辽宁
LIAO NING HENG YU
恒禹

德为先 诚为基
质为本 创为根

产业报国 造福民生

中国·辽宁

辽宁恒禹新材料有限公司
LIAONING HENGYU NEW MATERIALS CO.,LTD.
地址：辽宁省沈阳市新民市胡台新城振兴十街20-2
Address: 20-2, Zhenxing 10th Street, Hutai New Town, Xinmin City,
Shenyang, Liaoning Province, China

辽宁恒禹新材料有限公司
LIAONING HENGYU NEW MATERIALS CO.,LTD.

造福民生

产业报国

ABOUT US

关于我们

辽宁恒禹新材料有限公司

Liaoning Hengyu New Materials Co., Ltd.

辽宁恒禹新材料有限公司坐落于辽宁省沈阳市，注册资本5080万元，是一家集研发、制造、工程技术与环境治理服务于一体的科技型企业。公司以土工合成材料为核心，业务范围全面覆盖产品研发、专业咨询、方案设计、项目施工及生态修复等领域。

企业核心产品包括HDPE土工膜、短丝土工布、长丝土工布、复合土工膜、水泥毯等系列，各项指标均严格符合GB/T 17638、GB/T 17639、GB/T 17643、CJ/T 234等国家及行业标准，并满足GRI GM13、ASTM等国际规范，产品质量稳定，性能优异。

恒禹的业务网络遍及全国，并成功拓展至海外市场，与多家国际客户形成稳固合作。公司通过持续的技术创新与精细化的生产管理，为市政、水利、环保等领域的各类工程提供高品质材料与系统化解决方案，着力提升项目的安全性与耐久性。

Liaoning Hengyu New Materials Co., Ltd., based in Shenyang, Liaoning Province, China,with a registered capital of RMB 50.8 million, is a technology-oriented enterprise that integrates R&D, manufacturing, engineering services, and environmental management. Focusing on geosynthetic materials, the company's business scope covers product development, technical consulting, project design, construction, and ecological restoration.

Hengyu's core products include HDPE geomembranes, staple fiber geotextiles, filament geotextiles, composite geomembranes, and cement blanket(GCCM). All products strictly comply with GB/T 17638, GB/T 17639, GB/T 17643, and CJ/T 234 national and industry standards, as well as international standards such as GRI GM13 and ASTM, ensuring stable quality and outstanding performance.

Hengyu's business network extends across China and has successfully expanded into overseas markets, establishing strong partnerships with international clients. Through continuous technological innovation and refined production management, the company delivers high-quality materials and integrated solutions for municipal, water conservancy, and environmental engineering projects, enhancing project safety and durability.

ABOUT TECHNOLOGY
关于工艺

设备工艺
Manufacturing Technology

ABOUT QUALIFICATIONS
关于资质

统一社会信用代码
91210114MAC65TND3N

营业执照
（副本）
（副本号：1-1）

名　　称　辽宁恒禹新材料有限公司
类　　型　有限责任公司
法定代表人　于博
经营范围　一般项目：塑料制品销售；塑料制品制造；建筑防水卷材产品制造；建筑防水卷材产品销售；金属丝网及其制品销售；金属丝网及其制品制造；面料纺织加工；玻璃纤维及制品销售；专用化学产品制造（不含危险化学品）；专用化学产品销售（不含危险化学品）；新型膜材料制造；橡胶制品销售；橡胶制品制造；建筑材料销售；产业用纺织制成品制造；产业用纺织制成品销售；非金属矿及制品销售；新材料技术研发；合成材料销售；风动和电动工具销售；货物进出口；技术进出口。（除依法须经批准的项目外，凭营业执照依法自主开展经营活动）
注册资本　人民币伍仟零捌拾万元整
成立日期　2022年12月09日
住　　所　辽宁省沈阳市新民市沈阳胡台新城振兴十街20-2
登记机关　新民市市场监督管理局
2023年11月24日

扫描二维码登录"国家企业信用信息公示系统"了解更多登记、备案、许可、监管信息。

国家企业信用信息公示系统网址：http://www.gsxt.gov.cn
市场主体应当于每年1月1日至6月30日通过国家企业信用信息公示系统报送公示年度报告。
国家市场监督管理总局监制

企业信用等级证书
ENTERPRISE CREDIT EVALUATION CERTIFICATE
辽宁恒禹新材料有限公司
统一社会信用代码91210114MAC65TND3N
针对该企业的信用记录、经营状况、债务风险、发展前景，结合社会口碑、公众认可度，经审核评估，认定该企业信用等级为：
AAA
信用编码 HXZC202310905
Credit Code
颁发日期 2023年06月08日
Date of issue
有效期至 2028年06月07日
Date of expiry
公示查询 www.315gov.cn
www.sjwy.org.cn
www.creditbidding.org.cn
BCC
商务信用反认标识
电子证书
华夏信诚（北京）信用评价有限公司
Huaxia Xinchengheng (Beijing) International Credit Evaluation Co.,Ltd.

企业资信等级证书
ENTERPRISE CREDIT EVALUATION CERTIFICATE
辽宁恒禹新材料有限公司
统一社会信用代码91210114MAC65TND3N
针对该企业的信用记录、经营状况、债务风险、发展前景，结合社会口碑、公众认可度，经审核评估，认定该企业资信等级为：
AAA
信用编码 HXZC202310906
Credit Code
颁发日期 2023年06月08日
Date of issue
有效期至 2028年06月07日
Date of expiry
公示查询 www.315gov.cn
www.sjwy.org.cn
www.creditbidding.org.cn
BCC
商务信用反认标识
电子证书
华夏信诚（北京）信用评价有限公司
Huaxia Xinchengheng (Beijing) International Credit Evaluation Co.,Ltd.

ABOUT QUALIFICATIONS
关于资质

质量服务诚信单位

QUALITY SERVICE INTEGRITY ENTERPRISE

辽宁恒禹新材料有限公司

统一社会信用代码:91210114MAC657ND3N

针对该企业的信用记录、经营状况、债务风险、发展前景、结合社会口碑、公众认可度，经审核评估，认定该企业质量服务诚信单位等级为：

AAA

信用编码 HXZC202310907
Credit Code

颁发日期 2023年06月08日
Date of issue

有效期至 2028年06月07日
Date of expiry

公示查询 www.315gov.cn
www.sywy.org.cn
www.cred.tbidding.org.cn

商务信用互认标识　电子证书

诚信经营示范单位

INTEGRITY BUSINESS ENTERPRISE

辽宁恒禹新材料有限公司

统一社会信用代码:91210114MAC657ND3N

针对该企业的信用记录、经营状况、债务风险、发展前景、结合社会口碑、公众认可度，经审核评估，认定该企业诚信经营示范单位等级为：

AAA

信用编码 HXZC202310909
Credit Code

颁发日期 2023年06月08日
Date of issue

有效期至 2028年06月07日
Date of expiry

公示查询 www.315gov.cn
www.sywy.org.cn
www.cred.tbidding.org.cn

商务信用互认标识　电子证书

重合同守信用企业

OVSERVE CONTRACTS AND KEEP PROMISES ENTERPRISE

辽宁恒禹新材料有限公司

统一社会信用代码:91210114MAC657ND3N

针对该企业的信用记录、经营状况、债务风险、发展前景、结合社会口碑、公众认可度，经审核评估，认定该企业重合同守信用企业等级为：

AAA

信用编码 HXZC202310908
Credit Code

颁发日期 2023年06月08日
Date of issue

有效期至 2028年06月07日
Date of expiry

公示查询 www.315gov.cn
www.sywy.org.cn
www.cred.tbidding.org.cn

商务信用互认标识　电子证书

重质量守信用单位

VALUE QUALITY AND CREDIT ENTERPRISE

辽宁恒禹新材料有限公司

统一社会信用代码:91210114MAC657ND3N

针对该企业的信用记录、经营状况、债务风险、发展前景、结合社会口碑、公众认可度，经审核评估，认定该企业重质量守信用单位等级为：

AAA

信用编码 HXZC202310910
Credit Code

颁发日期 2023年06月08日
Date of issue

有效期至 2028年06月07日
Date of expiry

公示查询 www.315gov.cn
www.sywy.org.cn
www.cred.tbidding.org.cn

商务信用互认标识　电子证书

ABOUT QUALIFICATIONS
关于资质

重服务守信用企业

VALUE SERVICE AND CREDIT ENTERPRISE

辽宁恒禹新材料有限公司

统一社会信用代码:91210114MAC65TND3N

针对该企业的信用记录、经营状况、债务风险、发展前景、结合社会口碑、公众认可度，经审核评估，认定该企业重服务守信用企业等级为：

AAA

信用编码:HXZC202310911

Credit Code

颁发日期:2023年06月08日

Date of issue

有效期至:2026年06月07日

Date of expiry

公示查询:www.315gov.cn

www.syxy.org.cn

www.creditbidding.org.cn

商务信用互认标识　电子证书

证书说明:

1.企业信用等级自评定之日起有效期为三年。

The enterprise credit rating is valid for three years from the date of assessment.

2.企业信用等级实行复审制度，有效期内，每年复审一次，经复审合格的，可继续使用；信用状况发生变化的，需要重新评定信用等级并更换证书。

The enterprise credit rating is reviewed yearly/on an annual basis: If the credit status changes, the credit rating shall be re-evaluated and the certificate shall be replaced.

3.有效期内企业改变名称的，必须持证照变证单位办理变更手续。

If the name of the enterprise has been modified within the validity period of the certificate, the person in charge is required to bring the certificate to the issuing unit for the change procedure.

4.本证书只证明企业有效期内的信用状况，不作他用。

The certificate shall only serve as proof of credit status of the enterprise, and shall not be used for other purposes.

5.本证书不得涂改，转借。

The certificate shall not be altered nor lent to other party.

商务诚信公共服务平台

内蒙古正信信用服务有限公司

(中国人民银行企业征信备案编号：14001)

企业信用评价AAA级信用企业

ENTERPRISE CREDIT EVALUATION

公司名称:辽宁恒禹新材料有限公司

信用编码:HXZC202310905

有效日期:2023-06-08至2026-06-07

公示查询:商务诚信公共服务平台

(www.315gov.cn)

商业信用信息公共服务平台

(www.syxy.org.cn)

中国信用招标投标网

(www.creditbidding.org.cn)

商务信用互认标识　网络查询

商务诚信公共服务平台

华夏众诚(北京)国际信用评价有限公司

Huaxia Zhongcheng (Beijing) International Credit Evaluation Co., Ltd.

企业信用等级证书

ENTERPRISE CREDIT EVALUATION CERTIFICATE

信用编码:BC09111104904

辽宁恒禹新材料有限公司

统一社会信用代码:91210114MAC65TND3N

根据DB/T23794-2023，针对该企业的信用记录、经营状况、债务风险、发展前景、结合社会口碑、公众认可度、经审核评估，认定该企业的信用等级为：

AAA

颁发日期:2023年06月08日

有效期至:2026年06月07日

证书查询:www.315gov.cn

www.syxy.org.cn

www.creditbidding.org.cn

商务信用互认标识　电子证书

证书说明:

1.企业信用等级自评定之日起有效期为三年。

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2.企业信用等级实行复审制度。有效期内，每年复审一次，经复审合格的，可继续使用；信用状况发生变化的，需要重新评定信用等级并更换证书。

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商务诚信公共服务平台

内蒙古正信信用服务有限公司

(中国人民银行企业征信备案编号：14001)

质量管理体系认证证书

辽宁恒禹新材料有限公司

注册地址：辽宁省沈阳市新民市红阳镇白泉镇镇区十街26-2

经营地址：辽宁省沈阳市新民市红阳镇白泉镇镇区十街26-2

生产地址：辽宁省沈阳市新民市红阳镇白泉镇镇区十街26-2

质量管理体系符合GB/T19001-2016/ISO9001:2015标准

认证范围

土工材料的生产

统一社会信用代码:91210114MAC65TND3N

证书编号:04422Q20140R0S022

初次认证日期:2022年07月01日

发证日期:2022年07月01日

变更日期:2023年07月18日

有效期至:2026年07月01日

发证人:武俊杰

北京国标联合认证有限公司

IAF　CNAS

QUALITY MANAGEMENT SYSTEM

CERTIFICATION CERTIFICATE

Liaoning Hengyu New Materials Co., Ltd.

