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世界500强
FORTUNE GLOBAL 500

恒力集团 HENGLI GROUP
康辉新材 KANGHUI NEW MATERIAL

康辉新材料科技有限公司
KANGHUI NEW MATERIAL TECHNOLOGY CO., LTD.

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康辉新材-产品宣传册
Kanghui New Material-Product Brochure
2024 Edition

HENGLI GROUP
恒力集团

炼油　石化

精细化工　化纤

工程塑料　薄膜

纺织　贸易

恒力集团始建于1994年，是以炼油、石化、聚酯新材料、纺织为主业，贸易、金融、热电、重工等多元化发展的国际型企业。目前，恒力集团旗下有恒力石化股份有限公司（“恒力石化”股票代码：600346）、广东松发陶瓷股份有限公司（“松发股份”股票代码：603268）、苏州吴江同里湖旅游度假村股份有限公司（“同里旅游”股票代码：834199）三家上市公司，是全球单体产能最大的PTA工厂之一、全球最大的功能性纤维生产基地和织造企业之一，建有国家“企业技术中心”，企业竞争力和产品品牌价值均列国际行业前列。

恒力集团2023年总营收8177亿元，位列世界500强第123位、中国企业500强第36位、中国民营企业500强第3位、中国制造业企业500强第7位，获国务院颁发的“国家科技进步奖”和“全国就业先进企业”等殊荣。恒力逐梦，实业报国，恒力集团将继续多元化全产业链发展，为中国民族工业的腾飞竭尽全力！

Hengli Group, founded in 1994, is an international enterprise with diversified development in trade, finance, thermal power, heavy industry, and other fields, mainly engaged in oil refining, petrochemical, polyester new materials, and textiles. Currently, As one of the largest PTA factories with the largest monomer production capacity in the world, one of the largest functional fiber production bases and weaving enterprises in the world's, Hengli Group owns three listed companies including Hengli Petrochemical Co.,Ltd. (stock code: 600346), Guangdong Songfa Ceramics Co.,Ltd. (stock code: 603268), and Suzhou Wujiang Tongli Lake Tourism Resort Co.,Ltd. (stock code: 834199) and has established a national "enterprise technology center". The enterprise competitiveness and product brand value are among the forefront of the international industry.

Hengli Group, with a total revenue of 817.7 billion yuan in 2023, ranks No. 123 in the Fortune Global 500, No. 36 in China's Top 500 Enterprises, No. 3 in China's Top 500 Private Enterprises, and No. 7 in China's Top 500 Manufacturing enterprises. Hengli Group pursuing dreams and serving the country with industry has been awarded the "National Science and Technology Progress Award" and "National Advanced Employment Enterprise" by the State Council and will continue to diversify the development of the whole industrial chain and do its best for the rapid development of China's national industry!

8177
2023年总营收
8177亿元
The total revenue in 2023 was RMB 817.7 billion

123
世界500强
第123位
No. 123 of Fortune Global 500

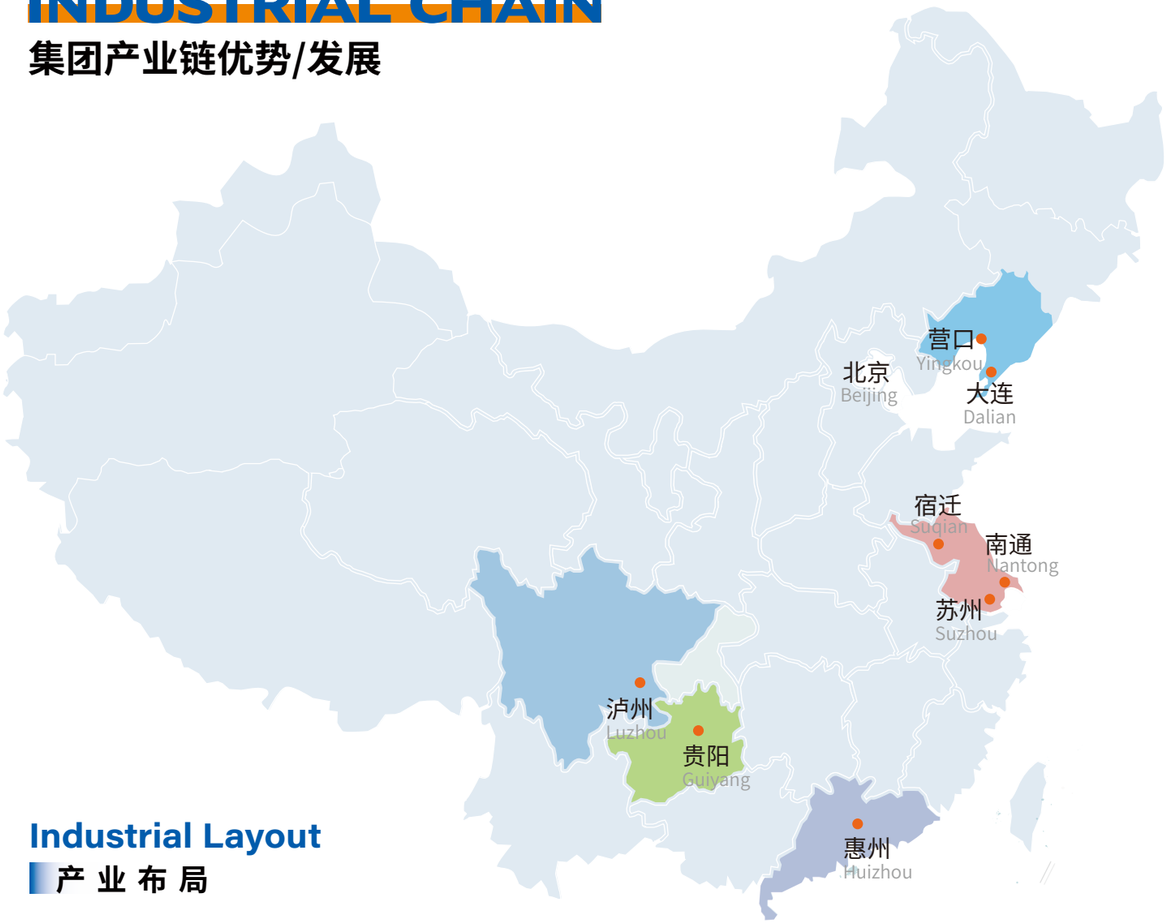
36
中国企业500强
第36位
No.36 of the top 500 Chinese enterprises

3
中国民营企业500强
第3位
No.3 of China's top 500 private enterprises

7
中国制造企业500强
第7位
NO.7 of the top 500 Chinese Manufacturing Enterprises

ADVANTAGES OF INDUSTRIAL CHAIN

集团产业链优势/发展



Industrial Layout

产 业 布 局

恒力（营口）产业园
Hengli (Yingkou) Industrial Park
薄膜40万吨/年
锂电池隔膜4.4亿平方米/年
PBAT/PBS3.3万吨/年
PET40万吨/年
PBT24万吨/年
THF1.6万吨/年
BOPET 400 kt/y
BSF 440 million square meters/y
PBAT/PBS 33 kt/y
PET 400 kt/y
PBT 240 kt/y
THF 16 kt/y

恒力(大连长兴岛)产业园
Hengli (Dalian Changxing Island) Industrial Park
对二甲苯450万吨/年
精对苯二甲酸1200万/年
乙二醇180万吨/年
乙烯150万吨/年
PBT32万吨/年
PBAT/PBS15万吨/年
PX 4.5 million tons/y
PTA 12 million tons/y
MEG 1.8 million tons/y
Ethylene 1.5million tons/y
PBT 320 kt/y
PBAT/PBS 150 kt/y

恒力(南通)产业园
Hengli (Nantong) Industrial Park
薄膜40万吨/年
PET/纺丝165万吨/年
锂电池隔膜30亿平方米/年
BOPET 400 kt/y
PET/Spinning 1.65 million/y
BSF 3 billion square meters/y

恒力（苏州）产业园
Hengli (Suzhou) Industrial Park
薄膜40万吨/年
PBT改性15万吨/年
PET/纺丝140万吨/年
BOPET 400 kt/year
PBT modified 150 kt/y
PET/Spinning 1.4 million/y

恒力(宿迁)产业园
Hengli(Suqian)Industrial Park

恒力（泸州）产业园
Hengli (Luzhou) Industrial Park (under construction)

恒力（贵阳）产业园
Hengli (Guiyang) Industrial Park (under construction)

恒力（惠州）产业园
Hengli (Huizhou) Industrial Park (under construction)

Industrial Chain Development

产 业 链 发 展

原油
Crude Oil

炼化一体化项目
2000万吨/年
20 million tons / y refining of chemical integration project

芳烃
乙烯
Aromatics
Ethylene

芳烃 450万吨/年
乙烯 150万吨/年
4.5 million tons/y of Aromatics
1.5 milliion tons/y of Ethylene

精对苯二甲酸
乙二醇
Purified Terephthalic Acid(PTA)
Ethylene Glycol

精对苯二甲酸1700万吨/年
乙二醇180万吨/年
17 million tons/y of PTA
1.8 million tons/y of MEG

薄膜
锂电池隔膜
PBT
PBAT/PBS
Film
BSF
PBT/PBAT/PBS

BOPET 120万吨/年
BSF 34.4亿平方米/年
PBT 56万吨/年
PBT 改性 18万吨/年
PBAT/PBS 18.3万吨/年
1.2 million tons/y of BOPET Film
3.44 billion square meters/y of BSF
560 kt/y of of PBT
PBT modified 180 kt/y
183 kt/y ofof PBAT / PBS

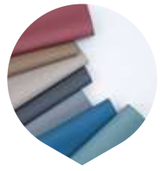
高性能树脂
ABS/PC/BDO
PTMEG/DMC
High performance resin

ABS 30万吨/年
PC 26万吨/年
BDO 60万吨/年
PTMEG 6万吨/年
DMC 20万吨/年
300 kt/y of ABS
260 kt/y of PC
600 kt/y of BDO
60 kt/y of PTMEG
200 kt/y of DMC

聚酯
民用丝及工业丝
Polyester
Textile and Industrial yarn

聚酯 600万吨/年
民用丝及工业丝350万吨/年
6 million tons/y of PET
3.5 million tons/y of Textile and Industrial yarn.

