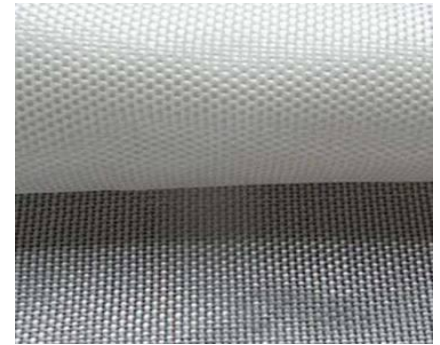


## Woven Geotextile Composite Geomembrane

Woven geotextile composite geomembrane is a new type of geotextile material that is composed of woven geotextiles made of polypropylene and polyester fibers and compounded with geomembrane. Woven composite geomembrane not only has the characteristics of high tensile strength and low elongation, but also has the waterproof performance of composite geomembrane. Therefore, woven composite geomembrane is an anti-seepage material with reinforcement, isolation, and protection functions.

Woven geotextile composite geomembrane is a new type of geomembrane combined with geotextile and geomembrane. Woven geotextile is made of polypropylene materials and flat silk fibers. Warp and weft are interwoven with different weaving equipment and processes to form a stable fabric structure. Composite geomembrane is divided into two cloth a film, a cloth a film, the weight of 200-1500 g/m<sup>2</sup>. High physical performance index, good tensile and tear resistance.



[Woven Geotextile Composite Geomembrane]



[Woven Geotextile Composite Geomembrane]

Composite geomembrane not only has the performance of anti-leakage, good sealing performance, anti-aging, anti-corrosion, acid and alkali resistance, but also has the protective performance of geotextile, waterproof performance, isolation and reinforcement function, in landfill, wastewater treatment, road construction, aquaculture, landscape and agriculture and other fields of seepage reinforcement engineering has a wide range of uses.

### Woven Geotextile Composite Geomembrane Features:

- It integrates anti-seepage and drainage, and has the functions of isolation and reinforcement.
- High composite strength, high peel strength, high puncture resistance.
- Strong drainage capacity, large friction coefficient, small linear expansion coefficient.
- Good aging resistance, wide ambient temperature range, stable quality.
- Woven geotextile composite geomembrane in addition to geotextile isolation, drainage, reinforcement protection and other functions, but also has a closed (anti-seepage) function, can be widely used in water conservancy dam, road construction, airport, drainage, housing, environmental protection and many other fields, in the project mainly plays a role of anti-seepage, protection, reinforcement and so on.

Composite Products: WOVEN GEOTEXTILE COMPOSITE GEOMEMBRANE

## APPLICATION

Woven geotextile composite geomembrane is widely used in the integral and local anti-seepage reinforcement of reservoir area, dam body, cofferdam, channel, artificial lake, reservoir and other water conservancy buildings. At the same time, it is also widely used in anti-seepage strengthening projects in the fields of electric power, metallurgy, environmental protection, urban construction, railway, highway, military, agriculture and mining.

## SPECIFICATIONS OF WOVEN GEOTEXTILE COMPOSITE GEOMEMBRANE

### TECHNICAL STANDARD FOR PET WOVEN GEOTEXTILE ASTM STANDARD

Properties	Test Method	Unit	WG100/100PET	WG200-200PET	WG300-100PET
Strength@ Ultimate(MD)	ASTM D4595	kN/m	100	200	300
Strength@ Ultimate(TD)	ASTM D4595	kN/m	100	200	100
Elongation MD	ASTM D4595	%	10±2	10±2	10±2
Strength@5% Strain(MD)	ASTM D4595	kN/m	42	85	-
CBR Strength	EN ISO 12236	kN	7.5	10.6	8.9
Drop Strength	EN 918	mm	11	10	11
Creep Reduced Strength(MD)	ASTM D 5262	kN/m	69	140	205
Long Term Design Strength(MD)	GR-GT7	kN/m	57	118	170
Apparent Open Size	ASTM D4751	mm	≤0.55	≤0.55	≤0.55
Flow Rate	ASTM D4491	L/m <sup>2</sup> /s	15-20	15	15
Roll Width	/	M	5.2	5.2	5.2
Roll Length	/	m	100	100	100

PET woven geotextile is a type of geotextile made from polyester (PET) fibers through weaving technology. It has the following characteristics and applications. It has high strength, corrosion resistance, permeability, and breathability, and can be used for soil reinforcement and protection, soil and water conservation, and agricultural fields.