Registered Address: 29-2 Zhenxing 10th Street, Shengyang Hunai New City, Xinmin City, Shenyang City, Liaoning Province

Business Location: 29-2 Zhenxing 10th Street, Shengyang Hunai New City, Xinmin City, Shenyang City, Liaoning Province

Production Address: 29-2 Zhenxing 10th Street, Shengyang Hunai New City, Xinmin City, Shenyang City, Liaoning Province

The Quality Management System Conforms to the Standard

GB/T19001-2016/ISO9001:2015

Certified Scope

Production of geotechnical materials

Unified Social Credit Code: 91210114MAC65TND3N

Registration No: 04422Q20140R0S022

First Issuing Date: 01 Jul. 2022

Issuing Date: 18 Jul. 2023

Altering Date: 01 Jul. 2023

Expiration Date: 01 Jul. 2026

Issued By: Liao Jianjie

Beijing United International Certification Co., Ltd.

IAF　CNAS

职业健康安全管理体系认证证书

证书编号：15540E0040R0S

兹证明

辽宁恒禹新材料有限公司

统一社会信用代码:91210114MAC65TND3N

注册地址:辽宁省沈阳市新民市红阳镇白泉镇镇区十街20-2

经营地址:辽宁省沈阳市新民市红阳镇白泉镇镇区十街20-2

生产/经营地址:辽宁省沈阳市新民市红阳镇白泉镇镇区十街20-2 3号厂房

职业健康安全管理体系符合

GB/T45001-2020/ISO45001:2018

体系覆盖范围

产品有关的土工布（土工布）的监测评估及的职业健康安全管理活动

初次发证日期：2022年07月01日　本次发证日期：2023年07月18日　有效期至：2026年07月01日

本证书是证明该组织的职业健康安全管理体系符合上述标准要求的证书。有效期以上所列期限，其证书是否有效可通过国家认证认可监督管理委员会网站www.cnca.gov.cn查询。

发证：刘伟四

辽宁中认认证服务有限公司

公司电话：中国辽宁省沈阳市铁西区北站路3号国际大厦10层1002室

电话：024-85705224　邮箱：shenyang@cqc.com

请就证书真实性和有效性咨询发证机构www.cnca.gov.cn

或本公司网站www.chinacertcn.com或扫描二维码查询

ABOUT CULTURE
关于+文化

涵蕴—以诚为本

秉性纯直，以诚待天下，天下趋之

专注行业，值得信赖的品牌
Dedicated to the Industry, A Trustworthy Brand

辽宁恒禹新材料有限公司专注土工布、HDPE土工膜、复合土工膜、防渗膜、GCL膨润土防水毯、水泥毯、三维复合排水网等新型复合土工材料多年，产品在国内工程中大批量应用；积淀深厚，值得信赖。

Liaoning Hengyu New Materials Co., Ltd. specializes in the production of advanced geosynthetic materials. For years, we have provided geotextiles, HDPE geomembranes, composite geomembranes, impermeable membranes, GCL bentonite waterproof blankets, concrete blankets, and 3D composite drainage networks. Extensively applied in major domestic projects, our products reflect our deep expertise and reliability.

产品质量管控严格
Product quality is under strict supervision

辽宁恒禹新材料有限公司生产线皆配置相关检测设备，专业质量检测人员，产品质量溯源到人；真正做到为工程提供放心产品。

Liaoning Hengyu New Materials Co., Ltd. is equipped with comprehensive quality testing equipment and a team of professional inspectors. Product quality is fully traceable to each person in charge, ensuring that every project is supplied with dependable and trustworthy products.

专业设备生产线，供货时效有保障
Professional production lines ensure reliable and timely supply

年产土工材料万吨以上；仓库库存稳定，生产有序，供货时效有保障。常用规格土工布、复合土工膜、HDPE 土工膜、水泥毯现货当天发。

With an annual output exceeding 10,000 tons, we are a leading manufacturer of geosynthetic materials. Backed by ample inventory and streamlined production, we guarantee prompt and dependable delivery. Commonly used specifications—including geotextiles, HDPE geomembranes, composite geomembranes, and cement blankets—are available for immediate shipment.

贴心服务，工程商的好伙伴
Thoughtful service, a trusted partner for engineering contractor

辽宁恒禹新材料有限公司可根据客户工程情况，量身打造全面、优质的防渗设计；提供运输、施工、安装指导全方位服务，推进客户施工进度、服务涵盖售前指导、施工咨询、售后安装，为工程商提供管家级服务。

Liaoning Hengyu New Materials Co., Ltd. provides tailored, high-quality anti-seepage design solutions based on each project's specific requirements.We offer comprehensive services covering transportation, construction, and installation guidance to ensure efficient project progress.Our all-round support includes pre-sales technical consulting, on-site construction assistance, and after-sales installation services — delivering a one-stop, concierge-level experience for every engineering project.

目录 Contents

糙面 土工膜 Textured Geomembrane

产品介绍 Product Introduction

糙面土工膜是聚乙烯土工膜在吹塑生产工艺的基础上，对生产设备进行技术革新改造，经过氮气加糙、水糙或者喷糙工艺生产形成。HDPE 糙面土工膜是新型防渗材料，单糙面、双糙面型态土工膜具有增加摩擦系数，防滑等功能，可适用于陡坡垂直防渗，提高工程稳定性。糙面提高了土工膜表面的摩擦性能，与同规格的光面膜对比，糙面膜表面粗糙，在铺设膜时，会使膜与基面形成微小夹空层面，这样可以增强膜的抗承载变形力，一般应用在边坡要求有较大摩擦系数的项目中。

Textured geomembrane is produced based on the blow molding process of polyethylene geomembrane, with technical innovations and modifications made to the production equipment. It is manufactured through nitrogen texturing, water texturing, or spray texturing processes.HDPE textured geomembrane is a new type of anti-seepage material. It can be made with a single-sided or double-sided textured surface, which increases the friction coefficient and provides excellent anti-slip performance. This makes it particularly suitable for steep slope or vertical anti-seepage applications, effectively enhancing engineering stability.Compared with smooth geomembranes of the same specification, the textured geomembrane has a roughened surface that significantly improves friction performance. During installation, the textured surface forms microscopic air gaps with the substrate, which enhances the membrane's resistance to deformation and improves its load-bearing capacity. It is especially recommended for slope engineering projects that require a high friction coefficient.

性能特点 Performance Characteristics

具有优异的温度适应性、延伸性，耐候性和良好的抗老化性、耐化学腐蚀性、耐环境应力开裂性能。

It has excellent temperature adaptability, extensibility, weather resistance and good aging resistance, chemical corrosion resistance and environmental stress cracking resistance.

作用用途 Function and Use

主要应用于垃圾填埋场、污水废液处理、水利环保、尾矿库工程或废渣处理场作为防渗漏材料。

It is mainly used in landfill, sewage waste liquid treatment, water conservancy and environmental protection, tailings pond engineering or waste residue treatment field as anti-leakage materials.

产品规格 Product Specifications

厚度：1.0mm-3.0mm　　幅宽：1m-8m　　卷长：50m-100m 也可按照客户要求定做。

Thickness: 1.0mm-3.0mm　　Width: 1m-8m
Roll Length: 50m-100m can also be customized according to customer requirements.

技术指标 Technical Indicators

环保用糙面高密度聚乙烯土工膜（GB/T 17643-2025 GH-2T1.GH-2T2型技术指标）

Textured High-Density Polyethylene (HDPE) Geomembrane for Environmental Protection (GB/T 17643-2025 GH-2T1.GH-2T2 type technical index)

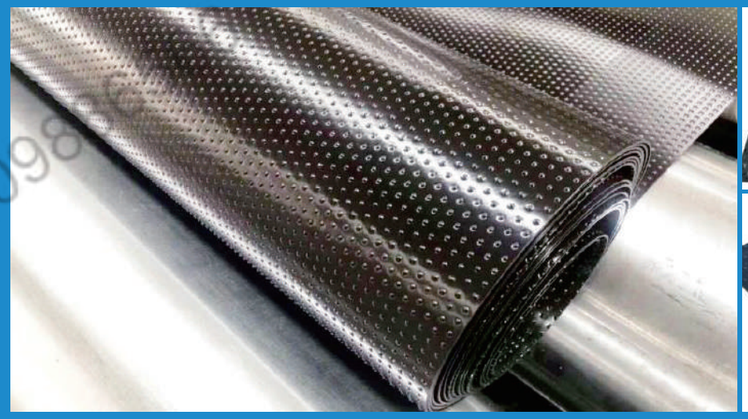
项目 Properties	单位 Unit	指标 Technical data						
厚度 Thickness	mm	0.75	1.0	1.25	1.5	2.0	2.5	3.0
密度 Density	g/cm³	≥0.940						
毛糙高度 Roughness height	mm	≥0.25						
拉伸屈服强度（纵、横向） Yield Strength(MD/TD)	N/mm	≥11	≥15	≥18	≥22	≥29	≥37	≥44
拉伸断裂强度（纵、横向） Break Strength(MD/TD)	N/mm	≥12	≥15	≥20	≥24	≥32	≥39	≥48
屈服伸长率（纵、横向） Yield elongation(MD/TD)	%	10~16						
断裂伸长率（纵、横向） Break Elongation(MD/TD)	%	≥200						
直角撕裂强度（纵、横向） Strength at tear(right-angle Tear)(MD/TD)	N	≥93	≥125	≥160	≥190	≥250	≥315	≥375
抗穿刺强度 Antipunture strength	N	≥200	≥270	≥335	≥400	≥535	≥670	≥800
拉伸负荷应力开裂 Tensile load stress cracking	h	≥500						
炭黑含量 Carbon black content	%	2.0-2.8						
炭黑分散性 Carbon black distribute	/	10个数据中3级不多于1个，4级，5级不允许 Among 10 data points, no more than one grade-3 item is allowed, and grades 4 and 5 are not permitted.						
氧化诱导时间(OIT) Antioxidation time	min	常压氧化诱导时间≥100 normal pressure oxidation time≥100						
		高压氧化诱导时间≥400 high pressure oxidation time≥400						
85℃热老化 85℃ Heat anti-aging	%	≥55						
抗紫外线 UV resistance	%	≥50						
尺寸稳定性 Dimensional Stability	%	±2.0						

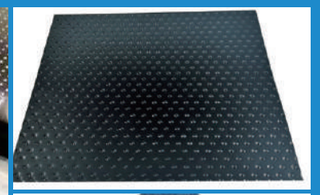
柱点 土工膜 Textured Geomembrane (Stud type)

产品介绍 Product Introduction

HDPE 柱点糙面土工膜，按照形态分为单柱点土工膜、双柱点土工膜；该生产工艺所生产的产品在保留原生树脂本身具有优异的力学性能和良好的延伸率、化学性能稳定的基础上，通过添加一定比例的功能助剂经熔融、挤出、压延、牵伸等工艺，增强了产品的抗拉、耐磨、耐穿刺性能，该产品的力学性能比同类普通工艺生产的糙面防滑土工膜防滑性能提高近3倍。膜面柱点由特制模型压辊压延而成，柱点分布均匀，美观，提高摩擦系数，且膜面正反两面可由不同材质，不同颜色热融成一体，在工程应用中可根据地质条件、工程要求设置产品正反面。

HDPE Stud textured geomembrane can be divided into single column-point and double column-point types according to its surface morphology. Based on the production process of high-quality polyethylene raw resin, the product maintains the original material's excellent mechanical strength, good elongation, and stable chemical properties.By adding a certain proportion of functional additives, the geomembrane undergoes processes such as melting, extrusion, calendering, and stretching, which significantly enhance its tensile strength, wear resistance, and puncture resistance. Compared with conventional rough-textured anti-slip geomembranes produced by ordinary processes, the mechanical performance of this product is nearly three times higher.The surface column points are formed through calendering with a specially designed patterned roller, resulting in an evenly distributed and visually uniform texture. This structure greatly increases the friction coefficient, improving slope stability. In addition, the front and back surfaces of the geomembrane can be fused using different materials or colors according to specific geological conditions and engineering requirements, providing flexible solutions for various project applications.