纺织
Textiles



纺织 40亿米/年
4 billion meters textiles / y

以上数据基于2022年统计

恒力集团坚持全产业链发展，打造“原油—芳烃、乙烯—精对苯二甲酸（PTA）、乙二醇—聚酯（PET）—民用丝及工业丝、工程塑料、薄膜—纺织”的完整产业链。在炼油板块，恒力2000万吨/年炼化一体化项目是列入国务院文件的第一个重大民营炼化项目。

在石化板块，恒力石化（大连长兴岛）产业园PTA项目年产能达到1200万吨，“高标准、严要求、快节奏”建成投产，刷新了国际同行业的多项记录。在聚酯新材料板块，恒力集团拥有世界领先的技术装备，年聚合产能600万吨。

在薄膜板块，作为企业产业链的纵向延伸，康辉新材全面引进世界知名的德国布鲁克纳公司薄膜生产线，采用国际先进的前沿技术，建成年产120万吨新型双向拉伸聚酯薄膜项目。

Hengli Group adheres to the development of the whole industrial chain and creates a complete industrial chain from crude oil to aromatics, ethylene to terephthalic acid (PTA), ethylene glycol to polyester (PET) to textile and industrial yarn, engineering plastics, film to textile.

In the refining sector, Hengli’s 20 million tons/year refining and chemical integration project is the first major private refining and chemical project listed in the documents of Chinese State Council.

In the petrochemical sector, the PTA project in Hengli Petrochemical (Dalian Changxing Island) Industrial Park will reach an annual production capacity of 12 million tons/year, which operates in high standards, strict requirements, and fast pace.

In the polyester advanced materials sector, Hengli Group has imported a full set of the world-class facility with an annual polymerization capacity of 6 million tons.

In the film sector, as a vertical extension of the enterprise's industrial chain, Kanghui New Material imported the world-famous film production line from Brückner Germany and adopted international advanced technology,and built a new biaxially oriented polyester film project of 1.2 million tons/year .

KANGHUI NEW MATERIAL
康辉新材

康辉新材料科技有限公司于2011年落户营口仙人岛经济开发区，是恒力集团旗下-恒力石化股份有限公司（股票代码：600346）全资子公司。

公司依托世界一流的德国布鲁克纳拉膜工艺及恒力自有的聚酯合成技术，全力打造行业领先的双向拉伸聚酯薄膜（BOPET）、锂电池隔膜（BSF）、PBT工程塑料、功能性聚酯及PBS/PBAT生物可降解塑料生产基地。以自身制膜技术为依托，瞄准中高端锂电池隔膜市场，不断进行前瞻性产业布局，持续发力，致力于成为世界一流的材料研发生产企业。随着公司产能规模、产品品质、技术研发等方面核心竞争力不断增强，将持续提升康辉新材在中高端功能性薄膜及聚酯材料领域的行业竞争力，为公司可持续高质量发展注入强劲动能。

公司产品先后取得REACH注册，欧盟RoHS、DIN、Seeding认证，美国FDA、BPI、UL认证、澳大利亚ABA认证、日本JBPA认证等。现已通过IATF16949汽车质量管理体系认证、ISO9001质量管理体系认证、ISO14001环境管理体系认证、ISO45001职业健康安全管理体系认证、ISO50001能源管理体系认证，全国工业产品生产许可认证，是中国海关AEO高级认证企业，拥有辽宁省专业技术创新中心、辽宁省企业技术中心等，先后荣获辽宁省瞪羚企业、辽宁省绿色工厂、全国石油和化学工业先进集体、全国电力需求侧示范企业、国家高新技术企业等称号。

康辉新材以“科技创新”为发展核心，与国内多所高校开展科研合作，聘请德国、日本、韩国等地专家组成研发团队，现已建成辽宁营口，江苏苏州两大研发基地，推进聚酯前沿技术和尖端产品的研发，引领市场。

公司依托集团炼化一体化产业优势，自有核心工艺技术，自主研发各种功能性母料，健全的技术支持与服务体系，可广泛满足国内外客户多样化需求，为客户提供一流的产品和优质的服务。

Kanghui New Material Technology Co., Ltd. was established in Xianren Island Economic Development Zone in Yingkou, China in 2011. It is a wholly-owned subsidiary of Hengli Petrochemical Co., Ltd. (stock code: 600346)

Relying on the world-renowned German Brückner film production technology and Hengli's Own polyester synthesis technology, Kanghui New Material intends to create a leading BOPET film, Lithium-ion battery separator(BSF), PBT engineering plastics, functional polyester, and PBS/PBAT biodegradable plastics production base. Based on its own film technology, Kanghui New Material aims to medium and high-end lithium battery diaphragm market, continues to forward-looking industrial layout, and develops a world-class material research and development and production enterprises. Besides, the company will continue to enhance its competitiveness among the high-end functional film and polyester material industries with its enlarged capacity scale, product quality, and the development of R&D.

The full range of products has been registered in REACH, RoHS, DIN, Seeding, FDA, BPI,UL, ABA,JBPA and other international certificates. The company has completed the registration of IATF16949 Automobile quality management system certification, ISO9001 quality, ISO14001 Environmental Management System Certification, ISO45001 occupational health and safety management system certificates, ISO50001 Energy Management System Certification, AEO certifications of Chinese Customs, and national industrial production license. Kanghui New Material is also rewarded as the 'Gazelle Enterprise, 'Green Factory' and ‘National Advanced Collective’ by Liaoning Province.

With "scientific and technological innovation" as the core of development, it has carried out scientific research cooperation with many domestic universities, hired experts from Germany, Japan, South Korea and other places to form a research and development team, and has now established two major research and development bases in Yingkou, Liaoning and Suzhou, Jiangsu, to promote cutting-edge polyester technology and Research and development of cutting-edge products, leading the market.

Relying on the advantages of the group company's refining and chemical integration industry, its own core process technology, independent research and development of various functional masterbatches, and a sound technical support and service system, it can widely meet the diverse needs of domestic and foreign customers and provide customers with first-class products and Excellent service.

KANGHUI NEW MATERIAL JIANGSU

江苏康辉新材料科技有限公司

江苏康辉新材料科技有限公司成立于2020年3月26日，落户苏州吴江区长三角生态绿色一体化发展示范区内，工业占地1064.4亩，建筑面积67万㎡，总投资112亿元。规划建设新材料国际贸易中心、新材料研发中心及新材料生产三大综合功能合体，集销售、研发、生产于一身。

公司采用世界一流的德国布鲁克纳拉膜线装备及恒力自有技术，高起点严要求，打造世界一流的高端功能性聚酯薄膜、功能性塑料生产基地。项目建成后，将年产高端功能性聚酯薄膜、工程塑料80万吨，全面运营后可实现年销售收入200亿元。

Jiangsu Kanghui New Material Technology Co., Ltd. was established on March 26, 2020 which is located in the Yangtze River Delta Ecological Green Integrated Development Demonstration Zone in Wujiang District, Suzhou. The industry covers 710,000 ㎡, with a construction area of 670,000 ㎡ and a total investment of 11.2 billion yuan. It is planned to build a three-in-one comprehensive functional center, with Sales, R&D, and Production.

The company, adopting the world-class German Brückner film production lines and Hengli's own technology with a high starting point and strict requirements will build a world-class production base for high-end functional polyester films and functional plastics. After the completion of the project, it will produce 800,000 tons of high-end functional polyester film and engineering plastics annually, and achieve an annual sales revenue of 20 billion yuan after full operation.

KANGHUI NEW MATERIAL DALIAN

康辉大连新材料科技有限公司

康辉大连新材料科技有限公司成立于2021年3月29日，公司位于于大连长兴岛经济区恒力（大连）产业园内，工业占地146亩，总投资18亿元，规划建设年产45万吨PBT/PBAT/PBS类生物可降解塑料生产基地。

公司积极响应国家“限塑禁塑”政策，紧跟前沿市场需求，依托自主研发的工艺技术，配套新品实验中心，具备顶尖的产品检测技术和完善的质量保证体系。项目建成后将成为国内规模最大、品质最优的生物降解材料生产基地。

Kanghui Dalian New Material Technology Co., Ltd. was established on March 29, 2021. The company is located in Hengli (Dalian) Industrial Park, Changxing Island Economic Zone, Dalian.The industry covers an area of 97,000 ㎡, with a total investment of 1.8 billion yuan, planning to build a production base of 450 kilotons/year of PBT/PBAT/PBS biodegradable plastics .