### TECHNICAL STANDARD FOR PP WOVEN GEOTEXTILE ASTM STANDARD

Property	Test Method	Units	PPWG500	PPWG1000
Wide Width Tensile Strength				
MD @ Ultimate	ASTM D4595	lbs/in(KN/m)	450(78.8)	1142(200)
CD @ Ultimate	ASTM D4595	lbs/in(KN/m)	625(109.4)	1142(200)
Wide Width Tensile Elongation				
MD	ASTM D4595	%	20(max)	20(max)
CD	ASTM D4595		20(max)	20(max)
Factor Seam Strength	ASTM D4884	lbs/in(KN/m)	400 (70)	913 (160)
CBR Puncture	ASTM D6241	lbs(N)	2000(8900)	4000(17800)
Apparent Opening Size (AOS)	ASTM D4751	mm(U.S.Sieve)	0.43(40)	0.6(30)
Water Flow Rate	ASTM D4491	l/min/m <sup>2</sup> (gpm/ft <sup>2</sup> )	813(20)	815(20)
UV Resistance % Retained at 500 hrs	ASTM D4355	%	90	90
Proysics				
Area	ASTM D5261	g/m <sup>2</sup> (oz/yd <sup>2</sup> )	585(17.3)	1119(33)

PP woven geotextile is made of virgin polypropylene fibers. PP woven geotextile features high strength and low elongation to allow for maximum slope support, stabilization and erosion control. Our polypropylene woven geotextile is relatively light in weight, strong tensile strength, smaller elongation as well as brilliant stability. It is widely used in roads, pavements, railroads, structures and water conservancy project, etc.

## PROJECTS CASE OF THE WOVEN GEOTEXTILE COMPOSITE GEOMEMBRANE



[Soft Foundation Consolidation in Philippines]



[Hydrotechnical Works in Turkey]

### COMPOSITE GEOMEMBRANE CONSTRUCTION

The laying of composite geomembrane is divided into two parts: laying at the bottom of the channel and laying on the slope surface. Laying method: Horizontal rolling along the channel axis direction. After the acceptance of the slope surface, the slope surface is laid by rolling along the axis direction of the slope surface, and the composite geotextile membrane at the bottom of the channel is connected in a T-shape. The laying should be carried out in dry weather. In order to facilitate splicing and prevent stress concentration, a wavy relaxation method should be used for laying, with an excess of about 1.5%. After spreading, it should be leveled in a timely manner, and the membrane should match the slope surface smoothly without any protrusions or wrinkles. Construction personnel should wear flat bottomed cloth shoes or soft rubber shoes, and nail shoes are strictly prohibited to avoid stepping on them. If damage is found to the geotextile membrane during construction, it should be repaired in a timely manner.

### COMPARISON BETWEEN ONE CLOTH AND MEMBRANE & TWO CLOTH AND MEMBRANE

- One cloth and one film is suitable for the environment with a little debris on the base surface, and the geotextile replaces the grain material as the geomembrane protective layer to protect the geomembrane impermeable layer from damage and can play the role of drainage.
- Compared to one cloth one film, two cloth one film can adapt to more complex environments and has higher tensile strength and elongation. The laying construction is simple, reduces transportation volume, lowers project cost, and shortens the construction period.

### APPLICATION SCENARIOS

- Highway engineering: soft foundation reinforcement treatment; slope protection; structural layer of anti reflection joints on the road surface; drainage system; green isolation belts.
- Railway engineering: railway foundation reinforcement engineering; adding layers to the embankment slope; tunnel lining waterproofing and drainage layer; landfill, sewage or waste residue treatment for anti-seepage.
- Power plant engineering: nuclear power plant foundation engineering; thermal power plant ash dam engineering; hydroelectric power station engineering; agricultural planting: grass prevention in orchards and farms.



The composite geomembrane liner combines the functions and benefits of geotextiles and geomembranes. The geotextile layer enhances the essential tensile strength, while the geomembrane layer provides exceptional impermeability, preventing leaks and moisture penetration. This versatile liner is extensively utilized in various applications such as landfills, wastewater treatment facilities, road construction, aquaculture, landscaping, and agriculture.