性能特点 Performance Characteristics

柱点外表美观，均匀分布摩擦系数高，具有防渗、防滑的作用，便于施工，特别适用于斜坡、陡坡及重直防渗，提高工程稳定性。

The column-point surface is uniformly formed and precisely textured, providing a high coefficient of friction.It offers excellent anti-seepage and anti-slip performance, making construction easier and more efficient.This material is particularly suitable for slopes, steep slopes, and vertical anti-seepage applications, enhancing overall project.

作用用途 Function and Use

主要应用于垃圾填埋场、污水废液处理、水利环保、尾矿库或废渣飞灰填埋处理场作为防渗漏材料。

It is mainly used in landfill, sewage waste liquid treatment, water conservancy and environmental protection, tailings pond or waste slag fly ash landfill as anti-leakage material.

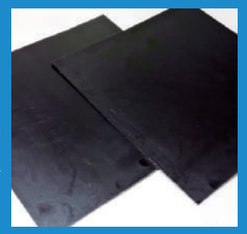
产品规格 Product Specifications

厚度：0.8mm-3.0mm　　幅宽：1m-8m
卷长：50m-100m 也可按照客户要求定做。

Thickness: 0.8mm-3.0mm　　Width: 1m-8m
Roll Length: 50m-100m can also be customized according to customer requirements.

HDPE 光面 土工膜 HDPE Smooth Geomembrane

产品介绍 Product Introduction



HDPE光面土工膜由95%的原生树脂加热稳定剂、抗氧化剂经吹塑工艺或者压延工艺生产而成，具有防渗和隔离作用。

The HDPE smooth geomembrane is produced from 95% virgin resin combined with heat stabilizers and antioxidants by blow molding or calendering. It provides excellent impermeability and separation functions.

作用用途 Function and Use

环保工程：垃圾填埋场、污水处理厂、化工废水池、电厂调节池、工业/医疗废弃物填埋、灰渣场、蒸发塘防渗。
石油化工：石化炼油厂储油罐、油井污泥池、化学反应池、沉淀池、尾矿坝的底衬、二次衬层防渗。
化工矿业：灰渣场、赤泥堆、堆浸池、溶解池、沉淀池、尾矿坝的底衬防渗。
水产养殖：养殖池、鱼塘、虾池的内衬，海参圈、护坡等防渗。
建筑工程：地铁、地下车库、屋顶花园、污水管、疏水箱涵防渗。
农林牧业：水库、蓄水池、饮用水池、灌溉系统的防渗。
盐 化 工：盐场结晶池、卤池苦盖、盐膜等防渗。

Environmental protection projects: landfill, sewage treatment plant, chemical wastewater tank, power plant regulation tank, industrial/medical waste landfill, ash and slag field, evaporation pond seepage prevention.
Petrochemical: petrochemical refinery oil storage tank, oil well sludge tank, chemical reaction tank, sedimentation tank, tailings dam bottom lining, secondary lining anti-seepage.
Chemical mining: ash and slag field, red mud pile, pile leaching pool, dissolution pool, sedimentation tank, tailings dam bottom lining seepage prevention.
Aquaculture: the lining of aquaculture ponds, fish ponds, shrimp ponds, sea cucumber rings, slope protection and other seepage prevention.
Construction project: subway, underground garage, roof garden, sewage pipe, drain water tank culvert seepage prevention.
Agriculture, forestry and animal husbandry: seepage prevention of reservoirs, cisterns, drinking tanks and irrigation systems.
Salt chemical: salt plant crystallization tank, bitterlid brine tank, salt film and other seepage prevention.

产品规格 Product Specifications

厚度：0.2mm-3.0mm　　幅宽：1m-8m　　卷长：50m-100m 也可按照客户要求定做。

Thickness: 0.2mm-3.0mm　　Width: 1m-8m
Roll Length: 50m-100m can also be customized according to customer requirements.

技术指标 Technical Indicators

普通高密度聚乙烯HDPE土工膜（GB/T 17643-2025 GH-1型技术指标）

General High-Density Polyethylene (HDPE) Geomembrane (GB/T 17643-2025 GH-1 type technical specifications)

项目 Properties	单位 Unit	指标 Technical data								
厚度 Thickness	mm	0.30	0.50	0.75	1.00	1.25	1.50	2.0	2.5	3.0
密度 Density	g/cm³	≥0.940								
拉伸屈服强度（纵、横向） Yield Strength(MD/TD)	N/mm	≥4	≥7	≥10	≥13	≥16	≥20	≥26	≥33	≥40
拉伸断裂强度（纵、横向） Break Strength(MD/TD)	N/mm	≥6	≥10	≥15	≥20	≥25	≥30	≥40	≥50	≥60
屈服伸长率（纵、横向） Yield elongation(MD/TD)	%	–	–	–	10~16					
断裂伸长率（纵、横向） Break Elongation(MD/TD)	%	≥600								
直角撕裂强度（纵、横向） Strength at tear(right-angle Tear)(MD/TD)	N	≥34	≥56	≥84	≥115	≥140	≥170	≥225	≥280	≥340
抗穿刺强度 Antipunture strength	N	≥72	≥120	≥180	≥240	≥300	≥360	≥480	≥600	≥720
炭黑含量 Carbon black content	%	2.0~2.8								
炭黑分散性 Carbon black distribute	/	10个数据中3级不多于1个，4级，5级不允许 Among 10 data points, no more than one grade 3 item is allowed, and grade 4 and 5 are not permitted.								
常压氧化诱导时间(OIT) Antioxidation time	min	≥60								
低温冲击脆化性能 Anti low temperature crispy ability	/	通过 Pass								
水蒸气渗透系数 Permeability coefficient of vappour	g.cm/(cm².s.Pa)	$\leq 1.0\times10^{-13}$								
尺寸稳定性 Dimensional stability	%	±2.0								

环保用光面高密度聚乙烯HDPE土工膜（GB/T 17643-2025 GH-2S型技术指标）

Smooth High-Density Polyethylene (HDPE) Geomembrane for Environmental Protection (GB/T 17643-2025 GH-2S type technical indicators)

项目 Properties	单位 Unit	指标 Technical data						
厚度 Thickness	mm	0.75	1.0	1.25	1.5	2.0	2.5	3.0
密度 Density	g/cm³	≥0.940						
拉伸屈服强度（纵、横向） Yield Strength(MD/TD)	N/mm	≥11	≥15	≥18	≥22	≥29	≥37	≥44
拉伸断裂强度（纵、横向） Break Strength(MD/TD)	N/mm	≥20	≥27	≥33	≥40	≥53	≥67	≥80
屈服伸长率（纵、横向） Yield elongation(MD/TD)	%	10~16						
断裂伸长率（纵、横向） Break Elongation(MD/TD)	%	≥700						
直角撕裂强度（纵、横向） Strength at tear(right-angle Tear)(MD/TD)	N	≥93	≥125	≥160	≥190	≥250	≥315	≥375
抗穿刺强度 Antipunture strength	N	≥240	≥320	≥400	≥480	≥640	≥800	≥960
拉伸负荷应力开裂 Tensile load stress cracking	h	≥500						
炭黑含量 Carbon black content	%	2.0-2.8						
炭黑分散性 Carbon black distribute	/	10个数据中3级不多于1个，4级，5级不允许 Among 10 data points, no more than one grade-3 item is allowed, and grades 4 and 5 are not permitted.						
氧化诱导时间(OIT) Antioxidation time	min	常压氧化诱导时间≥100 normal pressure oxidation time≥100						
		高压氧化诱导时间≥400 high pressure oxidation time≥400						
85℃热老化 85℃ Heat anti-aging	%	≥55						
抗紫外线 UV resistance	%	≥50						
尺寸稳定性 Dimensional Stability	%	±2.0						

垃圾填埋场用光面HDPE土工膜（CJ/T 234-2006技术指标）（等效于美国GRI-GM13标准）

Smooth High-Density Polyethylene (HDPE) Geomembrane for Landfills (CJ/T 234-2006 Technical Index) (equivalent to the US GRI-GM13 standard)

项目 Properties	单位 Unit	指标 Technical data						
厚度 Thickness	mm	0.75	1.0	1.25	1.5	2.0	2.5	3.0
密度 Density	g/cm³	≥0.939						
拉伸屈服强度（纵、横向） Yield Strength(MD/TD)	N/mm	≥11	≥15	≥18	≥22	≥29	≥37	≥44
拉伸断裂强度（纵、横向） Break Strength(MD/TD)	N/mm	≥20	≥27	≥33	≥40	≥53	≥67	≥80
屈服伸长率（纵、横向） Yield elongation(MD/TD)	%	≥12						
断裂伸长率（纵、横向） Break Elongation(MD/TD)	%	≥700						
直角撕裂强度（纵、横向） Strength at tear(right-angle Tear)(MD/TD)	N	≥93	≥125	≥156	≥187	≥249	≥311	≥374
抗穿刺强度 Antipunture strength	N	≥240	≥320	≥400	≥480	≥640	≥800	≥960
耐环境应力开裂 Environmental stress crack resistance	h	≥300						
炭黑含量 Carbon black content	%	2.0-3.0						
炭黑分散性 Carbon black distribute	/	10个数据中3级不多于1个，4级，5级不允许 Among 10 data points, no more than one grade 3 item is allowed, and grade 4 and 5 are not permitted.						
氧化诱导时间(OIT) Antioxidation time	min	常压氧化诱导时间≥100 normal pressure oxidation time						
		高压氧化诱导时间≥400 high pressure oxidation time						
85℃热老化 85℃ Heat anti-aging	%	≥55						
抗紫外线 UV resistance	%	50						
尺寸稳定性 Dimensional stability	%	±2.0						

养殖 防渗膜 Aquaculture Geomembrane

产品介绍 Product Introduction

养殖防渗膜具有抗拉伸、抗冲击、抗撕裂、强度强、耐静水压高、抗紫外线、防渗水性能好等特点，特别适合应用于鱼塘防渗、虾塘防渗、养殖泥鳅池防渗等工程。用养殖防渗膜覆盖整个鱼虾池或池底，可以使池底与池水隔开，对高低位养虾池防渗漏、病毒污染、抗微生物侵蚀等具有显著效果。由于养殖防渗膜光滑，不仅消毒、清淤方便，也有利于防止底部病原的传播，缩短清理虾塘底部和晒塘的时间。

Aquaculture geomembranes are characterized by high tensile strength, impact resistance, tear resistance, high hydrostatic pressure resistance, and excellent UV resistance and impermeability. They are particularly suitable for lining applications in projects such as fishponds, shrimp ponds, and loach farming ponds.Lining the entire pond or its bottom with a geomembrane effectively isolates the pond bed from the water. This provides significant benefits for high and low-level shrimp ponds by ensuring seepage control, preventing virus contamination, and resisting microbial attack. Furthermore, the smooth surface of the geomembrane liner not only facilitates easier disinfection and sludge removal but also helps prevent the spread of bottom-dwelling pathogens, thereby reducing the time required for pond cleaning and drying.