The company actively responds to the national policy of "limiting plastics and banning plastics", keeping up with the cutting-edge market demand, relying on self-developed technology, supporting new product experiment center, with top product testing technology and perfect quality assurance system. After the project is completed, it will become the largest and best-quality biodegradable material production base in China.

KANGHUI NEW MATERIAL NANTONG

康辉南通新材料科技有限公司

康辉南通新材料科技有限公司为康辉新材第四个产业基地，于2022年启动建设，坐落于美丽的江苏南通，占地面积1700亩。项目总投资近125亿元，投资建设年产60万吨聚酯薄膜、功能性薄膜及30亿平方米锂电池隔膜项目。

康辉南通依托康辉新材多年聚酯薄膜研发生产经验及自主研发的纳米级功能性母料专有技术，引进行业领先的德国布鲁克纳拉膜技术装备与日本芝浦机械先进生产线及配套设备，建设高端薄膜与锂电池隔膜项目。

Kanghui Nantong New Material Technology Co., Ltd. (referred as Kanghui Nantong) is one of the production bases of Kanghui New Material, which starts construction in 2022 and is located in Nantong, Jiangsu, China, and covers an area of 1.13 million ㎡.The total investment of the project is nearly 12.5 billion yuan, with an annual output of 600 kilotons tons of polyester film, functional film and 3 billion square meters of Lithium-ion battery separator per year.

Relying on the company’ s years of experience in polyester film R&D and production and its own patented technology of Nanoscale functional masterbatch, Kanghui Nantong is building high-end film and lithium battery separator projects by introducing German Brückner and Japan Shibaura production lines.

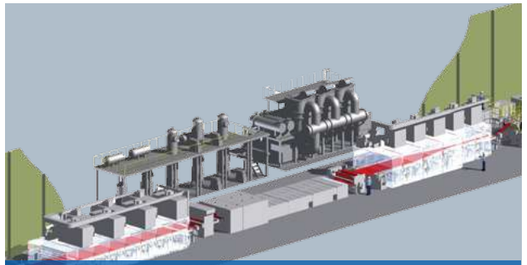
MAIN EQUIPMENTS

主要设备装置

德国先进聚合设备 / Advanced polymerization equipment from Germany

德国布鲁克纳生产设备 / Production equipment from Bruckner Germany

日本富士涂覆设备/Japan Fuji Coating Equipment



日本东芝湿法制膜线/Japanese Toshiba wet film production line

克劳斯玛菲共混系统/KraussMaffei compounding system

德国先进在线涂布系统/Advanced In-line coating equipment from Germany

康辉新材秉承“10年不落后”的理念，高起点战略、高标准规划、高质量建设、高水平开车、高效率管理，全面引进世界先进的生产线，依托恒力集团以应用开发为特色的聚酯技术，以世界一流的设备，超一流的管理，提升国家在聚酯行业的全球竞争力和国家话语权。

Kanghui New Material adheres to the concept of "Equipments remain competitiveness more than 10 years". The company fully introduced world advanced production lines with strategies of high starting point, high standard planning, high quality construction, high level operation and efficient management. Relying on Hengli Group's polyester technology featuring application development, world-class equipments and superior management, the project will enhance the global competitiveness and voice in the polyester industry.

QUALITY CONTROL
质量管控

为了保证产品质量，公司品质检控中心配备了先进的检测仪器：阻氧阻测试仪、粗糙度测试仪、光泽度仪、电气强度测试仪、表面电阻和体积电阻测试仪、厚度检测仪、电子拉力测试机、热收缩率测试装置、摩擦系数测试仪、透光率和雾度测试仪、表面张力测试笔、偏光镜、热封仪、分析天平、微量水分测定仪、熔点仪、乌氏粘度仪、恒温干燥箱、高温炉等多种检测设备。严把生产、分切、包装、入库、出厂各环节产品质量关，对产品进行多道检测，保障出货产品品质。不让一件不合格产品流出公司，让用户百分百满意是康辉新材不断追求的目标。

In order to ensure product quality, the quality control center of the company is equipped with advanced testing instruments like oxygen resistance tester, roughness tester, glossometer, electrical strength tester, surface resistance and volume resistance tester, thickness gauge, electronic tension tester, thermal shrinkage tester, friction coefficient tester, transmittance and fog tester, surface tension tester pen, polarizer, heat seal instrument, analysis balance, trace moisture tester, melting point tester, Uttner viscometer, constant temperature drying oven, high temperature furnace and others testing equipment and strictly control production, slitting, packaging, warehousing, delivery of all links of product quality control, product testing to ensure the quality of shipped products. It is the constant goal of Kanghui that not allowing a nonconforming product to flow out of the company and making users fully satisfied.

R & D INNOVATION
研发创新

康辉新材料科技有限公司坚持实施品牌战略和市场战略两大工程，自主研发能力在全国聚酯行业处于领先地位，同时积极开拓国内外高端市场，坚持自主创新，不断提升核心竞争能力；依托集团公司的“恒力国际研发中心”和“恒力产学研基地”，与德国、日本、韩国和中国台湾等地的资深专家，组成国际研发团队，为企业进行高端差别化产品的研发。

近年来，公司全力以赴推进新品研发，开展省级新品研发项目24项，公司新品研发项目80余项。现拥有授权专利70项，其中发明专利23项，报审专利39项，现已掌握生物降解树脂、高端功能性聚酯薄膜等产品的关键技术。2023年研发投入1.83亿元，占营业收入的3.21%。

通过自主研发与合作研发模式，与大连理工大学、沈阳化工大学等高校积极开展校企合作，是中国塑料加工工业协会降解塑料专业委员会副会长单位、中国合成树脂协会生物降解协会常务副会长单位、中国塑协双向拉伸聚酯薄膜专业委员会中心会员单位，现有科技人员683人，其中研发人员126人。

康辉新材正全力打造一个行业地位领先、竞争优势显著、企业特色鲜明、社会尊重、员工自豪的优质企业。

Kanghui New Material always adheres to the implementation of the two major projects of brand strategy and market strategy. Its ability of independent research and development stands at the leading position in the national polyester industry. Relying on "Hengli International R&D Center" and "Hengli Industry-Academy-Research Base", Kanghui built an international R&D team with senior experts from Germany, Japan, South Korea and other areas in order to enhance the core competitive of the company and research high qualified and differentiated products.

In recent years, the company is paying a large effort to promote the R&D of new products that has carried out 24 provincial new projects and more than 80 projects of new products. So far, the company owns 70 authorized patents, including 23 invented patents and 39 patents submitted for examination. It has mastered the key technologies of biodegradable resins, high-end functional polyester films and other products. In 2022, R&D investment will be more than 183 million yuan, accounting for more than 3.21% of operating income.

Through independent research and cooperative research and development, it actively carries out school-enterprise cooperation with universities such as Dalian University of Technology and Shenyang University of Chemical Technology. It is a vice chairman unit of the Degradable Plastics Professional Committee of the China Plastics Processing Industry Association, a standing vice chairman unit of the Biodegradation Association of the China Synthetic Resin Association, and a member unit of the Biaxially Stretched Polyester Film Professional Committee Center of the China Plastics Association. Currently, it has 683 scientific and technological personnel, including 126 research and development personnel.

Kanghui New Material is trying the best to build a high-quality enterprise with a leading position in the industry, significant competitive advantages, distinctive corporate characteristics, which is respected by the social and proud of its employee.

BOPET

Biaxially-oriented Polyester Film

聚酯薄膜

“恒力牌”聚酯薄膜具有拉伸强度高、弹性模量高、冲击强度和耐弯曲性大、表面光泽度和透明度高、耐热性好、稳定性好、无毒无味、良好的阻氧性和阻湿性、耐化学腐蚀性、良好的光学性能和电气绝缘性能等优点。经过特殊处理还可以进一步提高薄膜物理性能，如提高薄膜抗静电性、尺寸稳定性、表面附着力等。BOPET薄膜综合性能优良，而且能被回收利用，被称为绿色环保材料，在建设节约型社会的今天其应用前景更加广阔。

“HENGLI” brand polyester film has advantages for its high tensile strength, elastic modulus, impact strength and bending resistance, surface gloss and transparency, heat resistance good thermal stability, non-toxic Odorless, good oxygen and moisture resistance, chemical resistance, good optical properties and electrical insulation properties. After special treatment, the physical properties of the film can be further improved, such as improving the antistatic property, dimensional stability and surface adhesion of the film.BOPET film is also known as green environmental-friendly material because of its excellent comprehensive performance and can be recycled. It has a broader application prospect in the construction of a conservation oriented society today.

新型包装材料

New Packaging Materials

包装基膜 / Packaging Base Film

应用Application:主要应用于印刷、复合、镀铝、涂覆等普通包装领域。
Mainly used in printing, lamination, metallizing, coating and other packaging .

性能特点Features:
透明度好、洁净度高、杂质少、厚度均匀性好。
Good transparency, high cleanliness, less impurities, good thickness uniformity.

热封基膜 /Heat Sealable Base Film

应用Application:主要应用于食品化妆品包装、FRP采光瓦等。
Mainly used in food and cosmetic packaging, FRP lighting tiles, etc.

