



HUAXIANG

德州华翔新材料科技有限公司

TO BE A WORLD-CLASS
SUPPLIER OF GEOSYNTHETICS

BUSINESS BROCHURE



德州华翔新材料科技有限公司

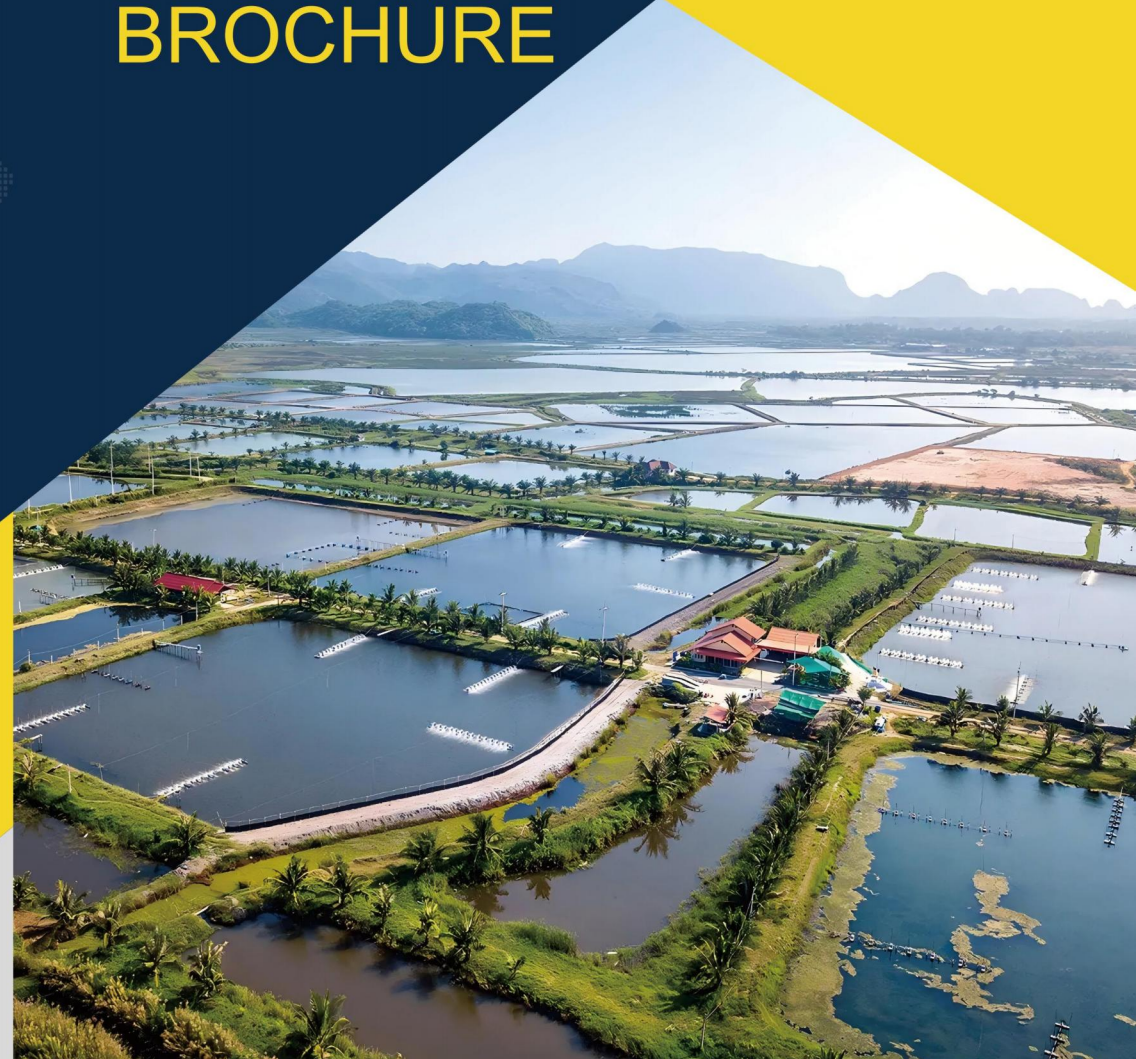
DEZHOU HUAXIANG NEW MATERIAL TECHNOLOGY CO., LTD.

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Factory
Lingcheng District Economic Development Zone,
Dezhou City, Shandong, China

International Trade Office
Aosheng Building, Xinluo Street, Lixia District,
Jinan City, Shandong Province, China

Indonesia Office
Jln jembatan tiga raya no 2L & 2M. jakarta 14450.
PT Bemax International



HUA XIANG

ABOUT US

16

国际生产线
International Production Lines

25

生产经验
Years of Experience

200+

专业人员
Professional Staffs

36000m²

工厂面积
Factory Area



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- 18 防草布 Mulch Film
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- 21 复合排水网 Composite Drainage Geonet
- 22 土工袋 Geobag
- 23 膨润土防水毯 Geosynthetic Clay Liner
- 25 水泥毯 Cement Blanket (GCCM)
- 27 塑料土工格栅 Plastic Geogrid
- 28 钢塑土工格栅 Steel-Plastic Geogrid
- 29 玻纤土工格栅 Fiberglass Geogrid
- 30 经编土工格栅 Warp-Knitted Geogrid
- 31 土工格室 Geocell
- 32 排水板 Drainage Board
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- 34 模袋 Fabric Formed Concrete
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03. 工程案例 ENGINEERING CASES



ABOUT HUA XIANG

Dezhou Huaxiang New Material Technology Co., Ltd. is a professional manufacturer, supplier, wholesaler and exporter of geosynthetic materials.

Since its establishment in 2011, it has been committed to providing one-stop geosynthetic material products and services to global customers. We have over 260 professionals and a 36,000-square-meter production factory equipped with the most advanced production lines and testing equipment.

Our main innovative products include geomembranes, geotextiles, composite geomembranes, fabric formed concrete, cement blankets, geobags, geosynthetic clay liners, drainage boards, geogrids, etc., and we support ODM and OEM customization. All Huaxiang brand products have passed ISO9001, ISO14001, CE and other certifications, and passed SGS and other inspections.

Currently, Huaxiang has provided advanced geomembranes and other geosynthetic products to more than 40 countries. Our main customers are from Saudi Arabia, the United Arab Emirates, the Philippines, Ecuador, Indonesia, Mexico, Malaysia, Thailand, Bangladesh, Brazil and other regions.

Huaxiang's quality assurance and 100% customer satisfaction have enabled us to win wide recognition in the market. We have complete after-sales services and high-quality innovative products, which are the foundation for our foothold in the market.

关于 华翔

德州华翔新材料科技有限公司是一家专业的土工合成材料制造商、供应商、批发商和出口商。

德州华翔新材料科技有限公司是专业的土工合成材料制造商、供应商、批发商和出口商，自2011年成立以来致力于为全球客户提供一站式土工合成材料产品和服务。我们拥有260多名专业人员和36,000平方米的生产工厂，配备了最先进的生产线和检测设备。

我们的主要创新产品包括土工膜、土工布、复合土工膜、土工模袋、水泥毯、土工袋、膨润土防水毯、排水板、土工格栅等，并且支持ODM、OEM定制。华翔品牌所有产品均已通过ISO9001、ISO14001、CE等认证，并通过SGS等检测。

目前，华翔已向40多个国家提供先进的土工膜和其他土工合成产品。我们的主要客户来自沙特、阿联酋、菲律宾、厄瓜多尔、印尼、墨西哥、马来西亚、泰国、孟加拉、巴西等地区。

华翔的品质保证和100%的客户满意度使我们赢得了市场的广泛认可。我们拥有完善的售后服务和优质的创新产品，这是我们立足市场的基础。

遍布全球销售与供应网络

The Global Sales and Supply Network



Warmly, Closely & Friendly



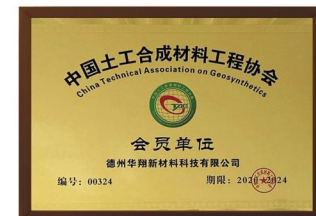
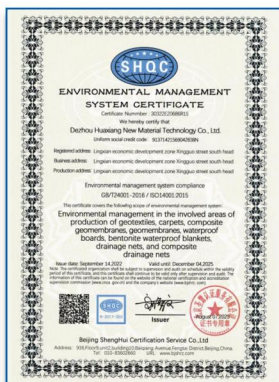
层层严格检测，产品质量可靠；
经验丰富的管理经营团队，标准化的质量管理；
为客户提供土工合成材料一站式解决方案。

Strict testing at all levels ensures reliable product quality;
Experienced management and operation team, standardized quality management;
Provide customers with one-stop solutions for geosynthetic materials.

资质证书 QUALIFICATION CERTIFICATE

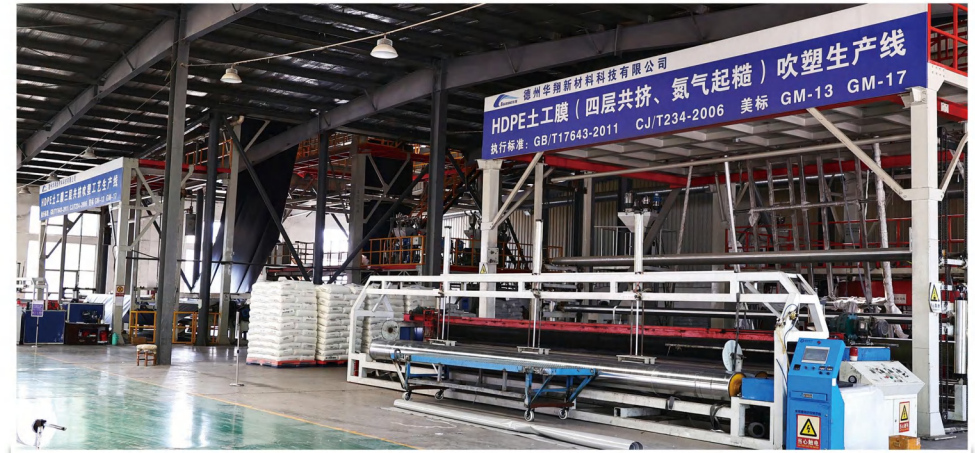
我们的质量符合ASTM GRI-GM13标准，我们还获得了CE、TUV、SGS、TRI、ISO9001、ISO14001、ISO45001等国际权威认证，累计获得了超过20项土工合成材料专利。

Our quality meets the ASTM GRI-GM13 standard. We have also obtained international authoritative certifications such as CE, TUV, SGS, TRI, ISO9001, ISO14001, ISO45001, and have obtained more than 20 patents for geosynthetics.