水产养殖防渗膜施工方案 Aquaculture Geomembrane Construction Plan

A、与铺设无关人员不得进入施工现场。
B、铺设使用的方法和设备，必须不损坏防渗膜或其下土工布和基底。
C、施工人员在施工现场施工时必须穿不损坏防渗膜的鞋子。
D、必须有足够的压载物或锚固物以防止防渗膜被风吹起。
E、防渗膜铺设应平顺、贴实、尽量减少褶皱，铺设后及时压载或锚固。
F、合理的选择铺设方向，尽可能减少接缝受力。
G、合理布局每片材料的位置，力求接缝要少。
H、在铺设过程中防止任何因素破坏防渗膜，铺设工具不得对防渗膜产生损害。
I、在坡脚 1.5m 范围内坡度大于 10% 的坡面上不得有横向接缝。

A. Personnel unrelated to laying shall not enter the construction site.
B. The method and equipment used for laying must not damage the impermeable film or its geotextile and substrate.
C. Construction personnel must wear shoes that do not damage the impermeable film during construction at the construction site.
D. there must be sufficient ballast or anchor to prevent the impermeable film from being blown up by the wind.
E. anti-seepage film laying should be smooth, solid, as far as possible to reduce the fold, after laying in time ballast or anchorage.
F. reasonable choice of laying direction, as far as possible to reduce the joint stress.
G. reasonable layout of the position of each piece of material, and strive to have fewer joints.
H. in the laying process to prevent any factor damage to the impermeable film, laying tools must not cause damage to the impermeable film.
I. There shall be no transverse joint on the slope with a slope slope greater than 10% within 1.5m of the slope foot.

产品规格 Product Specifications

厚度：0.2mm-3.0mm　　幅宽：1m-8m　　卷长：50m-100m 也可按照客户要求定做。

Thickness: 0.2mm-3.0mm　　Width: 1m-8m
Roll Length: 50m-100m can also be customized according to customer requirements.

技术指标 Technical Indicators

低密度聚乙烯LDPE土工膜（GB/T 17643-2025 GL-1型技术指标）
Low density polyethylene LDPE geomembrane (GB/T 17643-2025 GL-1 type technical indicators)

项目 Properties	单位 Unit	指标 Technical data								
厚度 Thickness	mm	0.30	0.50	0.75	1.00	1.25	1.50	2.0	2.5	3.0
密度 Density	g/cm³	≥0.939								
拉伸断裂强度（纵、横向） Break Strength(MD/TD)	N/mm	≥6	≥9	≥14	≥19	≥23	≥28	≥37	≥47	≥56
断裂伸长率（纵、横向） Break Elongation(MD/TD)	%	≥560								
直角撕裂强度（纵、横向） Strength at tear(right-angle Tear)(MD/TD)	N	≥27	≥45	≥63	≥90	≥108	≥135	≥180	≥225	≥270
抗穿刺强度 Antipunture strength	N	≥52	≥84	≥135	≥175	≥220	≥260	≥350	≥435	≥525
炭黑含量 Carbon black content	%	2.0~2.8								
炭黑分散性 Carbon black distribute	/	10个数据中3级不多于1个，4级，5级不允许 Among 10 data points, no more than one grade-3 item is allowed, and grades 4 and 5 are not permitted.								
常压氧化诱导时间(OIT) Antioxidation time	min	≥60								
低温冲击脆化性能 Anti low temperature crispy ability	/	通过 Pass								
水蒸气渗透系数 Permeability coefficient of vappour	g.cm/(cm².s.Pa)	$\leq 1.0\times10^{-13}$								
尺寸稳定性 Dimensional stability	%	±2.0								

短丝 土工布 Staple Fiber Geotextile

产品介绍 Product Introduction

短丝土工布是无纺布机械以涤纶短纤维为主要原料，经开松、梳理、铺网、针刺等工艺生产而成。

Staple geotextile is non-woven fabric machinery with polyester staple fiber as the main raw material, by opening, carding, laying nets, needling and other processes produced.

性能特点 Performance Characteristics

强力高，由于使用塑料纤维，在干湿状态下都能保持充分的强力和伸长。
耐腐蚀，在不同的酸碱度的泥土水中能长久的耐腐蚀。
透水性好，在纤维间有空隙，故有良好的渗水性能。
抗微生物性好，对微生物、虫蛀均不受损害。
施工方便，由于材质轻、柔，故运送、铺设、施工方便。
重量轻、成本低、耐腐蚀、具有反滤、排水、隔离、增强等优良性能。

High strength, due to the use of plastic fibers, can maintain sufficient strength and elongation in wet and dry conditions.
Corrosion resistance, long-term corrosion resistance in soil and water with different pH levels.
Good water permeability, there is a gap between the fibers, so it has good water seepage performance.
Good resistance to microorganisms, insects are not damaged.
Convenient construction, because the material is light and soft, it is convenient for transportation, laying and construction.
Light weight, low cost, corrosion resistance, with reverse filtration, drainage, isolation, enhancement and other benign properties.

产品规格 Product Specifications

克重：100g-1000g　　幅宽：1m-8m　　卷长：50m-100m 也可按照客户要求定做。

GSM: 100g-1000g　　Width: 1m-8m
Roll Length: 50m-100m can also be customized according to customer requirements.

技术指标 Technical Indicators

短纤针刺非织造土工布技术指标（GB/T 17638-1998）
Technical specifications of staple fiber needled nonwoven geotextiles (GB/T 17638-1998)

项目 Properties	规格 specification										
	100	150	200	250	300	350	400	450	500	600	800
单位面积质量偏差/% Mass per unit area deviation	-8	-8	-8	-8	-7	-7	-7	-7	-6	-6	-6
厚度 mm thickness	0.9	1.3	1.7	2.1	2.4	2.7	3.0	3.3	3.6	4.1	5.0
幅宽偏差 % Width Deviation	-0.5										
纵横向断裂强度（kN/m）≥ Break Strength(MD/TD)	2.5	4.5	6.5	8.0	9.5	11.0	12.5	14.0	16.0	19.0	25.0
断裂伸长率 % Break Elongation	25~100										
CBR顶破强力 kN ≥ CBR Mullen Burst Strength	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.2	4.0
纵横向撕破强力 kN ≥ Tear Strengh(MD/TD)	0.08	0.12	0.16	0.20	0.24	0.28	0.33	0.38	0.42	0.46	0.60
等效孔径O_{90} (O_{95})mm Equivalent Aperture	0.07~0.2										
垂直渗透系数 Vertical permeability coefficient	K×（10^{-1}~10^{-3}）其中where : K=1.0~9.9										

短纤针刺非织造土工布技术指标（GB/T 17638-2017）
Technical specifications of staple fiber needled nonwoven geotextiles (GB/T 17638-2017)

项目 Properties	标称断裂强度/(kN/m) Nominal Break Strength								
	3	5	8	10	15	20	25	30	40
纵横向断裂强度（kN/m）≥ **Break Strength**	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 Break Strength	20~100								
顶破强力kN ≥ bursting strength	0.6	1.0	1.4	1.8	2.5	3.2	4.0	5.5	7.0
纵横向撕破强力 kN≥ Tear Strengh(MD/TD)	0.10	0.15	0.20	0.25	0.40	0.5	0.65	0.80	1.00
等效孔径O_{90}(O_{95})，mm Sieve size	0.07~0.20								
垂直渗透系数 cm/s Vertical permeability coefficient	K×（10^{-1}~10^{-3}）其中：K=1.0-9.9								
幅宽偏差率 % Width deviation rate	-0.5								
单位面积质量偏差率 % deviation rate of mass per unit area	±5								
厚度偏差率 % Thickness deviation rate	±10								
抗酸碱性能（强力保持率）%≥ Acid-base resistance (strong retention)	80								
抗氧化性能（强力保持率）%≥ Antioxidant properties (strong retention)	80								
抗紫外线性能（强力保持率）%≥ Uv resistance (strong retention)	80								

长丝 土工布 Filament Geotextile

产品介绍 Product Introduction

聚酯长丝土工布是以PET或PP为原料，采用熔断纺丝、气流成网、针刺固结工艺生产而成的具有三维孔隙的土工织造物品。长丝土工布具有良好的力学功能，透水性好，并能抗腐蚀，抗老化，具有隔离、反滤、排水、保护、稳固、加筋等功能，能适应凹凸不平的基层，能抵抗施工外力破坏，蠕变小，长期荷载下仍能保持原有的功能。即使在将近 20℃的环境中短期暴露 其性能也几乎没有变化，经过大量的试验和实践证明，长丝土工布具有对各种自然土壤、水分和微生物的长期耐腐蚀性。

Filament geotextile is made of PET or PP as raw material, and is produced by fusing spinning, air flow netting and needle consolidation. Filament geotextile has good mechanical function, good water permeability, corrosion resistance, anti-aging, isolation, reverse filtration, drainage, protection, stability, reinforcement and other functions, can adapt to uneven base, can resist construction external force damage, creep becomes smaller, long-term load can still maintain the original function. Even in the environment of nearly 20℃ short-term exposure to its performance is almost unchanged, after a large number of tests and practice has proved that filament geotextile has a variety of natural soil, water and microorganisms long-term corrosion resistance.

作用用途 Function and Use

水利工程：海堤、江堤、湖堤达标工程；水库加固工程；围垦工程；防汛抢险。
公路铁路航空港工程：软基加固处理；边坡防护；路面防反射裂缝结构层；排水系统；绿化隔离带。
电工工程：核电站基础工程；火电灰坝工程；水电站工程。
用于公路、铁路、堤坝、沿海滩涂等工程的加筋，加固，反滤、隔离。
长丝土工布特别适用于盐碱沼泽、垃圾填埋场。

Water Conservancy Projects: Seawall, river dike, and lake dike compliance projects; reservoir reinforcement projects; reclamation works; flood control and emergency rescue.
Highway, Railway, and Airport Engineering: Soft foundation reinforcement; slope protection; anti-reflective cracking layers for pavement; drainage systems; green belts (or median strips).
Power Engineering: Foundation works for nuclear power plants; ash dams for thermal power plants; hydropower station projects.
General Applications: Used for reinforcement, strengthening, filtration, and isolation in highways, railways, dams, and coastal tidal flat projects.
Special Application: Filament geotextiles are particularly suitable for saline-alkali marshes and landfills.

产品规格 Product Specifications

克重：100g-800g　　幅宽：1m-6m　　卷长：50m-100m 也可按照客户要求定做。

GSM: 100g-800g　　Width: 1m-6m
Roll Length: 50m-100m can also be customized according to customer requirements.