性能特点Features:
高透明、热封强度高、阻气性好。
High transparency, high heat sealing strength, good air resistance.

透明镀铝基膜 / Transparent Metallized Base Film

应用Application:主要应用于食品、药品、电子产品包装等领域。
Mainly used in food, medicine, electronic product packaging and other fields with special requirements for barrier properties.

性能特点Features:
厚度均匀性好，优异的加工性能。
Good thickness uniformity, excellent processability, high barrier properties.

护卡基膜 / Card Protection Base Film

应用Application:
主要应用于相片、证件、单据、厂牌、办公用品、喷画广告等保护。
Mainly used in protection of photos, certificates, bills, brand names, office supplies, inkjet advertisements, etc.

性能特点Features:
厚度均匀性好、透明度高、加工性能好。
Good thickness uniformity, high transparency, and good processing performance.

检测项目 Test Item	单位 Unit	包装基膜 Packaging Base Film	透明镀铝基膜 Transparent Evaporation Base Film	热封基膜 Heat Sealable Base Film	护卡基膜 Card Protection Base Film	检测标准 Test Standard
产品型号 Product Type		GP	GP	HS	CP	-
厚度 Thickness	μm	12-350	10-50	19、21、25	12-188	ASTM D 374
典型厚度 Thickness	μm	12	12	20	25	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	240/230	240/230	180/210	200/220	ASTM D 882
雾度 Haze	%	3.0	2.8	4.5	2.5	ASTM D 1003
热收缩率 Shrinkage(MD/TD) 150℃/30min	%	1.5/0	1.30/0.05	1.2/-0.1	1.1/0.9	ASTM D 1204

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only, special requirements can be customized.

电子电气膜材
Electronic and Electrical Film Materials

离型保护基膜 Releasing & Protective Base Film

产品型号Product Type:RL

厚度Thickness:12-125μm

应用Application:主要应用于电子电气、保护、胶带等。
Mainly used in electrical and electronic, protection, adhesive tape, etc.

性能特点Features:

1.表面平整度好，洁净度高。
Good surface evenness, high cleanliness.

2.热稳定性好。
Good thermal stability.

典型厚度 Thickness	μm	50	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	200/220	ASTM D 882
热收缩率 Shrinkage(MD/TD) 190°C/10min	%	2.5/0	ASTM D 1204

透光率 Transmittance	%	89	ASTM D 1003
雾度 Haze	%	3.0	ASTM D 1003
润湿张力（电晕/非电晕） Wetting tension (Corona/non corona)	mN/m	58/42	ASTM D 2578

陶瓷电容离型基膜 Multi-layer Ceramic Capacitor Releasing Base Film

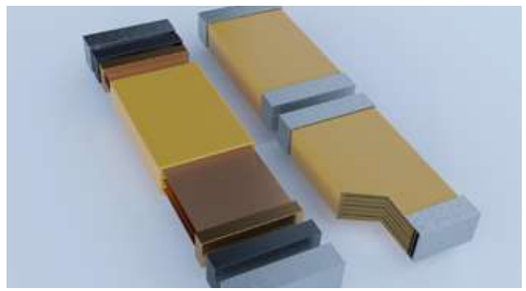
产品型号Product Type:PL00M、PL01M、PL02M、PL03M

厚度Thickness:25μm、30μm

应用Application:主要应用于MLCC制程，电子工业及各种电器等。
Mainly used in MLCC process, electronic industry and various electrical appliances, etc.

性能特点Features:

表面平整度好，洁净度高，热稳定性好,表面粗糙度小。
Good surface evenness, high cleanliness, good thermal stability, low surface roughness.



典型厚度 Thickness	μm	30	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	200/220	ASTM D 882
热收缩率 Shrinkage(MD/TD) 190°C/10min	%	2.5/0	ASTM D 1204

雾度 Haze	%	3.0	ASTM D 1003
粗糙度 Roughness (Ra)	nm	10-40	ISO4287
摩擦系数 Friction Coefficient (us/uk)	%	0.5/0.45	ASTM D 1894

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only，special requirements can be customized.

电容膜 Capacitor Film

产品型号Product Type:CF

厚度Thickness:1.9μm、2.4μm、3.7μm

应用Application:
应用于电容器介质，也可用于变压器和线圈的绝缘隔层。
Used in capacitor dielectrics, or insulating layer of transformers and coils.

性能特点Features:
绝缘性能好、介电性能好、耐化学腐蚀、热收缩及厚度稳定。
Good insulating properties, excellent dielectric properties, chemical corrosion resistance, good stability in heat shrinkage and thickness.

典型厚度 Thickness	μm	1.9	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	240/200	ASTM D 882
热收缩率 Shrinkage(MD/TD) 150°C/30min	%	2.5/1.0	ASTM D 1204

雾度 Haze	%	4.0	ASTM D 1003
透光率 Transmittance	%	88	ASTM D 1003
光泽度45° Gloss45°	Gu	120	ASTM D 2457

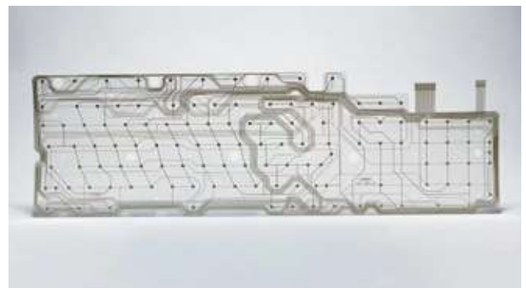
环保基膜 Eco-friendly Base Film

产品型号Product Type:ER
03R 30%再生料 05R 50%再生料 09R 90%以上再生料
03R 30% rPET 05R 50% rPET 09R over 90%rPET

厚度Thickness:
38μm、50μm、75μm、100μm、188μm、250μm、300μm、350μm

应用Application:
广泛应用于电子电气、汽车、手机、胶带等领域。
Widely used in electrical and electronic, automotive, mobile phones, tape, etc.

性能特点Features:
平整度好、洁净度高、耐温性好。
Good surface evenness, high cleanliness, good temperature resistance.



典型厚度 Thickness	μm	75	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	170/220	ASTM D 882
热收缩率 Shrinkage(MD/TD) 190°C/10min	%	1.25/0.14	ASTM D 1204

雾度 Haze	%	3.2	ASTM D 1003
透光率 Transmittance	%	89	ASTM D 1003
粗糙度 Roughness (Ra)	Gu	120	ASTM D 2457

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only，special requirements can be customized.

有色膜材
Coloured Film Material

蓝膜 / Blue Film

产品型号Product Type:
CB500（常规）、CB510（深色相）、CB521（锂电池蓝胶带专用）
CB500 (General type), CB510 (dark hue value), CB521 (special for lithium battery blue tape)

厚度Thickness:25μm、28um、50μm、75μm、100μm

应用Application:
广泛应用于电子电气、汽车、手机、新能源等领域。
Widely used in electrical and electronic, automotive, mobile phones, new energy, etc.

性能特点Features:颜色均匀无析出、平整度好、洁净度高、耐温性好。
Uniform color without precipitation, good flatness, high cleanliness and good temperature resistance.

哑光膜 / Matt Film

产品型号Product Type:
MA01（低哑）、MA02(中哑)、MA03(高哑)、MA04(白哑)
MA01 (low matte), MA02 (medium matte), MA03 (high matte), MA04 (white matte)

厚度Thickness:15μm、23μm、50μm、75μm、100μm

应用Application:
广泛应用于高档包装、电器元件、3C、汽车车衣等领域。
Widely used in high-end packaging, electrical components, 3C (computers, communications, consumer electronics), automotive protective film ,etc.

性能特点Features:颜色稳定性好、平整度好、洁净度高、耐温性好。
Good color stability, excellent flatness, high cleanliness and good temperature resistance.cleanliness and good temperature resistance.

白膜 / White Film

产品型号Product Type:CW000

厚度Thickness:25μm、50μm、75μm、100μm

应用Application:广泛应用于照明、3C、广告耗材等领域。
Widely used in lighting, 3C (computers, communications, consumer electronics), advertising consumables,etc.

性能特点Features:颜色均匀无析出、平整度好、洁净度高、耐温性好。
Uniform color without precipitation, excellent flatness, high cleanliness and good temperature resistance.

检测项目 Test Item	单位 Unit	蓝膜 Blue Film	哑光膜 Matt Film	白膜 White Film	检测标准 Test Standard
产品型号 Product Type		CB	MA	CW100	-
厚度 Thickness	μm	75	75	50	ASTM D 374
热收缩率 Shrinkage(MD/TD)	%	2.2/-0.1 （190℃/10min）	1.27/-0.13 （150℃/30min）	2.49/-0.04 （190℃/10min）	ASTM D 1204
雾度 Haze	%	17	98.1	98.1	ASTM D 1003
透光率 Transmittance	%	52	60	20	ASTM D 1003
光泽度 Gloss	Gu	86（45°）	21.5（60°）	81.5（45°）	ASTM D 2457
色相值 Hue	%	L=71.25 a=-21.56 b=-22.93 L=31.68 a=3.82 b=-24.87（28μCB521）	-	L=91.42 a=0.77 b=-8.24	-

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only, special requirements can be customized.

在线涂布膜材
In-line Coating Film Materials

涂硅离型膜 Silicon-Coated Release Film

产品型号Product Type:CR

厚度Thickness:10-188μm

应用Application:
主要应用于电子电气、防水材料、激光防伪、反光材料、标签等行业。
Electronic and electrical product, waterproof material, laser anti-counterfeiting, reflective material, label and other industries.