车间 Workshop



土工膜吹膜生产线 (四层挤压) Geomembrane blown film production line (Four-layer extrusion)



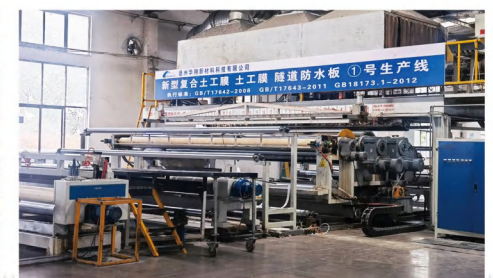
工厂 Factory



工厂 Factory



针刺土工布生产线 Needle punched geotextile production line



复合土工膜生产线 Composite geomembrane production line



原料堆 Raw material pile



色母粒 Color masterbatch



膨润土防水毯生产线
Geosynthetic Clay Liner production line

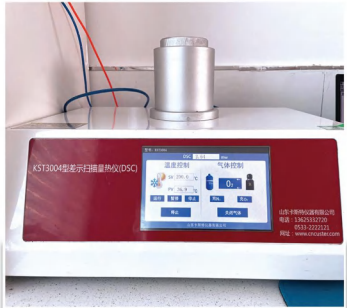


复合排水网生产线
Composite drainage net production line



长丝土工布生产线
Filament geotextile production line

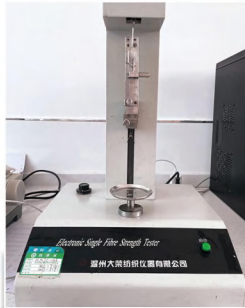
检测设备 TESTING EQUIPMENT



差示扫描热量仪
Differential scanning calorimeter



耐静水压设备
Hydrostatic pressure-resistant equipment



纤维强力机
Fiber strength machine



压片机
Tableting machine



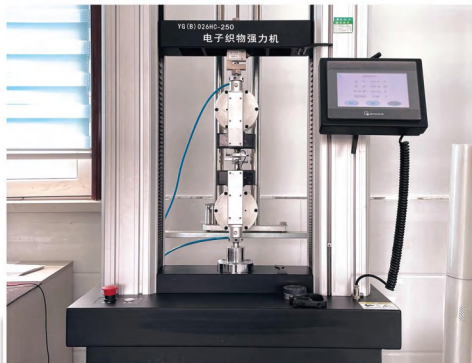
烘干箱
Drying box



熔体流动速率仪
Melt flow rate meter

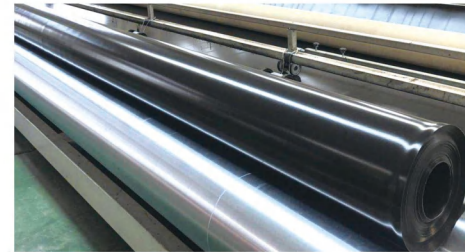


耐环境应力开裂
Resistance to environmental stress cracking



万能强力机
Universal powerful machine

成品 & 运输 PRODUCTS & TRANSPORTATION



土工膜 Geomembrane



土工膜成品堆 Geomembrane finished product pile



土工布 Geotextile



土工布成品堆 Geotextile finished product pile



包装 Package



包装 Package



运输 Transportation

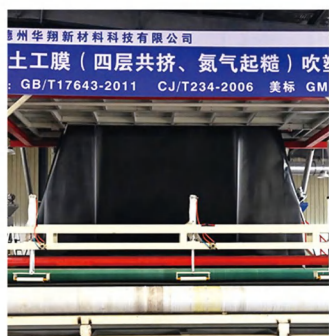


运输 Transportation

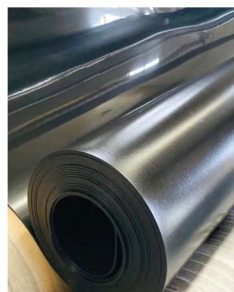
光面土工膜 Smooth Geomembrane

华翔™土工膜是采用优质聚乙烯原料，添加炭黑、抗氧化剂、抗老化、抗紫外线成分制成的低渗透衬垫。具有优异的耐化学性、突出的应力开裂能力、最低的渗透率和优异的抗紫外线性能。华翔™土工膜广泛应用于废物围堵、水围堵、水产养殖、能源、采矿、工业和土木工程应用。

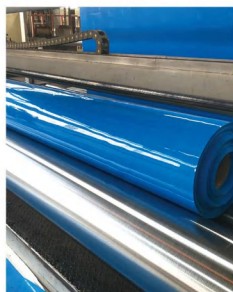
HuaXiang™ Smooth Geomembrane is the low permeability liner made of high grade polyethylene raw material, adding carbon black, antioxidant, antiaging and UV-resistance component which features excellent chemical resistance, outstanding stress crack capacity, lowest permeability and excellent UV resistance. HuaXiang™ brand geomembrane is widely used for waste containment, water containment, aquaculture, energy, mining, industrial and civil engineering applications.



规格 SPECIFICATIONS



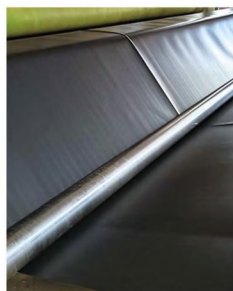
- 质量标准
Quality Standard
ASTM-GRI GM13 GM17
- 材质
Materials
HDPE/LDPE/LLDPE



- 厚度
Thickness
0.2~3.0mm



- 卷材宽度
Roll Width
1.0~8.0m



- 卷长
Roll Length
可定制
Customizable

应用 APPLICATIONS

垃圾填埋场，江堤，湖坝，尾矿坝，污水坝及库区，渠道，蓄液池（坑、矿），养殖场，公路，高速公路，铁路的地基等。

Landfills, river embankments, lake dams, tailings dams, sewage dams and reservoirs, channels, liquid storage tanks (pits, mines), farms, roads, highways, railway foundations, etc.



土工膜技术参数-光面 Geomembrane Technical Parameter- Smooth

属性 Properties	测试方法 Test Method	测试值 Test Value							测试频率 (最低限度) Testing Frequency (minimum)
		0.75mm	1.00mm	1.25mm	1.50mm	2.00mm	2.50mm	3.00mm	
厚度 (最小平均) Thickness (min. ave.) - mm • 10 个值中最低的个体 lowest individual of 10 values - %	D 5199	nom. -10							每卷 per roll
配方密度 (最小平均) Formulated Density (min. ave.) - g/cc	D 1505/D 792	0.940							90,000kg
拉伸性能 (最小平均) Tensile Properties (min. ave.) • 屈服强度 yield strength - kN/m • 断裂强度 break strength - kN/m • 屈服伸长率 yield elongation - % • 断裂伸长率 break elongation - %	D 6693 Type IV	11 20 12 700	15 27 12 700	18 33 12 700	22 40 12 700	29 53 12 700	37 67 12 700	44 80 12 700	9,000kg
抗撕裂性 (最小平均) Tear Resistance (min. ave.) - N	D 1004	93	125	156	187	249	311	374	20,000kg
耐穿刺性 (最小平均) Puncture Resistance (min. ave.) - N	D 4833	240	320	400	480	640	800	960	20,000kg
抗应力开裂 Stress Crack Resistance - hr.	D 5397(App)	500							per GRI GM10
炭黑含量 (范围) Carbon Black Content (range) - %	D 4218	2.0-3.0							9,000kg
炭黑分散体 Carbon Black Dispersion	D 5596	炭黑分散体 (仅接近球形团聚体) 10种不同视图: 类别 1 或 2 中有 9 个, 类别 3 中有 1 个 Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3							20,000kg
氧化诱导时间(最小平均) Oxidative Induction Time (OIT) (min. ave.) (a) 标准 OIT - 最小值 Standard OIT - min. (b) 高压 OIT - 最小值 High Pressure OIT - min.	D 3895 D 5885	100 400							90,000kg
85°C 烘箱老化 Oven Aging at 85°C (a) 标准 OIT (最小平均) - 90 天后保留百分比 Standard OIT (min. ave.) - % retained after 90 days (b) 高压 OIT (最小平均) - 90 天后保留百分比 High Pressure OIT (min. ave.) - % retained after 90 days	D 5721 D 3895 D 5885	55 80							每个配方 per each formulation
抗紫外线 UV Resistance (a) 标准 OIT (最小平均) Standard OIT (min. ave.) (b) 高压 OIT (最小平均) - 1600 小时后保留百分比 High Pressure OIT (min. ave.) - % retained after 1600 hrs	D 7238 D 3895 D 5885	不建议这样做, 因为 Std-OIT 测试的高温会对暴露于紫外线的样品中的某些抗氧化剂产生不切实际的结果 Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV exposed samples. 50							每个配方 per each formulation

糙面土工膜 Textured Geomembrane

华翔™ 纹理土工膜采用喷涂纹理技术生产。它设计有一侧或两侧纹理表面。它除了具有光滑土工膜的优异性能外，还具有更好的界面摩擦系数和抗紫外线性能。增加边坡的稳定性和抗滑性，适用于陡坡或垂直岩土工程，如：炼油厂、化工厂、垃圾填埋场、污水处理、水利工程等。

HuaXiang™ Textured Geomembrane is produced by the spray texture technology. It is designed with one or two side textured surface. Except for the excellent properties of smooth geomembrane, it also has better interface friction coefficient and UV resistance. It increases the stability and slip resistance of slopes and is suitable for steep slope or vertical geotechnical projects, such as: refineries, chemical plants, landfills, sewage treatment, water conservancy projects, etc.



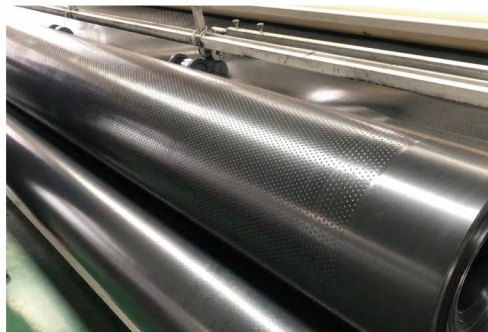
● 单糙面土工膜
Single textured geomembrane



● 双糙面土工膜
Double textured geomembrane



● 柱点土工膜
Column point geomembrane



应用 APPLICATIONS

糙面土工膜施工是一种用于土壤防渗的方法，常用于垃圾填埋场、水库、污水处理厂等工程。

Textured geomembrane construction is a method used to prevent soil seepage and is often used in landfills, reservoirs, sewage treatment plants and other projects.