技术指标 Technical Indicators

长丝纺粘针刺非织造土工布技术指标（GB/T17639-2008）
Technical specifications of filament spunbonded needled nonwoven geotextiles (GB/T17639-2008)

项目 Properties	指标 Technical data							
规格 specification	100	150	200	300	400	500	600	800
厚度 Thickness	0.8	1.2	1.6	2.2	2.8	3.4	4.2	5.5
纵横向断裂强度（kN/m）≥ Break Strength(MD/TD)	4.5	7.5	10.0	15.0	20.0	25.0	30.0	40.0
纵横向标准强度对应伸长率 % Vertical and horizontal standard strength corresponds to elongation	40~80							
CBR顶破强力 kN ≥ CBR bursting strength	0.8	1.6	1.9	2.9	3.9	5.3	6.4	7.9
纵横向撕破强力 kN ≥ Tear Strengh(MD/TD)	0.14	0.21	0.28	0.42	0.56	0.70	0.82	1.10
等效孔径O_{90}(O_{95})，mm Equivalent Aperture	0.05~0.20							
垂直渗透系数 cm/s Vertical permeability coefficient	K×（10^{-1}~10^{-3}）其中：K=1.0~9.9							
幅宽偏差 % Width deviation	-0.5							
单位面积质量偏差/% Mass per unit area deviation	-5							

长丝纺粘针刺非织造土工布技术指标（GB/T17639-2023）
Technical specifications of filament spunbonded needled nonwoven geotextiles (GB/T17639-2023)

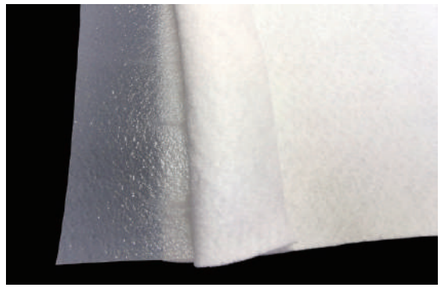
项目 Properties		指标 Technical data								
		标称强度/(kN/m) Nominal strength								
		6	9	12	18	24	30	36	48	54
纵横向抗拉强度（kN/m）≥ Longitudinal and transverse tensile strength		6.0	9.0	12.0	18.0	24.0	30.0	36.0	48.0	54.0
纵横向最大负荷下伸长率 /% Elongation under maximum load in vertical and horizontal direction		30~80								
CBR顶破强力 kN ≥ CBR bursting strength		0.9	1.6	1.9	2.9	3.9	5.3	6.4	7.9	8.5
纵横向撕破强力 kN ≥ Tear Strengh(MD/TD)		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_{95})，mm Equivalent Aperture		0.05~0.30								
垂直渗透系数 cm/s Vertical permeability coefficient		K×（10^{-1}~10^{-3}）其中：K=1.0~9.9								
幅宽偏差率 %≥ Width deviation		-0.5								
单位面积质量偏差/% ≥ Mass per unit area deviation		-5								
厚度偏差率/% ≥ Thickness deviation rate		-10								
厚度变异系数（CV)/% ≤ Thickness variation coefficient (CV)		10								
纵横向断裂强力（抓样法）/kN Vertical and horizontal breaking strength		0.3	0.5	0.7	1.1	1.4	1.9	2.4	3.0	3.5
动态穿孔 [a] Dynamic punch	破洞直径/mm≤ Hole diameter	37.0	33.0	27.0	20.0	17.0	14.0	11.0	9.0	7.0
抗紫外线性能（氙弧灯法）[a] Uv resistance (xenon arc lamp) [a]	纵横向强力保持率/%≥ Vertical and horizontal strength retention	70								
抗紫外线性能（荧光紫外灯法）[a] Uv resistance (fluorescent UV lamp)a	纵横向强力保持率/%≥ Vertical and horizontal strength retention	80								

复合 土工膜 Composite Geomembrane

产品介绍 Product Introduction

复合土工膜是用土工织物与土工膜复合而成的不透水材料，主要用于防渗、隔离，按照结构形式可分为为一布一膜、两布一膜和三布两膜等，具有抗拉、抗撕裂、顶破等物理力学性能指标高，能满足水利、市政、建筑、交通、地铁、隧道等工程需要。由于其选用高分子材料且生产工艺中添加了防老化剂，故可在非常规温度环境中使用。是由一层土工织物与一层高分子材料(一般为膜材)经过压延或热熔复合而成的土工合成材料。

Composite geomembrane is an impervious material composed of geotextile and geomembrane, which is mainly used for impermeability and isolation. According to the structural form, it can be divided into one cloth and one membrane, two cloth and three cloth and two membranes, etc., with high physical and mechanical performance indicators such as tensile resistance, tear resistance and roof breaking, which can meet the needs of water conservancy, municipal, construction, transportation, subway, tunnel and other projects. Due to the selection of polymer materials and the addition of anti-aging agents in the production process, it can be used in unconventional temperature environments. It is a geosynthetic material composed of a layer of geotextile and a layer of high molecular material (generally membrane material) by calendering or hot melting composite.



性能特点 Performance Characteristics

抗拉、抗撕裂、顶破等物理指标高，产品具有强度高、延伸性能较好，变形模量大，耐酸碱、抗腐蚀、耐老化，膜布复合结构形式使其不但具有土工膜的防渗、隔离作用，还具有土工布的加筋、防护、排水反滤作用。

High tensile, tear, and burst strength. Excellent resistance to chemicals, corrosion, and aging. The composite structure combines the impermeability of a geomembrane with the reinforcement and drainage/filtration properties of a geotextile.

作用用途 Function and Use

1、路基，屋面防渗。
2、江堤、湖坝、尾矿坝、污水坝库区、渠道、蓄液池(坑、矿)。
3、公路、高速公路、铁路的地基。
4、堤、坝水平防渗铺盖、地基垂直防渗层、施工围堰、废料场。
5、海水、淡水养殖场。
6、垃圾填埋场、污水或废渣处理防渗。
7、地铁、地下室和隧道、隧洞防渗衬砌。

1. roadbed, roof seepage prevention.
2. River dike, lake dam, tailings dam, sewage dam reservoir area, channel, liquid storage pond (pit, mine).
3. the foundation of roads, highways, railways.
4. embankment, dam horizontal anti-seepage blanket, foundation vertical anti-seepage layer, construction cofferdam, waste yard.
5. Seawater and freshwater farms.
6. landfill, sewage or waste treatment seepage.
7. subway, basement and tunnel, tunnel anti-seepage lining.

产品规格 Product Specifications

克重：200g-1000g　　幅宽：1m-6m　　卷长：50m-100m 也可按照客户要求定做。

GSM: 200g-1000g　　Width: 1m-6m
Roll Length: 50m-100m can also be customized according to customer requirements.

技术指标 Technical Indicators

复合土工膜技术指标 (GB/T 17642-2025)

Technical Specifications for Composite Geomembrane (GB/T 17642-2025)

非织造复合土工膜通用指标要求

General Index Requirements for Nonwoven Composite Geomembrane

	项目 Properties		膜材标称厚度/mm Nominal thickness of membrane material / mm						
			0.30	0.40	0.50	0.60	0.70	0.80	1.00
1	膜材平均厚度/mm ≥ Average thickness of membrane material / mm ≥		0.30	0.40	0.50	0.60	0.70	0.80	1.00
2	成品单位面积质量偏差率/%≥ Percentage of area-specific quality deviation of the finished product / % ≥		-5						
3	成品单位面积质量变异系数（CV值）/%≤ Coefficient of variation (CV value) of unit area quality of the finished product (%) ≤		10						
4	耐静水压/MPa≥ Resistant to static water pressure / MPa ≥	一布一膜 one geotextile + one geomembrane	0.5	0.6	0.8	1.0	1.2	1.4	1.6
		二布一膜 two geotextiles + one geomembrane	0.6	0.8	1.0	1.2	1.4	1.6	1.8
5	剥离强度(N/cm)≥ Peel strength (N/cm) ≥		6						
6	膜材灰分含量/%≤ Fiber material ash content/% ≤		0.5						
7	纵横向最大负荷下伸长率/% Elongation at maximum load (MD/TD)		30-100						
8	幅宽偏差率/%≥ Width deviation rate /% ≥		0						

短纤针刺非织造土工布复合土工膜

Staple Fiber Needle-punched Non-woven Geotextile Composite Geomembrane

	项目 Properties	指标 index							
	标称强度/（kN/m）Nominal strength / (kN/m)	5	8	10	12	14	16	18	20
1	纵横向抗拉强度/（kN/m）≥ Longitudinal and transverse tensile strength(kN/m) ≥	5.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
2	顶破强力/kN≥ Break strength	1.1	1.5	1.9	2.2	2.5	2.8	3.0	3.2
3	纵横向撕破强力/kN≥ Longitudinal and transverse tearing strength / kN ≥	0.15	0.25	0.32	0.40	0.48	0.56	0.62	0.70
4	抗酸碱性能 | 纵横向强力保持率/%≥ Antacid and alkali resistance | Longitudinal and transverse strength retention rate/% ≥	90							

长丝纺粘针刺非织造土工布复合土工膜

Filament Spunbond Needle-punched Non-woven Geotextile Composite Geomembrane

	项目 Properties	指标 index								
	标称强度/（kN/m）Nominal strength / (kN/m)	10	12	14	16	18	20	25	30	40
1	纵横向抗拉强度/（kN/m）≥ Longitudinal and transverse tensile strength(kN/m) ≥	10.0	12.0	14.0	16.0	18.0	20.0	25.0	30.0	40.0
2	顶破强力/kN≥ Break strength / kN ≥	2.1	2.4	2.7	3.0	3.2	3.4	3.6	4.0	5.0
3	纵横向撕破强力/kN≥ Longitudinal and transverse tearing strength / kN ≥	0.34	0.42	0.50	0.58	0.64	0.72	0.80	1.0	1.2
4	抗酸碱性能 | 纵横向强力保持率/%≥ Antacid and alkali resistance | Longitudinal and transverse strength retention rate/% ≥	90								

水泥毯 Cement Blanket

产品介绍 Product Introduction

水泥毯是一种创新型复合材料，结合纺织品的柔韧性与混凝土的坚固性。其结构通常分为三层：底层为疏孔吸水织物，确保水分均匀渗透。中间层采用干混凝土混合料，通过水合反应固化。表层为三维纤维增强骨架，提升抗拉强度。产品优势在于运输时为柔性卷材，铺设浇水后硬化成型，大幅简化传统混凝土施工流程。

The cement blanket is an innovative composite material that combines the flexibility of textiles with the durability of concrete. Its structure typically consists of three layers: the bottom layer is a porous, water-absorbing fabric that ensures uniform water penetration; the middle layer consists of a dry concrete mixture that solidifies through a hydration reaction; and the top layer is a three-dimensional fiber-reinforced framework designed to enhance tensile strength. The product's primary advantage is that it remains a flexible rolled material during transportation, but after laying and watering, it hardens into shape, significantly simplifying the traditional concrete construction process.

性能特点 Performance Characteristics:

产品不仅具有强度高、抗冲击、柔韧抗裂等优异的力学性能，而且在耐环境腐蚀、防冲刷耐磨等方面表现突出；同时兼顾便捷高效、环保节能的施工优势。

The product not only possesses excellent mechanical properties such as high strength, impact resistance, and flexibility with anti-cracking ability, but also demonstrates outstanding performance in resisting environmental corrosion and resisting erosion and wear. At the same time, it also takes into account the advantages of convenient and efficient construction as well as environmental protection and energy conservation.