性能特点Features:
离型力稳定，残接率高，挺度佳，耐温性好。
Stable release force, high residual connection rate, good stiffness and good temperature resistance.

典型厚度 Thickness	μm	25	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	210/220	ASTM D 882
断裂伸长率 Break elongation (MD/TD)	%	150/120	ASTM D 882

热收缩率 Shrinkage(MD/TD) 150℃/30min	%	1.2/0	ASTM D 1204
离型力 Release force	g/in	10-60	FINAT 10
残余接着率 Residual rate	%	≥90	FINAT 11

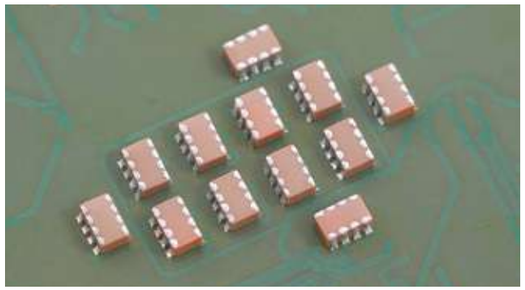
在线陶瓷电容离型膜 In-line Coated Multi-layer Ceramic Capacitor Releas Film

产品型号Product Type:PR

厚度Thickness:25-30μm

应用Application:主要应用于MLCC制程，电子工业及各种电器等。
Mainly used in MLCC process, electronic industry and various electrical appliances, etc.

性能特点Features:
表面平整度好，洁净度高，热稳定性好，表面粗糙度小，离型力稳定。
Good surface evenness, high cleanliness, good thermal stability, low surface roughness, stable release force.



典型厚度 Thickness	μm	30	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	200/220	ASTM D 882
热收缩率 Shrinkage(MD/TD) 190℃/10min	%	2.0/0	ASTM D 1204

离型力 Release force	g/in	10-20	FINAT 10
残余接着率 Residual rate	%	≥90	FINAT 11
粗糙度 Roughness (Ra)	nm	30-40	ISO4287

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only, special requirements can be customized.

窗膜用在线离型膜 In-line release film for window film

产品型号Product Type:PR
厚度Thickness:19μm、23μm

应用Application:
主要应用于光学级保护膜、汽车窗膜、建筑窗膜等。
Mainly used in optical grade protective film, automotive window film, architectural window film, etc.

性能特点Features:
透明度高、清晰度高、厚度均匀性好、外观平整、离型力稳定。
High transparency, high clarity, good thickness uniformity, stable release force.

典型厚度 Thickness	μm	23	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	210/240	ASTM D 882
断裂伸长率 Break elongation (MD/TD)	%	150/120	ASTM D 882

离型力 Release force	g/in	10-20	FINAT 10
热收缩率 Shrinkage(MD/TD) 150℃/30min	%	1.2/-0.1	ASTM D 1204
雾度 Haze	%	1.6	ASTM D 1003

化学涂布膜 Chemical Coated Film

产品型号Product Type:CC
厚度Thickness:12-250 μm

应用Application:
主要应用于食品包装、药品包装。
Mainly used in food packaging, pharmaceutical packaging.

性能特点Features:
油墨、铝层牢度高；光学涂层增加透光率，改善外观。
The ink , aluminum layer has high fastness; optical coating increases the light transmittance and improves the appearance.

典型厚度 Thickness	μm	12	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	210/250	ASTM D 882
热收缩率 Shrinkage(MD/TD) 150℃/30min	%	1.5/0	ASTM D 1204

透光率 Transmittance	%	88	ASTM D 1003
润湿张力 Wetting tension	mN/m	46	ASTM D2578
雾度 Haze	%	3.0	ASTM D 1003

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only，special requirements can be customized.

抗静电膜 Antistatic Film

产品型号Product Type:CA
厚度Thickness:12-188μm

应用Application:
主要应用于离型、保护、电子电气等。
Mainly used in release, protection, electronic and electrical, etc.

性能特点Features:
表面防静电效果优良，厚度公差小，耐温性好、热收缩率低。
Good surface anti-static performance, small thickness tolerance, good temperature resistance, low heat shrinkage.

典型厚度 Thickness	μm	50	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	190/220	ASTM D 882
透光率 Transmittance	%	89	ASTM D 1003

雾度 Haze	%	3.0	ASTM D 1003
热收缩率 Shrinkage(MD/TD) 190℃/10min	%	2.5/0	ASTM D 1204
表面电阻 Surface resistance	Ω	$1x10^{6-11}$	GB 12802

高透明涂布膜 High Transmittance Coating Film

产品型号Product Type:CT
厚度Thickness:23-250μm

应用Application:
主要应用于硬化、铭板、印刷等，以及对薄膜光学性能和表面附着性能有特殊要求的领域。
It is widely used in the fields of hard coating, nameplate, printing and films with special requirements for the optical properties and surface adhesion properties.

性能特点Features:
清晰度高，单/双面涂布处理赋予薄膜优异的附着性能。
High clarity, single / double-sided coating gives the film excellent adhesion performance.

典型厚度 Thickness	μm	250	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	180/200	ASTM D 882
断裂伸长率 Break elongation (MD/TD)	%	180/160	ASTM D 882

透光率 Transmittance	%	90	ASTM D 1003
清晰度 Clarity	%	99	ASTM D 1003
雾度 Haze	%	2.0	ASTM D 1003

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only，special requirements can be customized.

光学膜材
Optical Film Materials

高亮聚酯基膜 High Brightness Polyester Base Film

产品型号Product Type:HB000、HB00A、HB00W、HB01W

厚度Thickness:19μm、23μm、36μm、45μm、50μm、75μm、100μm、125μm、188μm、250μm

应用Application:主要用于汽车窗膜、建筑窗膜、车衣保护、TPU流延、AB胶等对光学和表观性能有要求的领域。
Mainly used in fields with optical and appearance requirements, such as automotive window films, architectural window films, PPF protection, TPU casting and AB adhesive,etc.

性能特点Features:具有优异的光学性能，低雾度、高透光、清晰度好，卓越的热稳定性，优秀的平整度，并可根据需要进行在线涂布处理。
Excellent optical properties, low haze, high light transmittance, good clarity, superior thermal stability, excellent flatness and can be in-line coated as required.

产品型号 Product Type	HB000	HB00W	HB01W
典型厚度（μm） Thickness	23	50	23
雾度（%） Haze	≤1.8	≤1.5	≤1.0
透光率（%） Transmittance	≥88	≥88	≥88
清晰度（%） Clarity	≥97	≥99	≥99
光泽度（Gu） Gloss 45°	≥130	≥130	≥130

OCA用聚酯基膜 Polyester Film for OCA

产品型号Product Type:PL00C、PL01C

厚度Thickness:50μm、75μm、100μm

应用Application:主要应用于OCA光学胶的生产制造，以及对薄膜表面粗糙度有特定要求的领域。
Mainly used in OCA production process and fields with special requirements for film surface roughness.

性能特点Features:
洁净度高、杂质少、优异的厚度均匀性和平整性。
High cleanliness, less impurities, excellent thickness uniformity and flatness.

厚度 Thickness	μm	75	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	200/240	ASTM D 882
热收缩率 Shrinkage(MD/TD) 150°C/30min	%	1.1/0.1	ASTM D 1204
雾度 Haze	%	4.0	ASTM D 1003

扩散膜基膜 Diffusion Base Film

产品型号Product Type:DI000、DI001

厚度Thickness:38μm 、50μm、75μm、100μm、125μm、188μm

应用Application:
应用于手机、平板、显示器、电视、背光源扩散。
Used in mobile phones, tablets, displays, televisions, and backlight diffusion.

性能特点Features:
洁净度高、平整度好、耐温性好、底涂适配性强。
High cleanliness, good surface evenness, excellent temperature resistance and good primer coating suitability.

厚度 Thickness	μm	38	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	211/225	ASTM D 882
热收缩率 Shrinkage(MD/TD) 190°C/10min	%	1.05/0.14	ASTM D 1204
雾度 Haze	%	3.9	ASTM D 1003
透光率 Transmittance	%	90	ASTM D 1003
光泽度45° Gloss45°	Gu	128	ASTM D 2457

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only, special requirements can be customized.

增亮膜基膜 Brightness Enhancement Base Film

产品型号Product Type:PF000、PF001

厚度Thickness:50μm、75μm、100μm、125μm、188μm、250μm

应用Application:
应用于手机、平板、显示器、电视、背光源扩散。
Used in mobile phones, tablets, displays, televisions and backlight diffusion.

性能特点Features:
洁净度高、平整度好、耐温性好、底涂适配性强。
High cleanliness, good surface evenness, excellent temperature resistance, good primer coating suitability.

厚度 Thickness	μm	50	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	199/238	ASTM D 882
热收缩率 Shrinkage(MD/TD) 190°C/10min	%	1.31/0.09	ASTM D 1204
雾度 Haze	%	1.3	ASTM D 1003
透光率 Transmittance	%	90	ASTM D 1003
光泽度45° Gloss45°	Gu	124	ASTM D 2457

复合膜基膜 Composite Base Film

产品型号Product Type:LP000、LP001

厚度Thickness:38μm 、50μm、75μm、100μm、125μm

应用Application:
应用于手机、平板、显示器、电视、背光源扩散。
Used in mobile phones, tablets, displays, televisions, and backlight diffusion.