与光滑土工膜的区别：

Difference from smooth geomembrane:

- 具有更好的界面摩擦系数
- 增加边坡的稳定性和抗滑
- Has better interface friction coefficient;
- Increases slope stability and anti-slip



土工膜技术参数-糙面

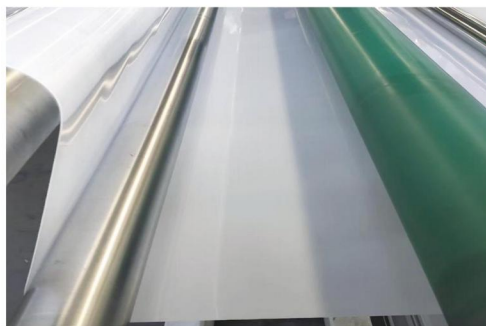
Geomembrane Technical Parameter- Textured

属性 Properties	测试方法 Test Method	测试值 Test Value							测试频率 (最低限度) Testing Frequency (minimum)
		0.75mm	1.00mm	1.25mm	1.50mm	2.00mm	2.50mm	3.00mm	
厚度 (最小平均) Thickness (min. ave.) - mm	D 5994	nom.-5%							每卷 per roll
• 10 个值中最低的个体 lowest individual of 10 values - %		-10							
• 10 个值中最低的个体 lowest individual of 10 values - %		-15							
粗糙度高度 (最小值) Asperity Height mils(min.ave.)-mm	D 7466	0.40							cvcry 2 nd roll
配方密度 (最小平均) Formulated Density (min. ave.) - g/cc	D 1505/D 792	0.940							90,000kg
拉伸性能 (最小平均) Tensile Properties (min. ave.)	D 6693 Type IV								9,000kg
• 屈服强度 yield strength - kN/m		11	15	18	22	29	37	44	
• 断裂强度 break strength - kN/m		8	10	13	16	21	26	32	
• 屈服伸长率 yield elongation - %		12	12	12	12	12	12	12	
• 断裂伸长率 break elongation - %		100	100	100	100	100	100	100	
抗撕裂性 (最小平均) Tear Resistance (min. ave.) - N	D 1004	93	125	156	187	249	311	374	20,000kg
耐穿刺性 (最小平均) Puncture Resistance (min. ave.) - N	D 4833	200	267	333	400	534	667	800	20,000kg
抗应力开裂 Stress Crack Resistance - hr.	D 5397(App)	500							per GRI GM10
炭黑含量 (范围) Carbon Black Content (range) - %	D 4218	2.0-3.0							9,000kg
炭黑分散体 Carbon Black Dispersion	D 5596	炭黑分散体 (仅接近球形团聚体) 10种不同视图: 类别 1 或 2 中有 9 个, 类别 3 中有 1 个 Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3							20,000kg
氧化诱导时间(最小平均) Oxidative Induction Time (OIT) (min. ave.)		/							90,000kg
(a) 标准 OIT - 最小值 Standard OIT - min.	D 8117	100							
(b) 高压 OIT - 最小值 High Pressure OIT - min.	D 5885	400							
85°C 烘箱老化 Oven Aging at 85°C	D 5721	/							每个配方 per each formulation
(a) 标准 OIT (最小平均) - 90 天后保留百分比 Standard OIT (min. ave.) - % retained after 90 days	D 3895	55							
(b) 高压 OIT (最小平均) - 90 天后保留百分比 High Pressure OIT (min. ave.) - % retained after 90 days	D 5885	80							
抗紫外线 UV Resistance	D 7238	/							每个配方 per each formulation
(a)标准 OIT (最小平均) Standard OIT (min. ave.)	D 8117	不建议这样做, 因为 Std-OIT 测试的高温会对暴露于紫外线的样品中的某些抗氧化剂产生不切实际的结果。 Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV exposed samples.							
(b) 高压 OIT (最小平均) - 1600 小时后保留百分比 High Pressure OIT (min. ave.) - % retained after 1600 hrs	D 5885	50							

EVA土工膜 EVA Geomembrane

华翔™隧道用EVA土工膜分为光滑防水板、吊带防水板、复合防水板、吊带复合防水板。规格范围从0.8mm到2.0mm。宽度和长度可根据需要定制。隧道EVA防水板的主要功能是防水、加固、隔离。具有优良的柔韧性、延伸性、耐磨性和耐低温性。

HuaXiang™ EVA geomembrane for tunnel is divided into smooth waterproof board, sling waterproof board, composite waterproof board and sling composite waterproof board. Specifications range from 0.8mm to 2.0mm. Width and length can be customized as needed. The main functions of tunnel EVA waterproof panels are waterproofing, reinforcement, and isolation. It has excellent flexibility, extensibility, wear resistance and low temperature resistance.



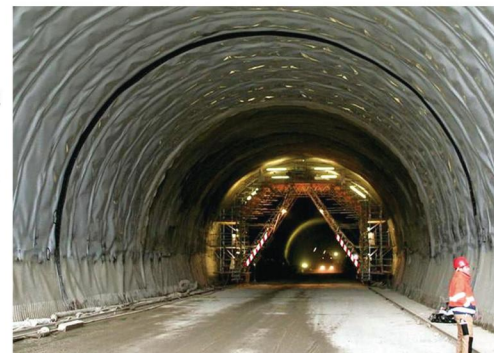
特征 FEATURES

- 寿命长、抗老化，屋顶材料可使用20年以上，地下可使用50年以上。
- 拉伸强度高，伸长率高。
- 良好的高低温灵活性。
- 施工方便，无污染、无毒，完全符合环保标准。
- 耐腐蚀性能好，可用于特殊区域。
- Long life, anti-aging, roof material can be more than 20 years, underground can be more than 50 years.
- Good tensile strength, high elongation.
- Good high/low temperature flexibility.
- The construction is convenient, pollution-free and non-toxic, and fully complies with environmental protection standards.

应用 APPLICATIONS

华翔™EVA土工膜在防渗、防腐、隔离、加固等方面有广泛的应用，应用于地下溶洞、隧道、地铁、市政建设等防水防渗工程。

HuaXiang™ EVA Geomembrane is widely used in anti-seepage, anti-corrosion, isolation, reinforcement and other aspects. It is used in waterproofing and anti-seepage projects such as underground caves, tunnels, subways, and municipal construction.



土工膜技术参数-EVA Geomembrane Technical Parameter- EVA

项目 Item		要求 Require			
		非阻燃型 Non-flame retardant type	阻燃型 Flame retardant type	PE	EVA
拉伸性能 Tensile properties	断裂拉伸强度 Tensile strength at break MPa	≥18	≥18	≥18	≥18
	拉伸伸长率 Elongation at break	≥600%	≥600%	≥600%	≥600%
撕裂强度 Tear strength kN/m		≥95	≥100	≥95	≥100
不透水性 Water impermeability (0.3 MPa/24 h)		无渗漏 No leakage			
低温弯折性 Low temperature bending (-35℃)		无裂纹 No cracks			
加热伸缩量 Heating expansion	延伸mm Extension mm	≤2	≤2	≤2	≤2
	收缩mm Contraction	≤6	≤6	≤6	≤6
热空气老化 Hot air aging (80℃*168h)	断裂拉伸强度 Tensile strength at break MPa	≥15	≥16	≥15	≥16
	拉伸伸长率 Elongation at break	≥550%	≥600%	≥550%	≥600%
耐碱性[饱和 Ca(OH) ₂ 溶液,*168h] Alkali resistance [saturated Ca(OH) ₂ solution, *168h]	断裂拉伸强度 Tensile strength at break MPa	≥16	≥17	≥16	≥17
	拉伸伸长率 Elongation at break	≥550%	≥600%	≥550%	≥600%
人工候化 Artificial weathering (550W/m ² *250h)	断裂拉伸强度保持率 Retention of tensile strength at break	≥80%	≥80%	≥80%	≥80%
	拉伸伸长率保持率 Retention of elongation at break	≥70%	≥70%	≥70%	≥70%
刺破强度 Puncture strength N		≥300			
燃烧性能 Combustion performance	燃烧性能等级 Combustion performance grade	—	—	B1	B1
	产烟特性等级 Smoke generation characteristic grade	—	—	≤2	≤2
	燃烧滴落物/微粒等级 Combustion droplets/particles grade	—	—	d0	d0
	烟气毒性等级 Smoke toxicity grade	—	—	t0	t0

LLDPE土工膜 LLDPE Geomembrane

华翔™ LLDPE土工膜是一种由特殊配方，采用特殊的线性低密度聚乙烯（LLDPE）树脂，采用先进的生产工艺生产的优质土工膜，具有极高的单向及多向延伸性能和柔软性。广泛评估生活垃圾填埋场防渗、固体垃圾填埋场防渗、污水处理厂防渗等项目。

HuaXiang™ LLDPE Geomembrane is a high-quality geomembrane made of special formula, special linear low-density polyethylene (LLDPE) resin and advanced production technology. It has extremely high unidirectional and multi-directional elongation and softness. It is widely used in projects such as domestic waste landfill anti-seepage, solid waste landfill anti-seepage, and sewage treatment plant anti-seepage.



土工膜技术参数-LLDPE
Geomembrane Technical Parameter- LLDPE

属性 Properties	测试方法 Test Method	测试值 Test Value								测试频率 (最低限度) Testing Frequency (minimum)
		0.50mm	0.75mm	1.00mm	1.25mm	1.50mm	2.00mm	2.50mm	3.00mm	
厚度 (最小平均) Thickness (min. ave.) - mm • 10个值中最低的个体 lowest individual of 10 values - %	D 5199	nom. -10%								每卷 per roll
密度g/ml (最大值) Density g/ml (max.)	D 1505/D 792	0.939								90,000kg
拉伸性能(最小平均) Tensile Properties(min. ave.) • 断裂强度 break strength - kN/m • 屈服伸长率 yield elongation - %	D 6693 Type IV	13 800	20 800	27 800	33 800	40 800	53 800	66 800	80 800	9,000kg
2% 模量 (最大) 2% Modulus - N/mm (max.)	D 5323	210	315	420	520	630	840	1050	1260	每个配方 per formulation
抗撕裂性 (最小平均) Tear Resistance (min. ave.) - N	D 1004	50	70	100	120	150	200	250	300	20,000kg
耐穿刺性 (最小平均) Puncture Resistance (min. ave.)-N	D 4833	120	190	250	310	370	500	620	750	20,000kg
轴对称抗断裂应变 -(最小值) Axi-Symmetric Break Resistance Strain - % (min)	D 5397 (APP.)	30								每个配方 per formulation
炭黑含量 (范围) Carbon Black Content (range) - %	D 4218	2.0-3.0								9,000kg
炭黑分散体 Carbon Black Dispersion	D 5596	炭黑分散体 (仅接近球形附聚物) 有10种不同视图: 类别1或2中有9个, 类别3中有1个 Carbon black dispersion (only near spherical agglomerates) for 10 different views: 9 in Categories 1 or 2 and 1 in Category 3								20,000kg
氧化诱导时间(最小平均) Oxidative Induction Time (OIT) (min. ave.) (a) 标准 OIT - 最小值 Standard OIT - min. (b) 高压 OIT - 最小值 High Pressure OIT - min.	D 3895 D 5885	100 400								90,000kg
85°C 烘箱老化 Oven Aging at 85°C (a) 标准 OIT (最小平均) - 90 天后保留百分比 Standard OIT (min. ave.) - % retained after 90 days (b) 高压 OIT (最小平均) - 90 天后保留百分比 High Pressure OIT (min. ave.) - % retained after 90 days	D 5721 D 3895 D 5885	35 60								每个配方 per formulation
抗紫外线 UV Resistance (a)标准 OIT (最小平均) Standard OIT (min. ave.) (b) 高压 OIT (最小平均) - 1600 小时后保留百分比 High Pressure OIT (min. ave.) - % retained after 1600 hrs	D 7238 D 3895 D 5885	不建议这样做, 因为 Std-OIT 测试的高温会对暴露于紫外线的样品中的某些抗氧化剂产生不切实际的结果。 Not recommended since the high temperature of the Std-OIT test produces an unrealistic result for some of the antioxidants in the UV exposed samples.								每个配方 per formulation

长丝土工布 Filament Geotextile

华翔™ 长丝土工布是由聚丙烯为主要原料，经过添加增强剂和添加剂经过熔融喷丝工艺制成的一种非织造无纺布。我们公司生产的涤纶长丝土工布具有最佳的单位重量性能，具有良好的拉伸强度和抗穿刺机械性能，排水性能好，耐酸碱，耐老化。长丝土工布广泛用于土木工程项目的隔离、反滤、排水、防护和路基加固等功能。

HuaXiang™ Filament Geotextile is a non-woven fabric made of polypropylene as the main raw material, after adding reinforcing agents and additives through melt spinning process. The polyester filament geotextile produced by our company has the best unit weight performance, good tensile strength and puncture resistance mechanical properties, good drainage performance, acid and alkali resistance, and aging resistance. Filament geotextile is widely used in isolation, filtration, drainage, protection and roadbed reinforcement in civil engineering projects.