作用用途 Function and Use

水利工程：
河坝护坡、排水沟/渠防渗加固；
鱼塘护坡、人工湖防渗；
临时导流渠、防洪堤抢险。

Water Conservancy Projects:
River dam slope protection, anti-seepage reinforcement of drainage ditches/ canals;
Fishpond slope protection, anti-seepage of artificial lakes;
Temporary diversion channels, emergency reinforcement of flood control embankments.

交通基建：
高速公路/铁路边坡防护、路肩稳固；
矿山巷道支护、排水沟铺设。

Transportation infrastructure:
Highway/railway slope protection, Road shoulder Stabilization;Mine tunnel support, Drainage/Interceptor Ditch Lining.

生态修复：
水土流失治理（搭配草种植入）；
沙丘固沙、高陡边坡绿化基材。

Ecological restoration:
Soil and water erosion control (with grass planting);
Sand dune stabilization, greening materials for steep slopes.

技术指标 Technical Indicators

普通针刺型水泥毯性能指标
General needle-punched cement blanket performance indicators

序号 NO.	项目 Properties	单位 unit	技术指标 Technical data									
			15kg/㎡		12kg/㎡		10kg/㎡		8kg/㎡		6kg/㎡	
			优等品 superior product	合格品 qualified product	优等品 superior product	合格品 qualified product	优等品 superior product	合格品 qualified product	优等品 superior product	合格品 qualified product	优等品 superior product	合格品 qualified product
1	单位面积质量 mass area ratio	/	不小于标称值的92% not less than 92% of the nominal value									
2	剥离强度 peel strength	N/m	≥30									
3	抗拉强度 strength of extension	KN/m	≥7.0									
4	抗折能力 Bending strength	Mpa	≥2.0	≥1.5	≥1.8	≥1.3	≥1.6	≥1.1	≥1.4	≥0.9	≥1.2	≥0.8
5	抗冲击性能 shock resistance	/	无可见裂纹和破损 No visible cracks or damage									
6	不透水性 imperviousness	/	普通型：微渗 Standard type: With minor seepage. 防水型：试样背面无湿痕或水滴 Water-resistant type: With no moisture stains or water droplets on the back side.									
7	抗冻性 freezing resistance	/	外观：无可见裂纹、剥落、粉化； Appearance: Must be free from visible cracks, spalling, or powdering. 抗折强度降低率：≤20% Flexural strength reduction rate:≤ 20%.									
8	燃烧性能 Fire resistance	/	不低于GB8624规定的B1级 Shall be not lower than Class B1 per GB 8624									

隧道 防水板 Tunnel Waterproof Board

产品介绍 Product Introduction

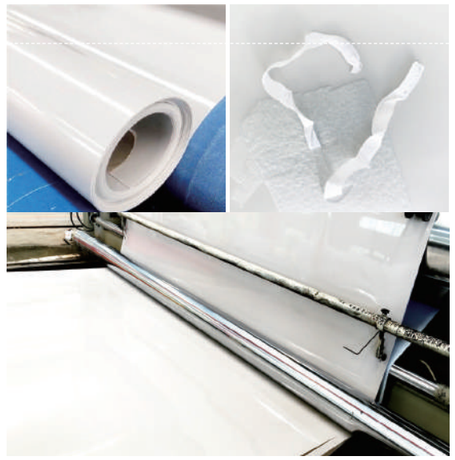
隧道防水板生产工艺采用国内先进的两段共挤单螺杆挤出法生产，由原料树脂加入增强剂、抗氧剂，经加热熔融、塑化、挤出成形、牵引后形成的板材，也可与穿好吊带的土工织物热合成一体，形成复合防水板；也可采用挤出压延法，即将树脂挤出机熔融塑化，从机头狭缝模口挤出熔融状的片坯与吊带融合一体，经辊筒压延冷却成光膜，或与穿好吊带的土工织物融合一体，经辊筒压延冷却成复合防水板材。

The tunnel waterproof plate production process adopts the domestic advanced two-stage co-extruded single screw extrusion method. The plate formed by adding the reinforcement agent and antioxidant agent to the raw material resin, after heating melting, plasticizing, extrusion forming and traction, can also be thermically synthesized with the geotextile wearing the suspension belt to form a composite waterproof plate. Extrusion calendering method can also be used, that is, the resin extruder is melted and plasticized, and the molten sheet blank is extruded from the slit die of the head and fused with the sling, which is rolled and cooled into a light film, or fused with the geotextile with the sling, and then rolled and cooled into a composite waterproof sheet.

性能特点 Performance Characteristics

耐化学腐蚀、耐紫外线辐射；耐老化、耐磨性好；抗穿刺能力强；施工简便、无污染。

Resistant to chemical corrosion and ultraviolet radiation; Aging resistance, good wear resistance; Strong puncture resistance; Construction is simple and pollution-free.



作用用途 Function and Use

新建铁路、公路、市政道路、轻轨交通建设(包括桥面、隧道)、屋面、地下工程的防水，水利建设、污水处理工程化工酸碱处理池等工程的防渗耐腐蚀、衬垫使用。

New railway, highway, municipal road, light rail transit construction (including bridge deck, tunnel), roof, underground engineering waterproofing, water conservancy construction, sewage treatment engineering chemical acid and alkali treatment pond and other engineering seepage resistance, corrosion resistance, liner use.

产品规格 Product Specifications

幅宽：2-6米　厚度：1.0mm-1.5mm　卷长：可按照客户要求定做。

Width: 2-6 meters　Thickness: 1.0mm-1.5mm
Roll Length: can be customized according to customer requirements.

技术指标 Technical Indicators

隧道专用EVA防水板 GB18173.1-2012
EVA waterproof Plate for Tunnel GB18173.1-2012

序号 No.	项目 Item		单位 Unit	技术指标 technical data
1	拉伸强度/Mpa tensile strength	常温（23℃）≥ normal temperature	Mpa	16
		高温（60℃）≥ high temperature	Mpa	6
2	拉断伸长率/% tensile elongation	常温（23℃）≥ normal temperature	%	550
		低温（-20℃）≥ low temperature	%	350
3	撕裂强度 ≥ tear strength		kN/m	60
4	不透水性 antipermeability		30min	0.3MPa 无渗漏 0.3MPa no leaking
5	低温弯折 Low temperature bend		/	-35℃ 无裂纹 -35℃ no crack
6	加热伸缩量 Heat expansion	延伸≤ elongation	mm	2.0
		收缩≤ contraction	mm	6.0
7	热空气老化（80℃×168h） air aging	拉伸强度保持率 ≥ rate of tensile strength	%	80
		拉断伸长率保持率 ≥ rate of break tensile strength	%	70
8	耐碱性[饱和Ca（OH）$_2$溶液23℃×168h） anti-alkali	拉伸强度保持率 ≥ rate of tensile strength	%	80
		拉断伸长率保持率 ≥ rate of break tensile strength	%	90
9	人工气候老化 artificial climate aging	拉伸强度保持率 ≥ rate of tensile strength	%	80
		拉断伸长率保持率 ≥ rate of break tensile strength	%	70
10	粘结剥离强度（片材与片材） Bond peel strength	标准实验条件 ≥ standard test	N/mm	1.5
		浸水保持率（23℃×168h）≥ soaking rate	%	70

钠基 膨润土防水毯（GCL） Geosynthetic Clay Liner

产品介绍 Product Introduction

膨润土防水毯是一种新型土工合成材料。由膨润土颗粒和相应的外加剂混合为原材料，经针刺工艺，把膨润土颗粒固定在土工布和塑料编织布之间而制成的毯状防水卷材。膨润土防水毯既具有土工材料的特性，又具有防水(渗)性能。膨润土防水毯作为一种新型环保生态复合防渗材料，以其独特的防渗漏性能已在水利、环保、交通、铁道、民航等土木工程中得到广泛使用。常见于垃圾填埋场的基础处理和封场，人工湖、水库、渠道、河流、屋顶花园的防渗，地下室、地铁、隧道、地下通道等各类地下建筑物的防渗。

Bentonite waterproof blanket is a new type of geosynthetic material. The blanket waterproof sheet is made by fixing the bentonite particles between the geotextile and the plastic woven cloth by needling process, which is mixed with the bentonite particles and the corresponding admixtures as raw materials. Bentonite waterproof blanket not only has the characteristics of geotechnical materials, but also has waterproof (seepage) performance. Bentonite waterproof blanket, as a new type of environmental protection and ecological composite impermeable material, has been widely used in water conservancy, environmental protection, transportation, railway, civil aviation and other civil engineering for its unique anti-seepage performance. It is commonly used in the foundation treatment and sealing of landfill sites, the seepage prevention of artificial lakes, reservoirs, channels, rivers, roof gardens, and the seepage prevention of underground buildings such as basements, subways, tunnels, and underground passages.

产品优势 Product Advantages

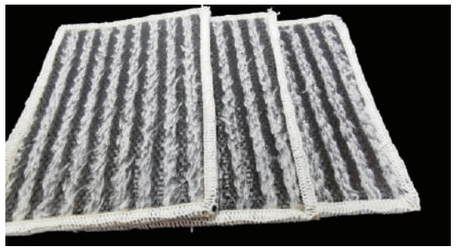
密实性——钠基膨润土在水压状态下形成高密度横隔膜，厚度约3mm时，它的透水性相当于100倍的30cm厚度粘土的密实度，具有很强的自保水性能。
防水性能——因为钠基膨润土系天然无机材料，即使经过很长时间或周围环境发生变化，也不会发生老化或腐蚀现象，因此防水性能持久。
施工工期短——和其他防水材料比较，施工相对比较简单，不需要加热和粘贴。只需用膨润土粉末和钉子、垫圈等进行连接和固定。施工后不需要特别的检查，如果发现防水缺陷也容易维修。GCL是现有防水材料中施工工期最短的。
绿色环保——膨润土为天然无机材料，对人体无害无毒，对环境没有特别的影响，具有良好的环保性能。

Compactness - sodium bentonite forms a high-density diaphragm under water pressure. When the thickness is about 3mm, its water permeability is equivalent to 100 times the compactness of 30cm thick viscose, and it has a strong self-water retention performance.
Waterproof performance - Because sodium bentonite is a natural inorganic material, even after a long time or changes in the surrounding environment, there will be no aging or corrosion phenomenon, so the waterproof performance is durable.
Short construction period - compared with other waterproof materials, the construction is relatively simple and does not require heating and pasting. Just use bentonite powder and nails, washers, etc. to connect and fix. No special inspection is required after construction, and it is easy to repair if waterproofing defects are found. GCL is the shortest construction period of existing waterproof materials.
Green environmental protection - Bentonite is a natural inorganic material, harmless and non-toxic to the human body, no special impact on the environment, with good environmental performance.