性能特点Features:
洁净度高、平整度好、耐温性好、底涂适配性强。
High cleanliness, good surface evenness, excellent temperature resistance and good primer coating suitability.

厚度 Thickness	μm	100	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	190/233	ASTM D 882
热收缩率 Shrinkage(MD/TD) 190°C/10min	%	1.25/0.14	ASTM D 1204
雾度 Haze	%	1.5	ASTM D 1003
透光率 Transmittance	%	90	ASTM D 1003
光泽度45° Gloss45°	Gu	129	ASTM D 2457

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only, special requirements can be customized.

信息技术膜材
Information Technology Film Materials

偏光片用聚酯基膜 Polyester Film for Polarizer

产品型号Product Type:PL00P、PL01P

厚度Thickness:19μm、38μm、50μm

应用Application:
主要应用于偏光片领域的保护膜和离型膜，以及对薄膜配向角度有特定要求的领域。
It is widely used in polarizer protection and release film, as well as the field which has specific requirements on orientation angle.

性能特点Features:
薄膜整体洁净度优异，较低的薄膜配向角。
The overall cleanliness of the film is excellent, and the film alignment angle is low.

厚度 Thickness	μm	38	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	200/240	ASTM D 882
雾度 Haze	%	4.0-7.0	ASTM D 1003
热收缩率 Shrinkage(MD/TD) 150℃/30min	%	1.5/0.2	ASTM D 1204

光学功能膜 Optical Functional Film

产品型号Product Type:OP000

厚度Thickness:100μm、125μm

应用Application:
应用于砂纸、AB胶、光学保护膜、背显膜、模内注塑、太阳能反光膜等。
Used in Sandpaper, AB adhesive, optical protective film, IMD, solar reflective film, etc

性能特点Features:
洁净度高、平整度好、耐温性好、底涂适配性强。
High cleanliness, good surface evenness, excellent temperature resistance and good primer coating suitability.

厚度 Thickness	μm	100	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	212/246	ASTM D 882
热收缩率 Shrinkage(MD/TD) 150℃/30min	%	1.4/0.26	ASTM D 1204
雾度 Haze	%	1.3	ASTM D 1003
透光率 Transmittance	%	91	ASTM D 1003

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only, special requirements can be customized.

4.5μm超薄基膜 4.5 μm Ultra Thin Film

产品型号Product Type:TD

厚度Thickness:4.5μm

应用Application:主要应用于碳带、复合包装、超薄胶带等。
Mainly used in ribbon, composite packaging, ultra-thin tape, etc.

性能特点Features:
厚度均匀、拉伸强度高、静电小、打印性能佳等。
Uniform thickness, high tensile strength, low static electricity, good printing performance, etc.

典型厚度 Thickness	μm	4.5	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	230/220	ASTM D 882
断裂伸长率 Break elongation (MD/TD)	%	90/90	ASTM D 882
热收缩率 Shrinkage(MD/TD) 150℃/30min	%	1.8/0.2	ASTM D 1204
弹性模量 Modulus(MD/TD)	%	4500/4500	ASTM D 882
雾度 Haze	%	4.8	ASTM D 1003

干膜 Dry Film

产品型号Product Type:DF

厚度Thickness:14-19μm

应用Application:主要应用于PCB线路板、电子干膜。
It is widely used in PCB , electronic dry film.

性能特点Features:
洁净度高，表观优异，厚度均匀性好、较好的柔韧性和拉伸强度。
High cleanliness, excellent appearance, good thickness uniformity, good flexibility and tensile strength.

典型厚度 Thickness	μm	15	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	220/230	ASTM D 882
透光率 Transmittance	%	89	ASTM D 1003
热收缩率 Shrinkage(MD/TD) 150℃/30min	%	1.7/0.7	ASTM D 1204
弹性模量 Modulus(MD/TD)	%	4000/4000	ASTM D 882
雾度 Haze	%	2.5	ASTM D 1003

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only, special requirements can be customized.

新能源膜材
New Energy Film Materials

光伏背板基膜 Photovoltaic Backsheet Base Film

产品型号Product Type:PV

厚度Thickness:275-315μm

应用Application:主要应用于太阳能光伏组件。
Mainly used in solar photovoltaic modules.

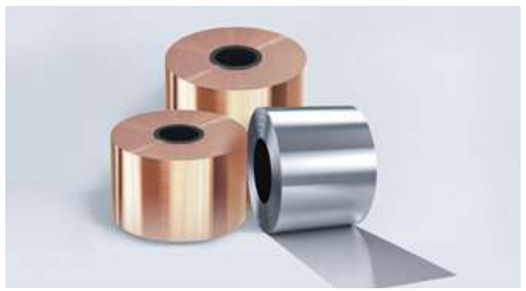
性能特点Features:
表面平整度好、洁净度高、热稳定性好、耐候性优异。
Good surface evenness, high cleanliness,Good thermal stability, excellent weather resistance.

典型厚度 Thickness	μm	290	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	180/190	ASTM D 882
热收缩率 Shrinkage(MD/TD) 150℃/30min	%	0.6/0	ASTM D 1204
断裂伸长率 Break elongation (MD/TD)	%	170/160	ASTM D 882
润湿张力 Wetting tension	%	42	ASTM D 2578
PCT	h	60	121℃/100%RH

复合集流体基膜 Composite Collector Base Film

产品型号Product Type:CL
厚度Thickness:4.5-12μm
应用Application:主要应用于复合铝、铜箔，应用于锂电池正、负极材料。
Mainly used for composite copper/aluminum foil, used in lithium battery positive/negative electrode materials.

性能特点Features:
1.表面平整度好，洁净度高。
Good surface evenness, high cleanliness.
2.拉伸强度高，加工性能优。
Good thermal stability, Excellent processing performance.



典型厚度 Thickness	μm	6	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	310/250	ASTM D 882
热收缩率 Shrinkage(MD/TD) 150℃/30min	%	3.0/1.0	ASTM D 1204
透光率 Transmittance	%	89	ASTM D 1003
断裂伸长率 Break elongation (MD/TD)	%	90/90	ASTM D 882
雾度 Haze	%	4.0	ASTM D 1003

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only, special requirements can be customized.

高端装饰膜材
High-end Decorative Film Materials

烫金/转移基膜 Hot Stamping Base Film/Transfer Base Film

产品型号Product Type:HO/TR

厚度Thickness:10-25μm

应用Application:主要应用于电化铝、烫金镭射、喷铝转移纸、金银卡纸、烟包、皮革、木纹转移等。
Mainly used in hot stamping foil and holograms, gold and silver cardboard, cigarette packs, leather, wood grain transfer, etc.

性能特点Features:
根据最终产品的质量要求不同，可重复使用多次。
Can be reused depending on the quality requirements of the final product.

典型厚度 Thickness	μm	12	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	240/230	ASTM D 882
雾度 Haze	%	3.5	ASTM D 1003
热收缩率 Shrinkage(MD/TD) 190℃/10min	%	2.9/0	ASTM D 1204

直压膜 Direct Pressure Base Film

产品型号Product Type:DP

厚度Thickness:12μm、14μm

应用Application:主要应用于镭射等高端包装、装饰领域。
Mainly used in laser and other high-end packaging and decoration fields.

性能特点Features:
直压效果好、厚度均匀性好。
Good direct pressing performance and good thickness uniformity.

典型厚度 Thickness	μm	14	ASTM D 374
拉伸强度 Tensile strength (MD/TD)	MPa	190/210	ASTM D 882
弹性模量 Modulus(MD/TD)	%	4000/4000	ASTM D 882
透光率 Transmittance	%	89	ASTM D 1003

备注:以上测试数据仅供参考，特殊需求可定制。Note: Data listed above is for reference only, special requirements can be customized.