土工布技术参数-涤纶长丝
Geotextile Technical Parameter- Pet Filament

属性 Properties	测试范围 Test Range									
	克重 Weight/g									
	100	150	200	300	400	500	600	800	1000	
标称强度 Nominal strength/(kN/m)	6	9	12	18	24	30	36	48	54	
纵向抗拉强度/(kN/m) ≥ Tensile strength in longitudinal and transverse directions/(kN/m) ≥	6.0	9.0	12.0	18.0	24.0	30.0	36.0	48.0	54.0	
纵向最大负荷下伸长率/% Elongation under maximum load in longitudinal and transverse direction/%	30-80									
CBR 顶破强力 CBR bursting strength/kN ≥	0.9	1.6	1.9	2.9	3.9	5.3	6.4	7.9	8.4	
纵向撕破强力/kN ≥ Tear strength in longitudinal and transverse directions/kN ≥	0.15	0.22	0.29	0.43	0.57	0.71	0.83	1.10	1.25	
等效孔径 O ₉₀ (O ₉₀) Equivalent pore size O ₉₀ (O ₉₀)/mm	0.05-0.30									
垂直渗透系数/(cm/s) Vertical permeability coefficient/(cm/s)	K*(10 ⁻¹ ~10 ⁻³), K=1.0~9.9									
幅宽偏差率 Width deviation/% ≥	-0.5									
单位面积质量偏差率 Vertical permeability coefficient/% ≥	-5									
厚度偏差率 Thickness deviation/% ≥	-10									
厚度变异系数(CV) Coefficient of thickness variation (CV)/% ≤	10									
动态穿孔 Dynamic perforation	破洞直径 Diameter of hole/mm≤	37.0	33.0	27.0	20.0	17.0	14.0	11.0	9.0	7.0
纵向断裂强力(抓样法) /kN ≥ Breaking strength in longitudinal and transverse directions (grab method)/kN ≥		0.3	0.5	0.7	1.1	1.4	1.9	2.4	3.0	3.5
抗紫外线性能(氙弧灯法) Ultraviolet resistance (xenon arc lamp method)	纵向强力保持率/% ≥ Retention rate of strength in longitudinal and transverse directions/% ≥	70								
抗紫外线性能(荧光紫外灯法) Ultraviolet resistance (fluorescent ultraviolet lamp method)	纵向强力保持率/% ≥ Retention rate of strength in longitudinal and transverse directions/% ≥	80								

短丝土工布 Short Fiber Geotextile

华翔™短纤维土工布是以PP或PET短纤维为主要原料，采用非织造技术针刺或热粘合方法生产而成。它是土木工程应用的理想材料，例如道路、港口、水库、运河、水坝和许多其他挡土建筑，以提高土壤稳定性、提供侵蚀控制或辅助排水。

HuaXiang™ Short Fiber Geotextile is produced using PP or PET short fiber as the main raw material and using non-woven technology needle punched or heat bonded methods. It is the ideal material for civil engineering applications such as roads, harbors, reservoirs, canals, dams and many others retaining construction to improve soil stability, provide erosion control or aid in drainage.

规格 Specifications



- 材质 Materials

丙纶 / 涤纶 Polypropylene/Polyester
- 宽度 Width

最宽6m，可定制 Max width 6m, customized.
- 克重 Weight

80g/m²~1500g/m²
- 颜色 Colors

多种颜色，可定制 Various colors, can be customized.
- 长度 Length

根据需求定制 Customized according to needs.

应用 APPLICATIONS

在交通工程中，用于加固地基、保证道路的承载能力和使用寿命。在水利工程中，用于加固坝体、防止泄漏、防止堤坝坍塌。

In traffic engineering, it is used to reinforce the foundation and ensure the load-bearing capacity and service life of the road. In water conservancy projects, it is used to reinforce the dam body, prevent leakage, and prevent dam collapse.



土工布技术参数-涤纶短丝 Geotextile Technical Parameter- Pet Short Fiber

属性 Properties	标称断裂强度/[kN/m]								
	3	5	8	10	15	20	25	30	40
克重 Weight	100	150	200	300	400	500	600	700	800
纵横向断裂强度 Longitudinal and Transverse Tensile Strength(kN/m) ≥	3.0	5.0	8.0	10.0	15.0	20.0	25.0	30.0	40.0
标称断裂强度对应伸长率 Corresponding elongation of nominal fracture strength (%)	20-100								
顶破强力 Bursting strength(kN) ≥	0.6	1.0	1.4	1.8	2.5	3.2	4.0	5.5	7.0
单位面积质量伸长率 Coefficient of variation of mass per unit area(%)	±5								
幅宽偏差率 Width deviation rate (%) ≥	-0.5								
厚度偏差率 Thickness deviation rate (%) ≥	±10								
等效孔径 Sieve Size O ₉₀ (mm)	0.07~0.20								
垂直渗透系数 Vertical Permeability Coefficient (cm/s)	Kx(10 ⁻¹ ~10 ⁻³) 其中: K=1.0~9.9								
纵横向撕破强力 Longitudinal and transverse tearing strength (kN) ≥	0.10	0.15	0.20	0.25	0.40	0.50	0.65	0.80	1.00
抗酸碱性能(强力保持率) Acid and alkali resistance (strength retention rate) (%) ≥	80								
抗氧化性能(强力保持率) Antioxidant activity (strength retention rate) (%) ≥	80								

土工布技术参数-丙纶短丝 Geotextile Technical Parameter- PP Short Fiber

属性 Properties	测试方法 Test Method	单位 Unit	100	200	300	400	500	600	700	800	1000	1200
单位重量变化 unit weight variation		%	±6									
抓取强度 grab strength	MD	N	≥350	≥800	≥1100	≥1500	≥2000	≥2400	≥2800	≥3200	≥3600	≥4000
	TD		≥350	≥800	≥1100	≥1500	≥2000	≥2400	≥2800	≥3200	≥3600	≥4000
抓取伸长率 grab elongation	MD	%	60~80	60~80	60~80	50~100	50~100	50~100	50~100	50~100	50~100	50~100
	TD		50~70	50~70	50~70	50~100	50~100	50~100	50~100	50~100	50~100	50~100
50N 抓取伸长率 grab elongation at 50N	MD	%	3~8	3~8	3~8	3~8	3~8	3~8	3~8	3~8	3~8	3~8
	TD		3~8	3~8	3~8	3~8	3~8	3~8	3~8	3~8	3~8	3~8
梯形撕裂强度 Trapezoidal tear strength	MD	N	≥100	≥350	≥420	≥500	≥580	≥660	≥750	≥840	≥920	≥1000
	TD		≥100	≥350	≥420	≥500	≥580	≥660	≥750	≥840	≥920	≥1000
CBR 断裂强度 CBR mullen burst strength		KN	≥1.3	≥2.0	≥3.5	≥4.3	≥5.5	≥6.5	≥7.5	≥8.5	≥9.5	≥10.5
断裂强度 breaking strength	MD	KN	≥5.0	≥11	≥16	≥22	≥28	≥35	≥43	≥50	≥56	≥65
	TD		≥5.0	≥11	≥16	≥22	≥28	≥35	≥43	≥50	≥56	≥65
	45°oblique		≥5.0	≥11	≥16	≥22	≥28	≥35	≥43	≥50	≥56	≥65
断裂伸长率 breaking elongation	MD	%	40~75	40~75	40~80	50~90	50~90	50~90	50~90	50~90	50~90	50~90
	TD		45~65	45~65	45~70	50~90	50~90	50~90	50~90	50~90	50~90	50~90
50N时的断裂伸长率 breaking elongation at 50N	MD	%	3~6	3~6	3~6	3~6	3~6	3~6	3~6	3~6	3~6	3~6
	TD		3~6	3~6	3~6	3~6	3~6	3~6	3~6	3~6	3~6	3~6
抗穿刺性 puncture resistance		N	≥200	≥430	≥650	≥900	≥1200	≥1500	≥1800	≥2100	≥2400	≥2800
抗穿刺性 anti acid and alkaline		%	breaking strength remain 90%,breaking elongation remain 90%									
干筛孔径 Dry sieve size O ₉₀		mm	≤0.1									
垂直渗透系数 vertical permeability coefficient		cm/s	≤0.2									
剥离强度 peel strength		N/5 cm	≥80		≥100							

机织布 Woven Geotextile

华翔™机织土工布是以聚丙烯、丙乙纶扁丝为原料，由至少两组平行的纱线（或扁丝）组成。用不同的编制编织设备和工艺将经纱与纬纱交织在一起织成布状，可根据不同的使用范围编织成不同的厚度与密实度，一般编织土工布较薄纵横向都具有相当强的抗拉强度（经度大于纬度），具有很好的稳定性能。

HuaXiang™ Woven Geotextile is made of polypropylene and polypropylene flat yarn, and consists of at least two groups of parallel yarns (or flat yarns). The warp yarn and weft yarn are interwoven together to form a cloth using different weaving equipment and processes. It can be woven into different thicknesses and densities according to different use ranges. Generally, the woven geotextile is thinner and has a strong tensile strength in both the longitudinal and transverse directions (longitude is greater than latitude), and has good stability.