产品特点 Product Features

具有优异的防水防渗性能，抗渗静水压可达1.0MPa以上，渗透系数 5.0×10^{-11}cm/s，膨润土是天然无机材料，不会发生老化反应，耐久性好；且不会对环境造成任何不利影响。
具有土工布材料的全部特性，如隔离、加固、防护等，施工简便且不受施工环境温度的限制，0℃以下也可施工。施工时只需将防水毯平铺在地上，立面或斜面施工时，用钉子和垫圈将其固定，并按要求搭接即可。
容易修补；即使在防水(渗)施工结束以后，如防水层发生意外破损，只要对破损的部位加以简单的修补，就可重新获得完美如初的防水性能。

With excellent waterproof and impermeable performance, impermeable hydrostatic pressure can reach 1.0MPa or more, permeability coefficient 5.0×10^{-11}cm/s, bentonite is a natural inorganic material, will not occur aging reaction, good durability; Without any adverse impact on the environment.
With all the characteristics of geotextile materials, such as isolation, reinforcement, protection, etc., the construction is simple and not limited by the construction environment temperature, and can also be constructed below 0℃. During construction, just lay the waterproof blanket on the ground, and fix it with nails and washers when the facade or slope is constructed, and lap it as required.
Easy to repair; Even after the completion of waterproof (seepage) construction, if the waterproof layer is accidentally damaged, as long as the damaged part is simply repaired, the perfect waterproof performance can be regained.



作用用途 Function and Use

用途：垃圾填埋场、人工湖、河道治理等，其他水利工程。
作用：防水、防渗。

Uses: landfill, artificial lake, river treatment, other water conservancy projects.
Function: waterproof, anti-seepage.

产品规格 Product Specifications

克重：3000g-6000g　　幅宽：3m-6m
卷长：30m-50m 也可按照客户要求定做。

GSM: 3000g-6000g　　Width: 3m-6m
Roll length: 30m-50m can also be customized according to customer requirements.

技术指标 Technical Indicators

膨润土防水毯技术指标（JG/T193-2006）
GCL (geosynthetic clay liner)specifications (JG/T193-2006)

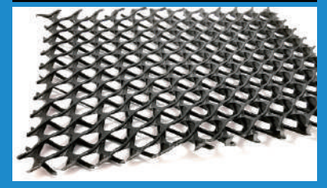
项目 Properties		指标 Technical data		
		GCL-NP	GCL-OF	GCL-AH
膨润土防水毯单位面积质量/（g/m^2） The quality of bentonite waterproof blanket unit area		≥4000且不小于规定值 ≥4000 and not less than the specified value	≥4000且不小于规定值 ≥4000 and not less than the specified value	≥4000且不小于规定值 ≥4000 and not less than the specified value
膨润土膨胀指数/(mL/2g) Bentonite Swelling Index		≥24	≥24	≥24
吸蓝量（g/100g) Blue Absorption Value		≥30	≥30	≥30
拉伸强度/（N/100mm) tensile strength		≥600	≥700	≥600
最大负荷下伸长率% Elongation under maximum load		≥10	≥10	≥8
剥离强度（N/100mm） peel strength	非织造布与编织布 Nonwovens and woven fabrics	≥40	≥40	——
	PE膜与非织造布 PE film and nonwovens	——	≥30	——
渗透系数（m/s） permeability coefficient		$\leq 5.0\times10^{-11}$	$\leq 5.0\times10^{-12}$	$\leq 1.0\times10^{-12}$
耐静水压 Hydrostatic pressure		0.4Mpa,1h,无渗漏 0.4Mpa,1h, no leakage	0.6Mpa,1h,无渗漏 0.6Mpa,1h, no leakage	0.6Mpa,1h,无渗漏 0.6Mpa,1h, no leakage
滤失量 /mL filter loss		≤18	≤18	≤18
膨润土耐久性 /（mL/2g） Bentonite durability		≥20	≥20	≥20

复合 排水网 Composite Drainage Geonet

产品介绍 Product Introduction

复合排水网是一种新型的排水土工材料。以高密度聚乙烯(HDPE)为原料，经特殊的挤出成型工艺加工而成，具有三层特殊结构。中间筋条刚性大，纵向排列，形成排水通道，上下交叉排列的筋条形成支撑防止土工布嵌入排水通道，即使在很高的荷载下也能保持很高的排水性能，具有“反滤——排水——透气——保护”综合性能。

Composite drainage geonet is a new type of geotechnical material for drainage. It is made of high-density polyethylene (HDPE) as raw material and processed via a special extrusion molding technique, featuring a unique three-layer structure. The rigid middle ribs are arranged longitudinally to form drainage channels, while the upper and lower cross-arranged ribs form a support to prevent geotextiles from embedding into the drainage channels. This allows it to maintain high drainage performance even under high loads, providing comprehensive performance in "filtration, drainage, ventilation, and protection.



性能特点 Performance Characteristics

排水性强(相当于一米厚砾石排水)。抗拉强度高。
减少土工织物嵌入网芯的机率，保持长期稳定的排水。长期承受高压载荷(能承受大约3000KPa的压缩载荷)，耐腐蚀、耐酸碱、使用寿命长。施工方便、缩短工期、降低成本。

Strong drainage (equivalent to one meter thick gravel drainage).
High tensile strength.
Reduce the probability of geotextile embedment in the mesh core and maintain long-term stable drainage. Long-term high-pressure load (can withstand about 3000KPa compression load), corrosion resistance, acid and alkali resistance, long service life. Construction is convenient, shorten the construction period and reduce the cost.

作用用途 Function and Use

主要用于铁路、公路、隧道、市政工程、水库、护坡等排水工程中效果显著。

Mainly used in railway, highway, tunnel, municipal engineering, reservoir, slope protection and other drainage engineering effect is remarkable.

产品规格 Product Specifications

厚度：4mm-8mm　幅宽：3m　卷长：30m-50m 也可按照客户要求定做。
Thickness: 4mm-8mm　Width: 3m　Roll length: 30m-50m can also be customized according to customer requirements.

施工工艺 Construction Process

调整复合排水网的铺设方向，使卷材长度方向垂直于道路走向。复合排水网必须进行端头搭接，相邻网芯上的土工布应沿卷材长度方向进行搭接。应使用白色或黄色的塑料扣（或聚合物扎带）将相邻卷材的土工网芯连接起来，沿卷材长度方向每隔3英尺（约0.9米）连接一次。土工布的搭接方向应与填料摊铺方向一致。
若复合排水网铺设在地基、基层与底基层之间，则必须对上层土工布进行固定。推荐采用连续楔形焊接、平头焊接或缝合工艺。若采用缝合工艺，建议使用平头缝法或一般缝法，并确保满足针脚长度的最低要求。

Adjust the orientation of the composite drainage geonet so that the roll length is perpendicular to the road alignment. The composite drainage geonet must be terminated with end overlaps, and the geotextile on adjacent geonet cores should be overlapped along the roll length. Adjacent geonet cores must be secured using white or yellow plastic buckles (or polymer ties) spaced every 3 feet (approximately 0.9 meters) along the roll length. The overlap direction of the geotextile must be consistent with the direction of fill placement.
If the composite drainage geonet is installed between the foundation/base and the sub-base, the upper layer of geotextile must be secured. Continuous wedge welding, flat head welding, or stitching is recommended. If stitching is used, the "flat" or "prayer" stitch method is recommended, ensuring the minimum stitch length requirements are met.

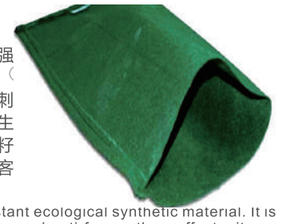
技术指标 Technical Indicators

复合排水网技术指标（CJ/T 452-2014）
Technical Specifications of Composite drainage Network (CJ/T 452-2014)

项 目 Properties	技术指标 technical data	
	土工排水网 Geotechnical drainage network	土工复合排水网 Geotechnical composite drainage network
密度/（g/cm³）Density	≥0.939	——
炭黑含量/% Carbon black content	2～3	——
纵向拉伸强度/（kN/m）Longitudinal tensile strength	≥8.0	≥16.0
纵向导水率（法向荷载500kPa、水力梯度0.1）/（m^2/s）Longitudinal tensile strength longitudinal water conductivity (normal load 500kPa, hydraulic gradient 0.1)	$\geq 3.0\times10^{-3}$	$\geq 3.0\times10^{-4}$
剥离强度/（kN/m）peel strength	——	≥0.17
土工布单位面积质量/（g/m^2）Unit area mass of geotextile	——	≥200
注：土工布技术指标应符合GB/T 17639的规定。Note: The technical specifications of geotextiles shall comply with the provisions of GB/T 17639.		

护坡 生态袋 Slope Protection Eco-bag

产品介绍 Product Introduction



生态袋是一种高强抗紫外线抗冻融耐酸碱的生态合成材料，是高新技术新型特种材料，具有高强抗UV 耐酸碱 抗腐蚀 抗冻融 作用可达到5年以上不降解，主要运用于建造柔性生态边坡。
生态袋由丙纶无纺布（PP）或者聚酯长丝无纺布（PET）、涤纶无纺布为原材料制成的热烫针刺无纺布加工而成的袋子。按照指标主要常用为丙纶布生态袋、长丝布生态袋、涤纶布生态袋。生态袋经发展里面加草籽（羊茅、黑麦草、早熟禾等）又发展成为植草生态袋也称为植生袋、草籽袋等。生态袋规格一般为815mmX430mm/800mmX400mm/600mmX400mm,也可以根据客户要求定做。

The ecological bag is a kind of high-strength, anti-ultraviolet, freeze-thaw resistant, and acid-alkali resistant ecological synthetic material. It is a new high-tech special material. With high strength, anti-UV, acid and alkali resistance, anti-corrosion, and anti-freeze-thaw effects, it can remain undegraded for more than 5 years. It is mainly used in the construction of flexible ecological slopes.
The bag is made of heat-treated needle-punched non-woven fabric, using Polypropylene non-woven fabric (PP), Polyester Filament non-woven fabric (PET), or Polyester non-woven fabric as raw materials. According to specifications, the main types used are PP cloth ecological bags, Filament cloth ecological bags, and Polyester cloth ecological bags.
The ecological bag has developed to include grass seeds inside (Fescue, Ryegrass, Bluegrass, etc.), evolving into "planting grass ecological bags," also known as planting bags or grass seed bags.
Ecological bag specifications are commonly 815mm x 430mm, 800mm x 400mm, or 600mm x 400mm, and can also be customized according to customer requirements.

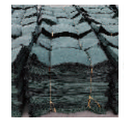
性能特点 Performance Characteristics

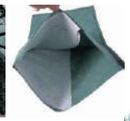
一、抗潮湿
生态袋原材料不吸收水分，水分出现时不会破坏袋子，而袋子也不会变形，不会溶于污染液体。
二、抗化学腐蚀（PH）
广泛研究测试表明生态袋对一定浓度的酸碱化学物品有很强的抵抗力，可用于大多数固体和严重污染地点。
三、抗生物降解和动物破坏
生态袋采用特殊配方材料，不支持、不吸收、不帮助菌类生长，不腐烂、不发霉、不变质。生态袋不会被昆虫和有关动物消化，不会成为啃齿动物（老鼠）、白蚁、蛀虫、壳虫、银鱼蛾等的食物。
四、抗高低温
生态袋可以承受150摄氏度高温而不融化，可以承受低气温-40摄氏度。
五、抗紫外线（UV）
生态袋含碳墨和其他抗UV成分。
六、这里以等效孔径举证说明：
1)、孔径太大（袋体，材料过薄）
2)、孔径太小（袋体，材料过厚）
A.会对植被生长与根系延伸形成阻碍，严重影响柔性边坡的结构稳定。
B.边坡静水压力因此而增大会使坡体坍塌。

1. resistance to moisture
The raw material of the ecological bag does not absorb water, and the water will not damage the bag when it appears, and the bag will not be deformed, and it is insoluble in polluted liquid.
2. chemical corrosion resistance (PH)
Extensive research and testing have shown that the ecobag is highly resistant to certain concentrations of acid-base chemicals and can be used in most solids and heavily polluted sites.
3. Resistance to biodegradation and animal destruction
The ecological bag adopts special formula material, does not support, does not absorb, does not help the growth of fungi, does not rot, does not mold, does not deteriorate. The ecobag will not be digested by insects and related animals, and will not become food for gnawing animals (mice), termites, moths, shell worms, whitebait moths, etc.
4. Temperature Resistance
The ecobag can withstand high temperatures of 150 degrees Celsius without melting, and can withstand low temperatures of -40 degrees Celsius.
5. UV Resistance
The biobags contain carbon ink and other UV resistant ingredients.
6. The equivalent aperture is used here to prove:
1), the aperture is too large (bag body, material is too thin)
2), the aperture is too small (bag body material is too thick)
A. It will hinder vegetation growth and root extension, and seriously affect the structural stability of the flexible slope.
B. The increase of slope hydrostatic pressure will cause slope collapse.