BSF

Lithium-ion Battery Separator

锂电池隔膜

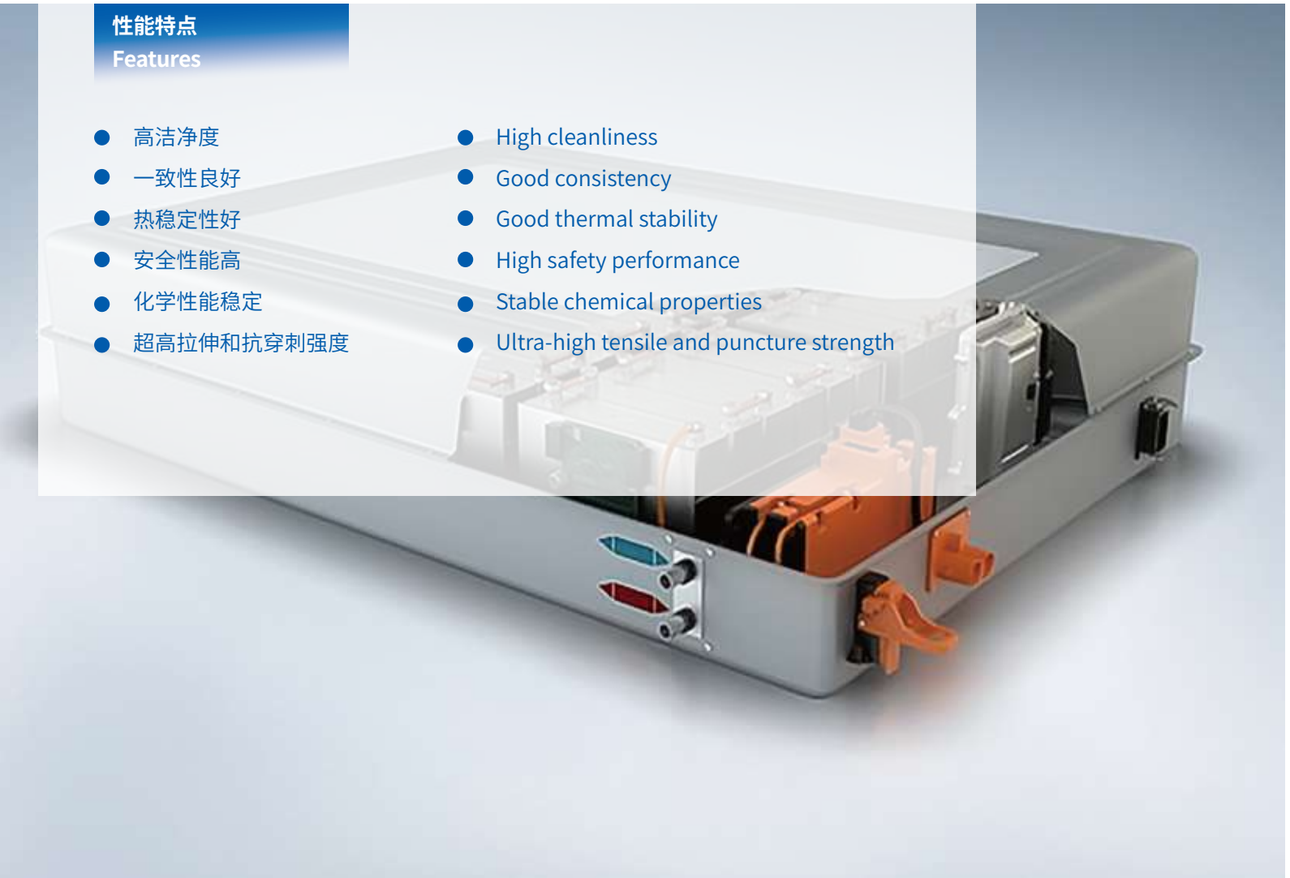
锂电池隔膜作为锂电池的关键材料之一，是锂电池材料中技术壁垒较高的一种高附加值材料，也是锂电池材料中较晚实现国产化的关键材料。康辉新材致力于推动锂电池隔膜行业的高速发展，布局锂电池隔膜领域，规划产能34.4亿平方米/年。

Lithium-ion battery separator, as one of the key materials of lithium battery, is a kind of high value-added material with high technical barriers, and is also a key material that realizes localization late in lithium battery materials. Kanghui New Materials is committed to promoting the rapid development of the Lithium-ion battery separator industry, laying out the field of Lithium-ion battery separators, planning production capacity of 3.44billion square meters per year.

性能特点
Features

- 高洁净度
- 一致性良好
- 热稳定性好
- 安全性能高
- 化学性能稳定
- 超高拉伸和抗穿刺强度

- High cleanliness
- Good consistency
- Good thermal stability
- High safety performance
- Stable chemical properties
- Ultra-high tensile and puncture strength



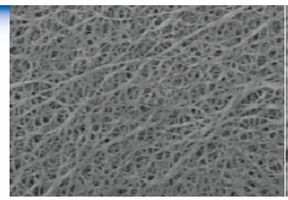
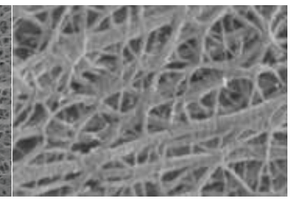
锂电池隔膜应用
Application of Lithium-ion battery separator

锂电池的结构中，隔膜是关键的内层组件之一。
锂电池可应用于电动汽车、通信、储能、数据中心、航天航空、电动船舶、移动电源、智能家居、电动工具等。

In the structure of lithium-ion batteries, separator is one of the key internal components of Lithium-ion batteries, which can be used in electric vehicles, communications, energy storage, data centers, aerospace, electric ships, mobile power sources, smart homes, electric tools, etc.

TIPS BASE FILM

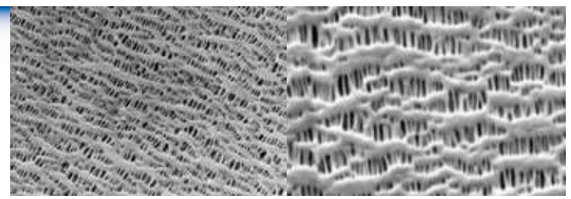
湿法基膜

分类 Classification	特征 Feature	微观结构 Micro structure
湿法基膜 TIPS Base Film	薄型化、高强度 4~12μm ——低熔指材料 Thin, High Strength 4~12μm ——Low melt index material	 
	7米宽基膜生产线 更高的生产效率 7m wide base film production line higher productivity	

检测项目 Test Item	单位 Unit	典型值 Typical valuev							
型号 Type		KWS05 高强度 Hight strength	KWS07 高强度 Hight strength	KWG09 常规 General	KWH09 高孔低透 High Porosity and Low Air Permeability	KWG12 常规 General	KWG14 常规 General	KWG16 常规 General	KWG20 常规 General
厚度 Thickness	μm	5	7	9	9	12	14	16	20
透气度 Air Permeability	s/100ml	140	140	160	60	180	160	170	180
孔隙率 Porosity	%	35	37	39	50	40	42	43	44
拉伸强度 Tensile Stringth(TD)	kgf/cm^2	3200	2800	2800	2000	2800	2500	2500	2200
拉伸强度 Tensile Stringth(MD)	kgf/cm^2	3100	2800	2800	1700	2500	2200	2200	1900
穿刺强度 Puncture Strength	gf	400	420	450	410	500	550	580	600
面密度 Total Weight	g/m^2	3.1	4.2	5.2	4.3	6.8	7.7	8.7	10.6
断裂伸长率 Elongation(MD)	%	85	95	105	98	110	115	115	120
断裂伸长率 Elongation(TD)	%	105	110	115	112	122	125	128	125
热收缩 Shrinkage@105°c/1h(MD)	%	2	2	2	2	2	2	2	2
热收缩 Shrinkage@105°c/1h(TD)	%	1	1	1	0.5	1	1	1	1

备注:以上测试数据仅供参考，特殊需求可定制。Note: The above test data are for reference only, and can be customized for special requirements.

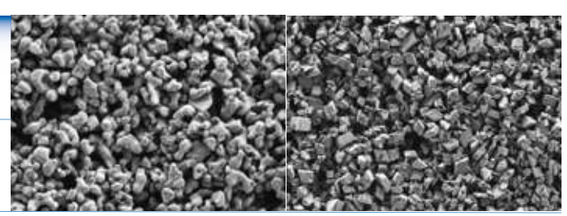
MSCS BASE FILM
干法基膜

分类 Classification	特征 Feature	微观结构 Micro structure
干法基膜 MSCS Base Film	高性能、耐撕裂 10～25um ——多组分技术 High Performance, Tear Resistant 10～25um - Multi-Component Technology	

项目 Item	单位 Unit	典型值 Typical valuev					
型号Type		KSG10	KSG12	KSS14	KSG16	KSG20	KSG25
厚度 Thickness	μm	10	12	14	16	20	25
透气度 Air Permeability	s/100ml	180	200	250	280	260	350
穿刺强度 Puncture Strength	gf	250	300	350	400	420	450
面密度 Total Weight	g/m^2	5.6	6.7	7.8	8.7	11.3	13.5
孔隙率 Porosity	%	38	38	38	40	38	40
热收缩 Shrinkage@105°c/1h(MD)	%	1.5	1.5	1.5	1.5	1.5	1.5
热收缩 Shrinkage@105°c/1h(TD)	%	0.3	0.3	0.3	0.3	0.3	0.3
拉伸强度 Tensile Stringth(MD)	kgf/cm^2	1800	1800	2000	1800	1600	1800
拉伸强度 Tensile Stringth(TD)	kgf/cm^2	160	160	160	160	160	160

备注:以上测试数据仅供参考，特殊需求可定制。Note: The above test data are for reference only, and can be customized for special requirements.