应用 APPLICATIONS

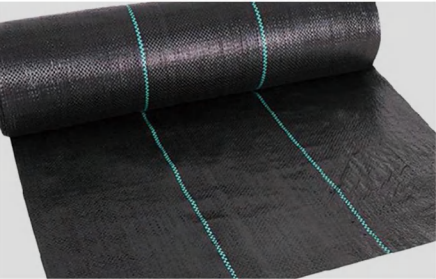
- 加筋作用：用于公路、铁路、机场、石坝、防坡堤、挡土墙回填土、边陂等岩石工程，分散土体应力增加土件模量、限制土件滑移，提高稳定性。
- 防护作用：防止堤岸受风、浪、潮、雨的冲刷，并用于护岸、护坡、护底、防止水土流失。
- Reinforcement: used in rock projects such as highways, railways, airports, rock dams, slope protection embankments, retaining wall backfill, and side embankments to disperse soil stress, increase soil modulus, limit soil slippage, and improve stability.
- Protection: prevent embankments from being eroded by wind, waves, tides, and rain, and are used for bank protection, slope protection, bottom protection, and soil and water loss prevention.

机织布技术参数 Woven Fabric Technical Parameter

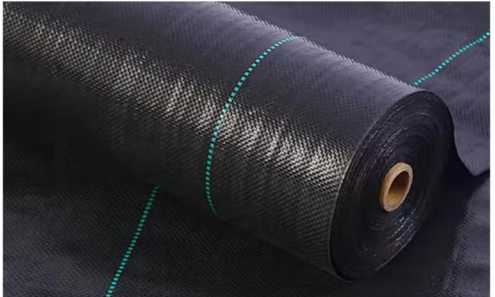
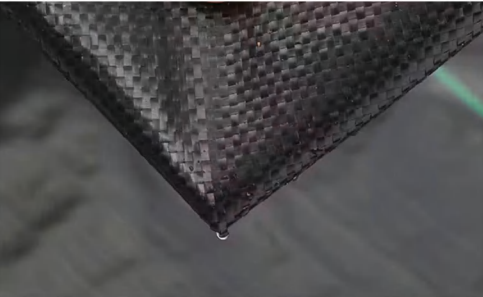
属性 Properties	指标 Value										
标称断裂强度 nominal strength KN/m	35	50	65	80	100	120	140	160	180	200	250
经向断裂强度 breaking strength in MD KN/m ≥	35	50	65	80	100	120	140	160	180	200	250
纬向断裂强度 breaking strength in CD KN/m ≥	按协议规定，无特殊要求，则按经向新裂强度×0.7 0.7 times of breaking strength in MD										
标准强度对应伸长率 nominal elontation% ≤	经向35,纬向30 35 in MD,30 in CD										
经纬向撕破强度 tear strength in MD and CD KN ≥	0.4	0.7	1.0	1.2	1.4	1.6	1.8	1.9	2.1	2.3	2.7
CBR顶破强度 CBR mullen burst strength KN ≥	2.0	4.0	6.0	8.0	10.5	13.0	15.5	18.0	20.5	23.0	28.0
重直渗透系数 Vertical permeability cm/s	Kx(10 ⁻² ~10 ⁻⁵) 其中: K=1.0~9.9										
等效孔径 sieve size O ₉₀ (O ₉₀) mm	0.05~0.50										
幅宽偏差 width variation %	-1.0										
模袋冲灌厚度偏差 woven bag thickness variation under irrigate %	±8										
模袋长、宽偏差 woven bag variation in length and width %	±2										
缝制强度 sewing strength KN/m	标称断裂强度×0.5 half of nominal strength										
单位面积质量偏差 unit weight variation %	-5										

除草布 Mulch Film

华翔™ 除草布是一种纵横编织的塑料编织布，通过遮光阻碍杂草进行光合作用，从而达到除草的目的。
HuaXiang™ Mulch Film is a plastic woven cloth woven vertically and horizontally. It blocks the photosynthesis of weeds by blocking light, thereby achieving the purpose of weeding.



- 特征 FEATURES
- 遮光率强，强度大，无毒环保，透气好，透水性强，起到很好的保温保墒性，利于作物生长。
- High shading rate, high strength, non-toxic and environmentally friendly. It has good air permeability and strong water permeability, and has good heat and moisture retention properties, which is beneficial to crop growth.



应用 APPLICATIONS

可以用于农业、园艺、景观、道路、铁路、机场、码头等领域，防止杂草生长。
It can be used in agriculture, gardening, landscape, roads, railways, airports, docks and other fields to prevent weed growth.

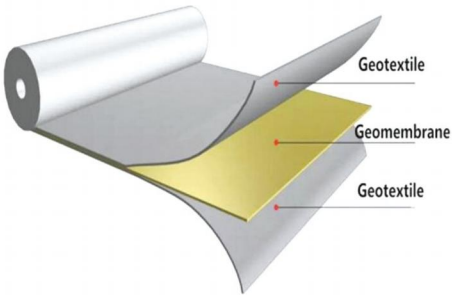


复合土工膜 Composite Geomembrane

华翔™复合土工膜是以无纺土工布为基材，与聚乙烯、聚氯乙烯等膜材料复合而成的无纺复合土工膜。规格有一布一膜、两布一膜、多布多膜等，还具有密封（防渗）功能，是一种理想的防渗材料，广泛应用于渠道、堤坝、平原水库、病险水库、堆石坝等水利和交通隧道工程的防渗加固。

HuaXiang™ composite geomembrane is a non-woven composite geomembrane made of non-woven geotextile as the base material and composited with polyethylene, polyvinyl chloride and other membrane materials. The specifications include one geotextile and one geomembrane, two geotextiles and one geomembrane, multiple geotextiles and multiple geomembranes, etc. It also has a sealing (anti-seepage) function and is an ideal anti-seepage material. It is widely used in the anti-seepage reinforcement of water conservancy and transportation tunnel projects such as channels, dams, plain reservoirs, dangerous reservoirs, rockfill dams, etc.

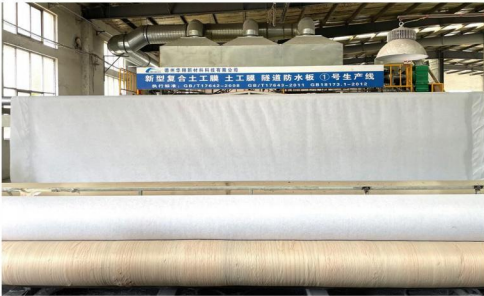
规格 SPECIFICATIONS



● 一布一膜 ● One geotextile, One geomembrane
基布: 100-1000G/m² Base fabric: 100-1000G/m²
膜厚: 0-1.5mm Film thickness: 0-1.5mm

● 两布一膜 ● Two geotextiles, One geomembrane
基布: 80-600G/m² Base fabric: 80-600G/m²
膜厚: 0.2-1.5mm Film thickness: 0.2-1.5mm

生产 PRODUCTIONS



应用 APPLICATIONS



复合土工膜技术参数 Composite Geomembrane Technical Parameter

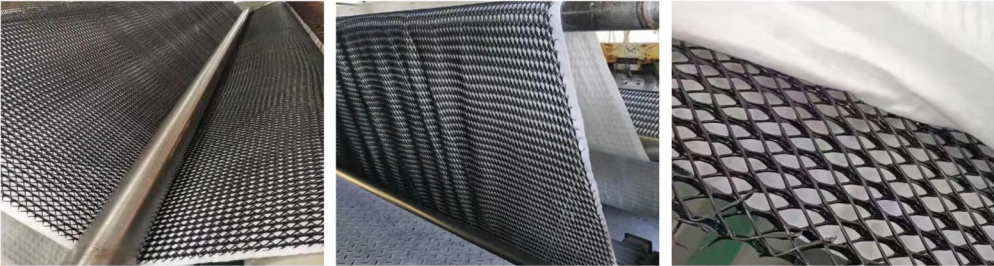
属性 Properties	单位面积质量 Unit weight g/m²							
	400	500	600	700	800	900	1000	1100
标称断裂强度/(KN/m) The fracture strength of nominal /(KN/m)	5	7.5	10	12	14	16	18	20
纵向断裂强度/(KN/m)≥ Longitudinal and transverse rupture strength /(KN/m)	5	7.5	10	12	14	16	18	20
纵向标准强度对应伸长率 % Vertical and horizontal standard strength corresponding elongation	30~100							
CBR顶破强力/KN ≥ CBR breaks through powerfully /KN	1.1	1.5	1.9	2.2	2.5	2.8	3.0	3.2
纵向撕破强力/KN ≥ Vertical and horizontal tearing strength /KN	0.15	0.25	0.32	0.40	0.48	0.56	0.62	0.70
耐静水压/MPa Hydrostatic pressure /MPa	按下面表 According to the table below							
剥离强度Peel Strength N/cm	6							
垂直渗透系数/(cm/s) Coefficient of vertical permeability /(cm/s)	按设计或合同要求 According to design or contract							
幅宽偏差/% Width deviation	-1.0							
属性 Properties	膜厚度/mm Thickness of geomembrane							
	0.2	0.3	0.4	0.5	0.6	0.7	0.8	1.0
耐静水压/MPa ≥ Hydrostatic pressure	一布一膜 (Geotextile+Geomembrane)							
	0.4	0.5	0.6	0.8	1.0	1.2	1.4	1.6
二布一膜 (Geotextile+Geomembrane+Geotextile)		0.5	0.6	0.8	1.0	1.2	1.4	1.6

复合排水网 Composite Drainage Geonet

华翔™复合排水网（又名三维土工排水板、隧道排水板、排水板）由立体结构的塑料网双面粘接渗水土工布组成，可替代传统的沙粒和砾石层，主要用于垃圾填埋场、路基和隧道内壁的排水。

HuaXiang™ Composite Drainage Geonet (also known as three-dimensional geotextile drainage board, tunnel drainage water board, drainage water board) is composed of a three-dimensional plastic net with double-sided bonded permeable geotextile. It can replace traditional sand and gravel layers and is mainly used for drainage of landfills, roadbeds and tunnel inner walls.