作用用途 Function and Use

一、生态修复：1.河流两岸：人类和野生生物共存的自然岸带环境。2.矿山复绿：综合利用矿矸石，科学整治沉降区，绿化荒山，净化水气，开创矿山生态修复，荒山复绿新纪元。3.海湖滨岸、地表滑坡治理、涵洞口、排水沟、土壤侵蚀、灌溉系统等。4.人工湿地：生态修复。5.屋绿化
二、基础建设：1.道路护坡：铁路、公路护坡，适用于挖方边坡和填方边坡。2.河湖护坡：适用于河流、湖泊、水库边坡。3.特殊应用：军事设施与防洪应急、掩体、防洪堤坝等。
三、园林绿化住宅：1.垂直绿化、园林艺术；2.商业住宅小区；3.屋花园式绿化。





1. ecological restoration
1). Riverbanks: natural coastal environments where humans and wildlife coexist.
2). Mine greening: comprehensive utilization of mine gangue, scientific remediation of settling areas, greening of barren mountains, purification of water and gas, creating a new era of ecological restoration of mines and green restoration of barren mountains.
3). Waterfront, surface landslide treatment, culvert mouth, drainage ditch, soil erosion, irrigation system, etc.
4). Constructed wetland: ecological restoration.
5). House greening
2. Infrastructure
1). Road slope protection: railway, road slope protection, suitable for excavation slope and fill slope.
2). River and lake slope protection: suitable for river, lake, reservoir slope.
3). Special applications: military facilities and flood control emergency, shelters, flood control DAMS, etc.
3. garden greening housing
1). Vertical greening and garden art;2). Commercial residential district;3). House garden type greening.

塑料 排水板 Plastic Drainage Board

产品介绍 Product Introduction

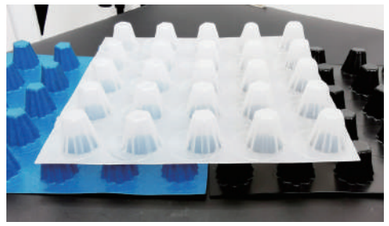
采用挤出吸附等工艺压型成封闭突起的柱状、半锥状壳体，形成一种膜、壳连续，有立体空间和一定支撑刚度，液体和气体可以在其内流动排泄的板材。是一种潜在功能很多的功能性材料，使用中很方便地构筑出架空层，形成排水、排气通道达到隔音、隔振的功能。在土木建筑工程领域中可广泛用于建筑屋面系统的层内架空、种植屋面的排水透气，建筑地下室防水系统的排水保护，室内地面的防潮隔热保护，公路铁路隧道的排水保护等。在城市土地、空间，塑料排水板提供有价值的选择。

A cylindrical and semi-cone-shaped shell with a closed protrusion is formed by extrusion and adsorption process to form a plate in which the membrane and shell are continuous, with three-dimensional space and a certain support stiffness, and in which liquid and gas can flow and discharge. It is a functional material with many potential functions, and it is convenient to build an overhead layer to form drainage and exhaust channels to achieve sound insulation and vibration isolation functions. In the field of civil construction engineering, it can be widely used in the overhead of building roof system, drainage ventilation of planting roof, drainage protection of building basement waterproof system, moisture proof and heat insulation protection of indoor ground, drainage protection of highway and railway tunnels, etc. In urban land, space, plastic drainage board provides a valuable option.

性能特点 Performance Characteristics

低成本、耐用、耐化学腐蚀、耐植物根系穿刺、应用功能多样化、安装工艺简单，质量稳定。

Low cost, durable, chemical corrosion resistance, plant root puncture resistance, diversified application functions, simple installation process, stable quality.



产品规格 Product Specifications

凸高一般为 8mm~50mm，产品幅宽为2m~3m，板材材质为 HDPE、PVC 等，长度可根据用户要求生产。

The convex height is generally 8mm~50mm, the product width is 2m~3m, the plate material is HDPE, PVC, etc., and the length can be produced according to user requirements.

施工工艺 Construction Process

1、铺设时要平整自然，顺坡或依水流向铺设。
2、当排水板铺设时尽可能做好保护措施，层面或室外车库铺设排水板应及时尽快做好回填土工作，防止大风吹乱排水板影响铺设质量。地下室和内墙防水要尽快做好保护层，预防排水板被人或物破坏。

1, the laying should be smooth and natural, along the slope or in accordance with the flow of water.
2. When the drainage board is laid, take protective measures as far as possible, and the drainage board laid in the layer or outdoor garage should be backfilled as soon as possible to prevent the wind from affecting the quality of the drainage board. The basement and the inner wall should be waterproof as soon as possible to do a protective layer to prevent the drainage board from being damaged by people or objects.

技术指标 Technical Indicators

塑料防护排水板技术指标 JC/T2112-2012
Plastic protective drainage board technical indicators JC/T2112-2012

序号 No.	项目 Properties		技术指标 technical data
1	伸长率10%时拉力/（N/100mm）≥ Tensile strength at 10% elongation		350
2	最大拉力/（N/100mm）≥ Maximum tensile strength		600
3	断裂伸长率/% ≥ Break Elongation		25
4	撕裂性能/N ≥ tear resistance		100
5	压缩性能 Compression performance	压缩率为20%时最大强度/kpa ≥ Maximum strength at 20% compression rate	150
		极限压缩现象 Extreme compression phenomenon	无破裂 No Cracks
6	低温柔度 Low temperature flexibility		-10℃无破裂 No Cracks at -10℃
7	热老化(80℃.168h) Thermal aging(80℃.168h)	伸长率10%时拉力保持率/% ≥ Tensile retention at 10% elongation	80
		最大拉力保持率/% ≥ Maximum tensile retention	90
		断裂伸长率保持率/% ≥ Elongation at break retention rate	70
		压缩率为20%时最大强度保持率/%≥ Maximum strength retention when the compression rate is 20%	90
		极限压缩现象 Extreme compression phenomenon	无破裂 No Cracks
		低温柔度 Low temperature flexibility	-10℃无破裂 No Cracks at -10℃
8	纵向透水量（测压力150kpa）/（cm^3/s）≥ Longitudinal water penetration (measured pressure 150kpa)		10

塑料扁丝 编织 土工布 Plastic Woven Film Yarn Geotextile

产品介绍 Product Introduction

编织布是以聚丙烯扁丝为原料，由两组平行的纱线(或扁丝)组成，一组沿织机的纵(织物行进的方向)称经纱，另一组横向布置称为纬纱。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抗拉度(经度大于纬度)，具有很好的稳定性能。

The woven fabric is made of polypropylene flat yarn and consists of two sets of parallel yarns (or flat yarn), one set along the longitudinal (direction of the fabric travel) of the loom is called the warp, and the other set of lateral arrangements is called the weft. With different weaving equipment and processes, the warp and weft are interwoven into cloth, which can be woven into different thicknesses and compactness according to different ranges of use. Generally, woven geotextiles are thinner and have tensile strength (longitude is greater than latitude) and have good stability.

性能特点 Performance Characteristics:

产品特点重量轻、强度高、延伸率小、整体性好、施工方便、加固性能良好等。

Product features Light weight, high strength, small elongation, good integrity, convenient construction, good reinforcement performance, etc.

产品规格 Product Specifications

1、克重范围：90-400g/m^2；
2、宽幅范围：1-6m；
3、颜色：按客户要求(以黑、白为主)；

1.gram weight range: 90-400g/m^2；
2.Width range: 1-6m；
3.color: according to customer requirements (mainly black and white);

作用用途 Function and Use

加筋加固、排水隔离、反滤防护、农业抑草。广泛应用于水利工程、公路工程、铁路工程、沿海滩涂、农业等工程。

Reinforcement reinforcement, drainage isolation, anti-filtration protection, agricultural grass suppression.Widely used in water conservancy projects, highway projects, railway projects, coastal beaches, agriculture and other projects.

技术指标 Technical Indicators

塑料扁丝编织土工布技术指标（GB/T17690-1999）
Plastic Woven Film Yarn Geotextile Technical Indicators (GB/T17690-1999)

项目 Properties	指标 Technical data						
	20-15	30-22	40-28	50-35	60-42	80-56	100-70
经向断裂强力，kN/m≥ Break Strength（LD）	20	30	40	50	60	80	100
纬向断裂强力，kN/m ≥ Break Strength（TD）	15	22	28	35	42	56	70
经纬向伸长率 %≤ Elongation Rate（LD,TD）	28						
梯形撕破强力(纵向)kN≥ Trapezoid tear strength（LD）	0.3	0.45	0.5	0.6	0.75	1.0	1.2
顶破强力kN≥ bursting strength	1.6	2.4	3.2	4.0	4.8	6.0	7.5
垂直渗透系数，cm/s Vertical permeability coefficient	10^{-1}～10^{-4}						
等效孔径O_{95}，mm Equivalent Aperture	0.08～0.5						
单位面积质量，g/m^2 Grams per Square Meter	120	160	200	240	280	340	400
允许偏差值，% Allowable deviation value	±10						
抗紫外线强力保持率 % Uv resistance strength retention rate	按合同要求 As required by contract						

ABOUT CASE
关于+案例

飞机场跑道
Airport Runway

南水北调
South-to-North Water Diversion Project

河道治理
River Regulation

辽宁·沈阳
Liaoning Shenyang

垃圾填埋场
Landfill Site

高铁项目
High-Speed Railway Project

人工湖
Artificial Lake

垃圾填埋场
Landfill Capping

垃圾填埋场覆盖
Landfill Capping

人工湖施工
Artificial Lake Construction

ABOUT CASE
关于+案例


排水板
Drainage Board


油罐罐底防渗
Oil Tank Bottom Anti-Seepage


护坡生态袋
Slope Protection Eco-bag


隧道
Tunnel

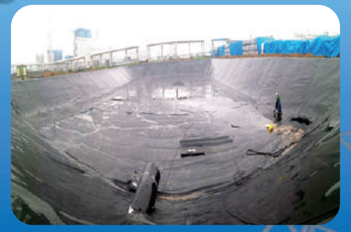

沼气池
Biogas Digester


车间防渗
Workshop Anti-seepage


公路路基施工
Highway Subgrade Construction


膨润土防水毯
Geosynthetic Clay Liner (GCL)


土工膜 - 蓄水池
Geomembrane Lined Reservoir


危废处理
Hazardous Waste Treatment


氧化塘
Oxidation Pond


鱼塘
Fish Pond

ABOUT TESTING EQUIPMENT

关于+检测设备