生产 PRODUCTIONS



复合排水网技术参数 Composite Drainage Network Technical Parameter

属性 Properties	测试标准 Test Method	基于土工网厚度的测试值 Test Value Based on Geonet Thickness					测试频率 Test Frequency
(a) 土工网（层压前） Geonet (before lamination)							
厚度 Thickness, mm (min. ave.)	D5199	5.1	6.3	7.6			per 22,000kg
密度 Density, g/cc (min. ave.)	D1505/D792	0.95	0.95	0.95			per 22,000kg
碳黑含量 Carbon Black Content,%	D11603/D4218	1.5 to 3.0	1.5 to 3.0	1.5 to 3.0			per 45,000kg
拉伸强度 Tensile Strength, kN/m (min. ave.)	D7179	7.9	10.5	19.1			per 22,000kg
压缩强度 Compressive Strength, kPa(min. ave.)	D6364	830	830	830			per 45,000kg
流动速率/宽度 Flow Rate/Width, (l/min.)/m (min. ave.)	D4716	87	124	161			per 90,000kg
(b) 土工布（层压前） Geotextile (before lamination)							
质量/单位面积 Mass/Unit Area, g/m²(MARV)	D5261	200	270	200	270	200	270
抓取强度 Grab Strength,N(MARV)	D4632	700	890	700	890	700	890
抓取伸长率 Grab Elongation,.(MARV)	D4632	50	50	50	50	50	50
撕裂强度 Tear Strength,N(MARV)	D4533	250	350	250	350	250	350
穿刺强度 Puncture Strength,kN(MARV)	D6241	1.37	1.92	1.37	1.92	1.37	1.92
穿刺强度 介电常数 Permittivity, sec.(MARV)	D4491	0.2	0.2	0.2	0.2	0.2	0.2
AOS, mm (MaxARV)	D4751	0.25	0.25	0.25	0.25	0.25	0.25
紫外线稳定性 UV Stability, % ret. (500 hr.)	D7238	50	50	50	50	50	50
(c) 单面层压复合材料 Single-Sided Laminated Composite							
流速/宽度 Flow Rate/Width,(l/min.)/m (min. ave.)	D4716	19	19	31	31	44	44
层间粘合力 Ply Adhesion, N/m (min. ave.)	D7005	170	170	170	170	170	170
(d) 双面层压复合材料 Double-Sided Laminated Composite							
流速/宽度 Flow Rate/Width,(l/min.)/m (min. ave.)	D4716	6	6	19	19	37	37
层间粘合力 Ply Adhesion, N/m (min. ave.)	D7005	170	170	170	170	170	170

土工袋 Geobag

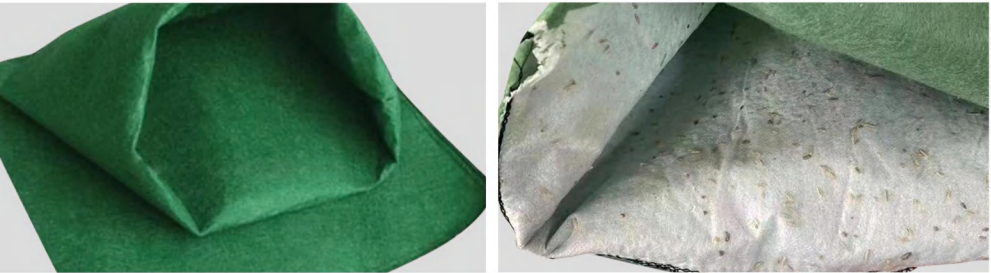
华翔™土工袋是以PET或PP为原料，通过纺粘法制成的双面熨烫定型无纺布，然后加工成指定尺寸的袋子。根据当地土壤情况，按科学比例将土、沙、肥料等填充物装入袋子中，然后喷洒适合当地气候生长的草类植被，形成一种可以恢复或创造新生态系统的产品。

HuaXiang™ Geobag is a double-sided ironing and shaping non-woven fabric made from PET or PP as raw materials through spunbond method, and then processed into a bag of specified size. The bag is filled with soil, sand, fertilizer, and other fillers in a scientific proportion according to the local soil conditions, and then sprayed with grass vegetation suitable for local climate growth, forming a product that can restore or create a new ecosystem.

特征 FEATURES

抗紫外线，抗老化，无毒，不助燃，裂口不延伸；
耐腐蚀性强，耐微生物分解，水土保持性优，易于植物生长。

Anti-ultraviolet, anti-aging, non-toxic, non-combustible, and non-extending cracks.
Strong corrosion resistance, resistance to microbial decomposition, excellent soil and water conservation, and easy for plant growth.



应用 APPLICATIONS

一般用于荒山、矿山修复，高速公路和铁路边坡绿化、河岸护坡，内河整治等工程中。

It is generally used in barren hills and mine restoration, highway and railway slope greening, riverbank slope protection, inland river regulation and other projects.



膨润土防水毯 Geosynthetic Clay Liner (GCL)

华翔™土工合成粘土衬垫（GCL）是以天然纳米膨润土为原料制成的一种新型土工合成材料。通过特殊工艺，将膨润土颗粒固定在两层土工布之间，制成膨润土防水毯。它不仅具有土工布的全部特性，而且还具有优良的防水性能。

HuaXiang™ Geosynthetic Clay Liner (GCL) is a new type of geosynthetics made from natural nano-bentonite. Through a special process, bentonite particles are fixed between two layers of geotextiles to form a bentonite waterproof blanket. It not only has all the characteristics of geotextiles, but also has excellent waterproof performance.

特征 FEATURES



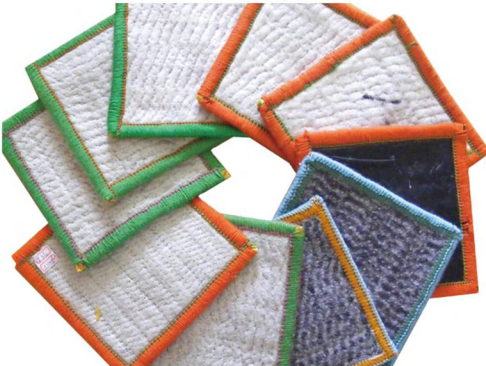
- 永久的防水性能
Permanent waterproof performance



- 保暖性能好
Good thermal insulation



- 轻便易携带
Lightweight and easy to carry



- 绿色环保
Green environmental protection

应用 APPLICATIONS

主要应用于环境工程中的废弃物填埋场、地下水库、地下基础设施建设等工程中解决密封、隔离、防渗漏问题。
Mainly used in the environmental engineering in waste landfill, groundwater reservoir, underground infrastructure project to solve the sealing, isolation, anti leakage problems.



膨润土防水毯技术参数 Geosynthetic Clay Liner Technical Parameter

属性 Properties		技术指标 Technical specification		
		GCL-NP	GCL-OF	GCL-AH
膨润土防水毯单位面积质量(g/m²) The quality of bentonite waterproof blanket unit area		≥4000且不小于规定值 ≥4000 and not less than the specified value	≥4000且不小于规定值 ≥4000 and not less than the specified value	≥4000且不小于规定值 ≥4000 and not less than the specified value
膨润土膨胀指数(mL/2g) Bentonite expansion index		≥24	≥24	≥24
吸蓝量(g/100g) Blue uptake		≥30	≥30	≥30
拉伸强度(N/100mm) Tensile strength		≥600	≥700	≥600
最大负荷下伸长率% Elongation at maximum load		≥10	≥10	≥8
剥离强度 (N/100mm) Peel strength	非织造布与编织布 non-woven and woven fabric	≥40	≥40	-
	PE膜与非织造布 PE film and non-woven fabric	-	≥30	-
渗透数(m/s) permeability coefficient		≤5.0x10 ⁻¹¹	≤5.0x10 ⁻¹²	≤1.0x10 ⁻¹²
耐静水压 Hydrostatic pressure resistance		0.4MPa, 1h无渗漏 no leakage	0.6MPa, 1h无渗漏 no leakage	0.6MPa, 1h无渗漏 no leakage
滤失量mL Filtration loss		≤18	≤18	≤18
膨润土耐久性(mL/2g) Bentonite durability		≥20	≥20	≥20

水泥毯 Cement Blanket (GCCM)

华翔™水泥毯 (GCCM) 是一种新型防水、防潮、防火、抗裂的土工材料。本产品是将传统水泥与纺织纤维技术相结合的毯状材料，将高强度、多功能的混凝土粉末融入高强度纤维骨架中，具有三维纤维复合结构。GCCM 也叫混凝土覆盖层或水泥毯。

HuaXiang™ Cement Blanket (GCCM) is a new type of geosynthetic material that is waterproof, moisture-proof, fire-proof and crack-resistant. This product is a blanket material that combines traditional cement with textile fiber technology, integrating high-strength, multifunctional concrete powder into a high-strength fiber skeleton. It has a three-dimensional fiber composite structure. GCCM is also called Concrete covers or Geosynthetic Cementitious Composite Mat.

特征 FEATURES

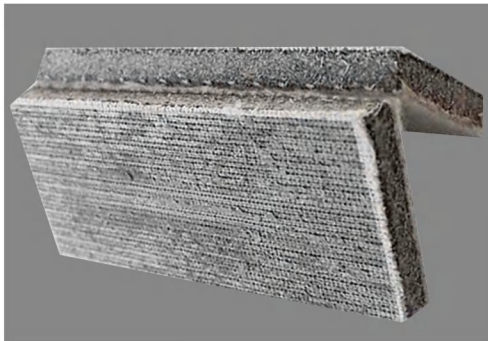


- 使用方便，便于人工装卸和运输。

Easy to use, convenient for manual loading, unloading and transportation.

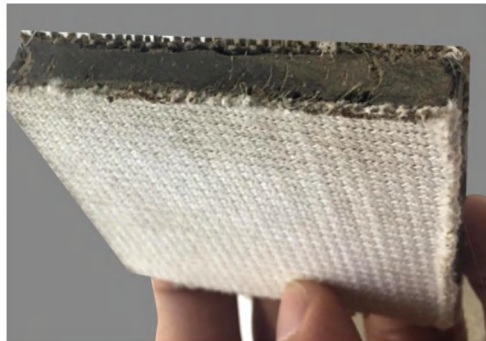
- 环保，使用寿命长。

Environmentally friendly and long service life.



- 材料强度高，具有很好的耐酸碱、抗压性和抗弯曲性。

The material has high strength and good acid and alkali resistance, pressure resistance and bending resistance.



- 快速凝固成型，可根据客户要求采用特殊配方实现快速凝固或延迟凝固。

Rapid solidification molding, special formula can be used to achieve rapid solidification or delayed solidification according to customer requirements.

应用 APPLICATIONS

用于渠道衬砌、混凝土修复、泻湖衬砌、斜坡防护、堤坝衬砌、涵洞衬砌、杂草控制、石笼防护以及其他项目。

Used in channel lining, concrete repair, lagoon lining, slope protection, dam lining, culvert lining, weed control, gabion protection and other projects.



施工 CONSTRUCTION

- 华翔™GCCM可以以200m²/h的速度铺设，比传统的混凝土解决方案快10倍。

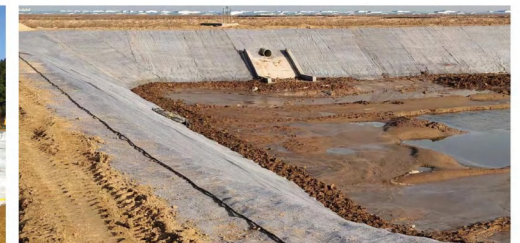
- 华翔™GCCM非常易于使用，因为混凝土是预拌的，因此不需要现场搅拌、测量或压实，并且还可以在雨中或水下安装。

- 华翔™GCCM比传统混凝土更具成本效益，降低物流成本，降低人工成本，单个卷的数量可覆盖与两辆17吨搅拌车相同的区域。

- Huaxiang™ GCCM can be laid at a speed of 200m²/hour, 10 times faster than traditional concrete solutions.

- Huaxiang™ GCCM is very easy to use because the concrete is pre-mixed, so no on-site mixing, measuring or compacting is required, and it can also be installed in the rain or underwater.

- Huaxiang™ GCCM is more cost-effective than traditional concrete, reducing logistics costs and labor costs. The number of a single roll can cover the same area as two 17-ton mixer trucks.



塑料土工格栅 Plastic Geogrid

华翔™塑料土工格栅是经过拉伸形成的具有方形或矩形的聚合物网材，是在经挤压制成的聚合物板材（原料多为聚丙烯或高密度聚乙烯）上冲孔，然后在加热条件下施行定向拉伸。塑料土工格栅产品主要用于工程建设中的土体加筋或加固材料。一般分为单向拉伸塑料土工格栅和双向拉伸塑料土工格栅。

HuaXiang™ Plastic Geogrid is a polymer mesh material with square or rectangular shape formed by stretching. It is punched on the extruded polymer sheet (the raw materials are mostly polypropylene or high-density polyethylene), and then directional stretching is performed under heating conditions. Plastic geogrid products are mainly used for soil reinforcement or reinforcement materials in engineering construction. Generally, they are divided into uniaxial plastic geogrid and biaxial plastic geogrid.

特征 FEATURES

- 增加路基、地基承载力，延长使用寿命。
- 防止路面、地基下沉、开裂，保持地面整洁美观。
- 施工方便，省时省力，减少安装时间，降低养护费用。
- 加固土坡，防止水土流失。
- 减少下层厚度，节省制造成本。
- 增强边坡草皮网片的稳定性，提高绿化效果。

- Increase the bearing capacity of the roadbed and foundation and prolong their service life.
- Prevent road surface and foundation from sinking or flawing, keep clean and beautiful ground surface.
- Convenient construction saves time and labor, reduce mounting time and decrease maintenance expense.
- Enhance earth slope and prevent water loss and soil erosion.
- Decrease underlayer thickness and save manufacturing cost.
- Enhance the stability of side slope turf net patch to improve greening.

应用 APPLICATIONS

单向拉伸塑料土工格栅适用于挡墙、陡坡、路堤、桥台以及塌方修复等工程的加筋材料。

双向拉伸塑料土工格栅适用于公路、铁路、机场、码头等的软基处理和边坡、堤坝、护岸、道路拓宽公路路面、机场道面等工程的加固材料。

Uniaxially stretched plastic geogrids are suitable for reinforcement materials in projects such as retaining walls, steep slopes, embankments, bridge abutments, and landslide repair.

Biaxially stretched plastic geogrids are suitable for soft foundation treatment in highways, railways, airports, docks, etc. and reinforcement materials for slopes, embankments, revetments, road widening, highway pavements, airport pavements, etc.



钢塑土工格栅 Steel-plastic Geogrid

华翔™钢塑土工格栅筋材采用高强度钢丝包覆原生聚乙烯或高密度聚乙烯，采用特殊超声波焊接工艺制成，钢塑土工格栅筋材在同一平面内纵、横向错开间隔焊接而成，可根据工程加固力要求制成不同的网径和根数。

HuaXiang™ Steel-plastic Geogrid reinforcement is made of high strength steel coated with virgin polyethylene or high density polyethylene by special ultrasonic welding technology. Steel plastic geogrid reinforcement is weld into longitudinal and latitudinal staggered intervals in the same planner, different wire mesh diameter and root number can be fabricated according to project reinforcement force requirement.

特征 FEATURES

- 与传统格栅相比，钢塑土工格栅更具有强度大、承载力强、抗腐蚀、防老化、摩擦系数大、孔眼均匀、施工方便、使用寿命长等特点。
- 能有效的避免在施工过程中被机具碾压、破坏而造成的施工损伤。
- Compared with traditional grids, steel-plastic geogrids have the characteristics of greater strength, stronger bearing capacity, corrosion resistance, anti-aging, greater friction coefficient, uniform holes, convenient construction, and longer service life.
- It can effectively avoid construction damage caused by crushing and destruction by machinery during construction.

应用 APPLICATIONS

钢塑土工格栅广泛应用于挡土墙、边坡、公路、铁路、高速公路、桥台等加固工程。由于其优良的耐腐蚀性能，是沿海堤坝加固的理想材料。

Steel-plastic geogrids are widely used in reinforcement projects such as retaining walls, slopes, roads, railways, highways, bridge abutments, etc. Due to its excellent corrosion resistance, it is an ideal material for coastal embankment reinforcement.



玻纤土工格栅 Fiberglass Geogrid

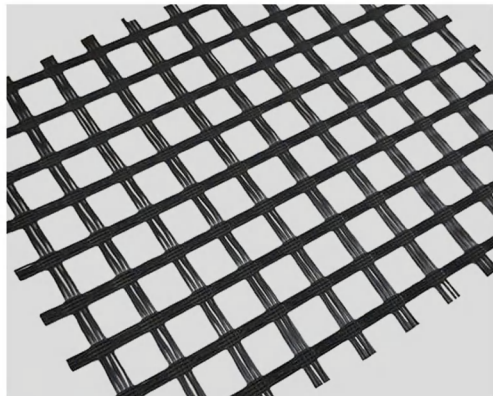
华翔™ 玻纤土工格栅是以GE纤维为主要原料，采用先进的编织工艺及特殊的涂复处理工艺制成的网状结构材料，可提高整体使用性能，是一种新型优良的土工基材。

HuaXiang™ Fiberglass Geogrid is a mesh structure material made of GE fiber as the main raw material, using advanced weaving technology and special coating treatment technology. It can improve the overall performance and is a new type of excellent geogrid base material.

特征 FEATURES

强度高、伸长率低、耐高温、模量高、重量轻、韧性好、耐腐蚀、寿命长。

High strength, low elongation, high temperature resistance, high modulus, light weight, good toughness, corrosion resistance, long life.



应用 APPLICATIONS



经编土工格栅 Warp-knitted Geogrid

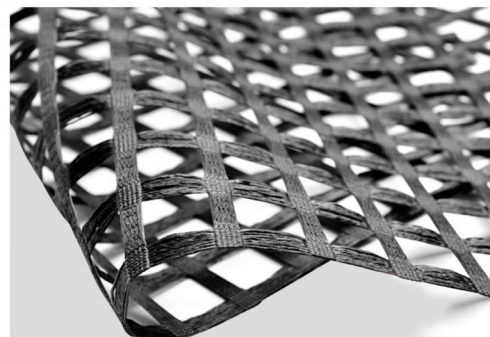
华翔™ 经编土工格栅采用高强度涤纶工业长丝，经过经编定向织造网格坯布，经PVC涂覆加工成土工格栅。应用于软土地基处理和路基、堤坝等工程的加筋增强，以提高工程质量降低工程造价。

HuaXiang™ Warp-knitted Geogrid is made of high-strength polyester industrial filament, warp-knitted directional woven grid fabric, and PVC coated to form a geogrid. It is used in soft soil foundation treatment and reinforcement of roadbeds, dams and other projects to improve project quality and reduce project costs.

特征 FEATURES

质轻，强度高，结构均一，抗弯折性强，经编粘焊便于施工。

Light weight, high strength, uniform structure, strong bending resistance, warp knitting and welding for easy construction.



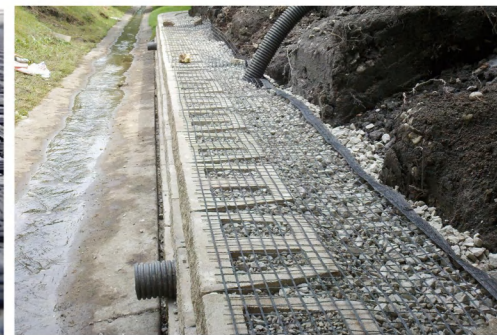
应用 APPLICATIONS

基础工程，道路，矿井防护。

海防江河堤岸护坡等工程的地基加筋处理。

Basic engineering, roads, mine protection.

Foundation reinforcement for coastal defense, river embankment and slope protection projects.



土工格室 Geocell

华翔™土工格室是由强化的HDPE片材料，经高强度焊接而形成的一种三维网状格室结构。一般经超声波针式焊接而成。因工程需要，有的在膜片上进行打孔。

HuaXiang™ Geocell is a three-dimensional mesh cell structure formed by high-strength welding of reinforced HDPE sheet material. Generally made by ultrasonic needle welding. Due to engineering needs, some holes are drilled in the diaphragm.

特征 FEATURES

抗老化、耐酸碱、结构均一，具有很好的侧向限制固土作用，施工简便快捷。

Anti-aging, acid and alkali resistant, uniform structure, good lateral restraint and soil fixation, easy and fast construction.

应用 APPLICATIONS

荷载支撑：解决不可接受的道路、停车场和院子表面问题。

护坡：为路堤材料的长期可持续性创造稳定的环境。

渠道保护：确保暴露于各种侵蚀条件下的渠道的稳定性和保护。

植被挡土墙：包括陡坡、挡土墙、重力墙等。

海岸线：提供独特的解决方案，以防止由水接触、表面流和波浪作用引起的侵蚀问题。

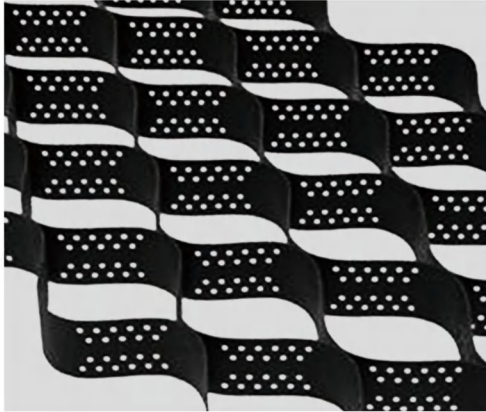
Load support: Solve unacceptable road, parking and yard surface problems.

Slope protection: Create a stable environment for long-term sustainability of embankment material.

Ditch protection: Ensure stability and protection of ditches exposed to all types of erosive conditions.

Vegetated retaining walls: including steepened slopes, retaining walls, gravity walls and so on.

Shorelines: Provide unique solutions to prevent erosion problems caused by water contact, surface flow and wave action.



排水板 Drainage board

华翔™排水板采用特殊工艺，将塑料片材从封闭的凸出圆柱壳中压出，形成凹凸薄膜。壳体是连续的，具有三维空间和一定的支撑高度，能承受长期高压而不变形。外壳顶部覆盖有土工布过滤层，以确保排水通道不被异物堵塞，例如回填土颗粒或混凝土。

HuaXiang™ Drainage Board uses a special process to press the plastic sheet out of the closed protruding cylindrical shell to form a concave convex film. The shell is continuous, has three-dimensional space and a certain support height that can withstand long-term high pressure without deformation. The top of the shell is covered with a geotextile filter layer to ensure that the drainage channel is not blocked by foreign objects, such as backfill soil particles or concrete.

特征 FEATURES

防水性能强，耐化学腐蚀，坚固耐用，兼具HDPE和土工布的双重特性，抗压强度高，过滤性能好，排水蓄水性能优良，耐磨性好，重量轻，便于运输。

Enhanced waterproof capability, Chemical resistant, Strong and durable
Dual characteristics of HDPE and geotextiles, High compressive strength
Good filtering performance, Excellent performance of drainage and water accumulation, Good wear resistance, Light weight and easy to transport, Quick and convenient installation.

应用 APPLICATIONS

绿化工程：车库顶板绿化、足球场、浴场工程。

市政工程：道路路基、地铁隧道、垃圾填埋场。

建筑工程：层面防渗和隔热层等。

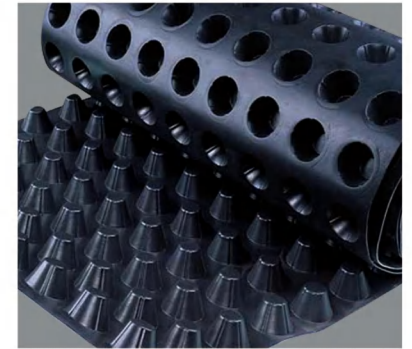
交通工程：路基和护坡层。

Greening projects: garage roof greening, football field, bathhouse projects.

Municipal engineering: road subgrade, subway tunnels, landfills.

Construction engineering: layer anti-seepage and heat insulation layer, etc.

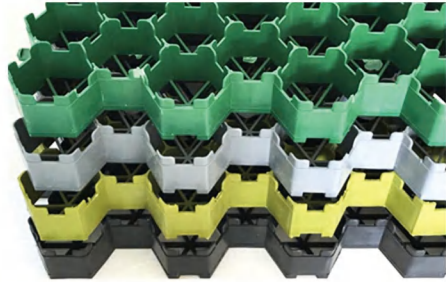
Traffic engineering: embankments and slope protection.



塑料植草格 Plastic Grass Pavers

华翔™ 植草格是一种可循环使用的环保材料具有耐压、耐磨、抗冲击、抗老化、耐腐蚀等特性，完美实现草坪、停车场二合一，提升品质，节约投资。

HuaXiang™ Plastic Grass Pavers is a recyclable environmentally friendly material with the characteristics of pressure resistance, wear resistance, impact resistance, aging resistance, corrosion resistance, etc. It perfectly realizes the combination of lawn and parking lot, improves quality and saves investment.



特征 FEATURES

高强度、长寿命，性能稳定性，抗紫外线、耐酸碱腐蚀、抗磨压，排水优良，绿色环保，安装快捷，节约人工，缩短施工周期。

High strength, long life, stable performance, anti-ultraviolet, acid and alkali corrosion resistance, wear and pressure resistance, excellent drainage, green and environmentally friendly, quick installation, labor saving, and shortened construction period.

应用 APPLICATIONS

植草格将植草区域变为可承重表面，适用于停车场、人行道、出入通道、消防通道、高尔夫球道、屋顶花园和斜坡固坡护堤。尤其适合于设在各类居住小区、办公楼、开发区的停车场和车辆出入通道，也可在运动场周围、露营场所和草坪上建造临时停车场。

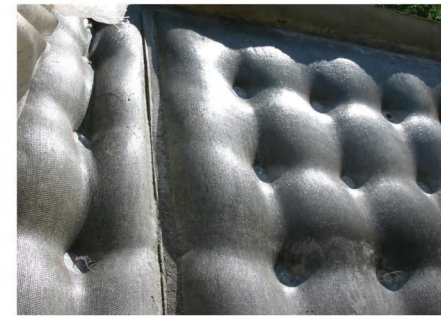
Plastic grass pavers turn grassed areas into load-bearing surfaces, suitable for parking lots, sidewalks, access roads, fire lanes, golf courses, roof gardens and slope embankments. They are especially suitable for parking lots and vehicle access roads in various residential areas, office buildings, and development zones. They can also be used to build temporary parking lots around sports fields, camping sites and lawns.



模袋 Fabric Formed Concrete

华翔™ 土工模袋是由上下两层土工织物制作而成的大面积连续袋状材料，袋内充填混凝土或水泥砂浆，凝固后形成整体混凝土板，适用于护坡。模袋上下两层之间用一定长度的尼龙绳拉接，用以控制填充时的厚度。

HuaXiang™ Fabric Formed Concrete are large-area continuous bag materials made of upper and lower layers of geotextile. The bags are filled with concrete or cement mortar. After solidification, they form an integral concrete slab, which is suitable for slope protection. The upper and lower layers of the mold bag are connected with a certain length of nylon rope to control the thickness during filling.



特征 FEATURES

一次喷灌成型，施工简便、速度快。能适应各种复杂地形可直接水下施工，机械化程度高，所护坡面面积大、整体性强、稳定性好，使用寿命长。

One-time sprinkler injection molding, construction is simple and fast. It can adapt to various complex terrains and can be directly constructed underwater. It has a high degree of mechanization, a large slope protection area, strong integrity, good stability and long service life.

应用 APPLICATIONS

广泛用于江、河、湖、海的堤坝护坡、护岸、港、码头等防护工程。

It is widely used in protection projects such as dam slope protection, bank protection, ports, and wharfs in rivers, lakes, and seas.



配套设备

SUPPORTING EQUIPMENT



● HX800 焊机
HX800 Welding machine

功率: 800W Power: 800W
重量: 5.0Kg Weight: 5.0Kg



● HX900 焊机
HX900 Welding machine

功率: 1800W Power: 1800W
重量: 13Kg Weight: 13Kg



● 挤出焊枪
Hand extruder

功率: 800W Power: 800W
重量: 6.5Kg Weight: 6.5Kg



● 热风焊枪
Hot air blower

功率: 2000W Power: 2000W
重量: 2.4Kg Weight: 2.4Kg



● 真空检测
Vacuum leak testing hood

功率: 230W Power: 230W
重量: 8.5Kg Weight: 8.5Kg



● 拉力机
Tensiometer

功率: 230W Power: 230W
重量: 12Kg Weight: 12Kg



● 电火花测漏仪
Spark leak detector

功率: 30W Power: 30W
重量: 1.4Kg Weight: 1.4Kg



● 焊条
Welding Rod



● 土工胶带
Geotechnical Tape

工程案例

ENGINEERING CASES

湖泊建设

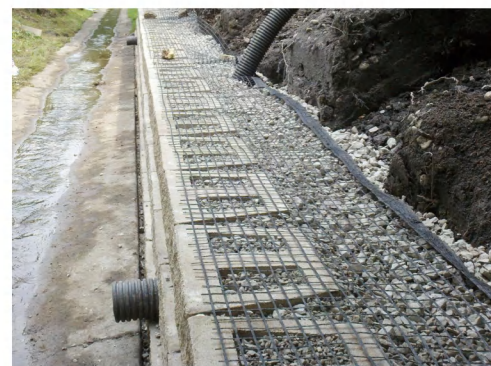
Lake construction



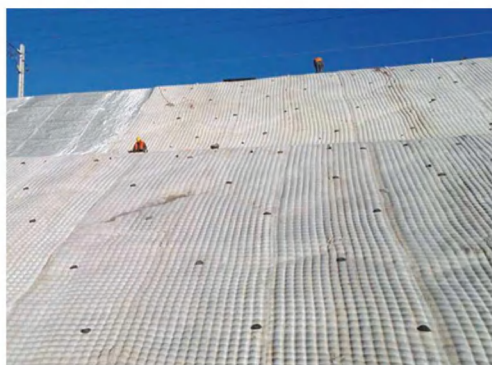
水产养殖 Aquaculture



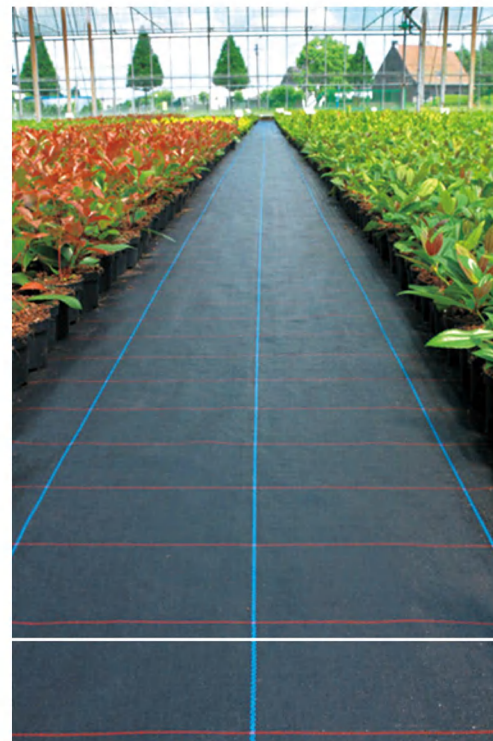
道路建设 Road construction



坡体保护
Slope protection



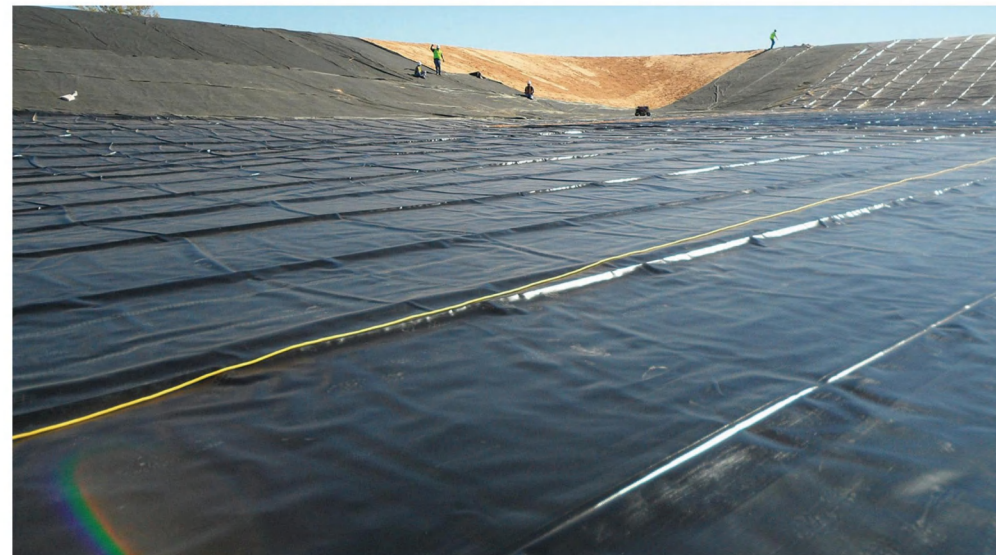
植物生长
Plant growth



矿业尾矿处理
Mining tailings treatment



垃圾填埋场
Landfill



沼气池氧化塘
Biogas digester oxidation pond



河塘沟渠
River pond ditch