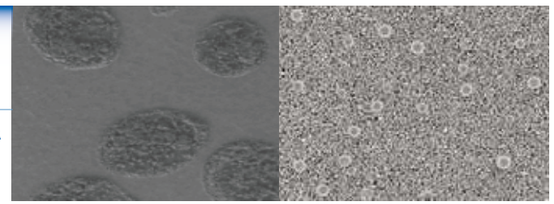
CERAMIC COATED FILM
陶瓷涂覆膜

分类 Classification	特征 Feature		微观结构 Micro structure
陶瓷涂覆 Ceramic coating	高耐热CCS涂层 150°C→180°C 涂层厚度 2~3 um	High Heat Resistant CCS Coating 150°C → 180°C Coating Thickness 2~3um	
	低水分CCS涂层 800ppm→＜500ppm 涂层厚度 2~3um	Low Moisture CCS Coating 800ppm→＜500ppm Coating Thickness 2~3um	

产品大类 Classification	性能 Performance	氧化铝涂覆 Aluminum Oxide Coating			勃姆石涂覆 Boehmite Coating		
		常规 General	低热收缩 Low Heat Shrinkage	水分耐热兼顾 Moisture and Heat Resistance	常规 General	低热收缩 Low Heat Shrinkage	水分耐热兼顾 Moisture and Heat Resistance
单面2u涂覆 △透气:~20s 2u Coating on One Side Adding Permeability: ~20s	水分 Moisture/ppm	400-600	900-1300	600-800	300-500	800-1100	400-700
	热收缩 Shrinkage@130°c/1h	＜3%	＜3%	＜3%	＜3%	＜3%	＜3%
	热收缩 Shrinkage@150°c/1h	-	＜5%	-	-	＜5%	-
单面3u涂覆 △透气:~30s 3u Coating on One Side Adding Permeability: ~30s	水分 Moisture/ppm	500-800	1200-1600	900-1100	350-550	1000-1400	500-800
	热收缩 Shrinkage@130°c/1h	＜3%	＜3%	＜3%	＜3%	＜3%	＜3%
	热收缩 Shrinkage@150°c/1h	-	＜5%	＜5%	-	＜5%	＜5%
双面2-3u涂覆 △透气:~40s Double-Sided 2-3u Coating Adding Permeability: ~40s	水分 Moisture/ppm	600-900	1600-2200	1000-1400	400-600	1100-1600	600-1000
	热收缩 Shrinkage@130°c/1h	＜3%	＜3%	＜3%	＜3%	＜3%	＜3%
	热收缩 Shrinkage@150°c/1h	-	＜5%	＜5%	-	＜5%	＜5%

备注:以上测试数据仅供参考，特殊需求可定制。
Note: The above test data are for reference only, and can be customized for special requirements.

POLYMER COATED FILM
聚合物涂覆膜

分类 Classification	特征 Feature		微观结构 Micro structure
聚合物涂覆 Polymer coating	水性PVDF 低成本	Water-Based PVDF Low Cost	
	水性混涂PMMA 高耐热性 粘接强度高 工艺简化 低成本	Water-Based Mixed Coating With PMMA High Heat Resistance High-Adhesive Strength Process simplification Low Cost	

性能 Performance	单位 Unit	水性喷涂PVDF Water-Based Spraying PVDF			水性混涂PMMA Water-Based Mixed Coating With PMMA		
		3+2+7+2+3	5+9+3+5	9+3+3	7+3	9+3	9+2+2
型号Type		KWG07C22P33	KWG09C03P55	KWG09C03P03	KWG07L03	KWG09L03	KWG09L22
厚度 Thickness	μm	175（10层）	220（10层）	150（10层）	110（10层）	130（10层）	150（10层）
透气度 Air Permeability	s/100ml	220	220	200	190	195	203
面密度 Total Weight	g/m^2	12.5	12	11	8.5	9.5	10.5
涂胶层面密度 Polymer Coating Weight	g/m^2	1.2	1.6	0.6	4.0	4.0	5.0

备注:以上测试数据仅供参考，特殊需求可定制。
Note: The above test data are for reference only, and can be customized for special requirements.

PBT

Polybutylene Terephthalate

聚对苯二甲酸丁二醇酯

PBT属于聚酯系列，以精对苯二甲酸(PTA)和丁二醇(BDO)为原料，连续酯化缩聚成聚对苯二甲酸丁二醇酯，简称PBT树脂。PBT是一种结晶型热塑性聚酯，具有高耐热性、韧性、耐疲劳性、高绝缘性、尺寸稳定性、较好的弹性、良好的染色性等特点。康辉新材PBT装置采用德国吉玛工艺技术和国外先进设备，装置单线年生产能力为8万吨，PBT切片质量稳定，后加工性能优异，达到国际先进水平。

PBT belongs to polyester series and is made from PTA and BDO which form into polybutylene terephthalate (referred as PBT) after the continuous process of esterification and polycondensation. It is a kind of crystalline and thermoplastic polyester with the features of high heat resistance, toughness, fatigue resistance, high insulation resistance, dimensional stability, preferable elasticity dyeing property. Kanghui New Material Technology Co., Ltd. PBT plant with the annual production capacity of 80,000 tons for each set adopts German ZIMMER process technology and foreign advanced equipment. The quality of PBT chip is stable and the post-processing performance is excellent, reaching the international advanced level.

产品典型性能 TYPICAL PROPERTY OF PRODUCT

	项目 Item	检测方法 Test Method	单位 Unit	KH2075	KH2080	KH2083	KH2085	KH2090	KH2100
化学性能 Chemical property	特性粘度 Intrinsic Viscosity	GB/T 14190	dL/g	0.725±0.012	0.775±0.012	0.830±0.012	0.825±0.012	0.870±0.012	1.000±0.012
	端羧基 Carboxyl End Groups		mol/t	14.0±4.0	14.0±4.0	14.0±4.0	14.0±4.0	14.0±4.0	16.0±4.0
	色值(L) Color L Value		-	⩾95	⩾95	⩾95	⩾95	⩾95	⩾95
	色值(b) Color B Value		-	2.0±1.0	2.0±1.0	2.0±1.0	2.0±1.0	2.0±1.0	2.0±1.0
	水分 Moisture Absorption		%	⩽0.2	⩽0.2	⩽0.2	⩽0.2	⩽0.2	⩽0.2
物理性能 Physical property	密度 Density	KHS 001	g/cm³	1.30–1.32	1.30–1.32	1.30–1.32	1.30–1.32	1.30–1.32	1.30–1.32
	熔体质量流动速率 Melting Flow Rate(235°C/2. 16kg)	ISO 1133	g/10min	87.0±8.0	61.0±5.0	51.0±4.0	45.0±4.0	33.0±4.0	19.0±3.0
	熔体质量流动速率 Melting Flow Rate(250°C/2.16kg)	ISO 1133	g/10min	125±10.0	92.0±6.0	75.0±5.0	69.0±5.0	50.0±4.0	30.0±3.0
	拉伸强度 Tensile Strength(50mm/min)	ISO 527	MPa	⩾50	⩾50	⩾50	⩾50	⩾50	⩾50
	断裂伸长率 Break elongation	ISO 527	%	⩾20	⩾30	⩾40	⩾50	⩾70	⩾100
	弯曲强度 Flexural Strength	ISO 178	MPa	⩾70	⩾70	⩾70	⩾70	⩾70	⩾70
	悬臂梁冲击强度(缺口) IZOD Notched Impact Strength	ISO 180	kJ/m²	⩾3.0	⩾3.0	⩾4.0	⩾4.0	⩾5.0	⩾6.0

应用领域 Application Area

主要应用于汽车、电子电器、工业机械、民用及工业用纺织、聚合物合金和共混工业等领域。(汽车配件、电子电器、纺织制造、航天材料、兔毛绒、仿莱卡、雪尼尔、光缆、假发、睫毛)

It is mainly used in automobile, electronic appliance, industrial machinery, textile and industrial fabric, polymer alloy and blending industry. (auto parts, electronic appliances, textile manufacturing, aerospace materials, rabbit hair, imitation Lycra, chenille, optical cable, wig, eyelashes)

产品典型性能 TYPICAL PROPERTY OF PRODUCT

	项目 Item	检测方法 Test Method	单位 Unit	KH2100F	KH2110	KH2115	KH2120	KH2125T	KH2130
化学性能 Chemical property	特性粘度 Intrinsic Viscosity	GB/T 14190	dL/g	0.990±0.012	1.070±0.015	1.20±0.015	1.165±0.015	1.193±0.015	1.230±0.020
	端羧基 Carboxyl End Groups		mol/t	20.0±4.0	22.0±4.0	22.0±4.0	26.0±4.0	26.0±3.0	26.0±4.0
	色值(L) Color L Value		-	⩾95	⩾95	⩾95	⩾95	⩾95	⩾95
	色值(b) Color B Value		-	2.0±1.0	3.0±1.0	3.0±1.0	3.0±1.0	3.0±1.0	3.0±1.0
	水分 Moisture Absorption		%	⩽0.2	⩽0.2	⩽0.2	⩽0.2	⩽0.2	⩽0.2
物理性能 Physical property	密度 Density	KHS 001	g/cm³	1.30–1.32	1.30–1.32	1.30–1.32	1.30–1.32	1.30–1.32	1.30–1.32
	熔体流动速率 Melting Flow Rate(235°C/2. 16kg)	ISO 1133	g/10min	18.0±3.0	13.0±3.0	11.0±3.0	8.5±2.0	7.0±2.0	5.5±2.0
	熔体流动速率 Melting Flow Rate(250°C/2.16kg)	ISO 1133	g/10min	29.0±3.0	19.0±3.0	16.0±3.0	13.0±3.0	11.0±2.0	9.0±2.0
	拉伸强度 Tensile Strength(50mm/min)	ISO 527	MPa	⩾50	⩾50	⩾50	⩾50	⩾50	⩾50
	断裂伸长率 Break elongation	ISO 527	%	⩾100	⩾150	⩾200	⩾250	⩾250	⩾250
	弯曲强度 Flexural Strength	ISO 178	MPa	⩾70	⩾65	⩾60	⩾60	⩾60	⩾60
	悬臂梁冲击强度(缺口) IZOD Notched Impact Strength	ISO 180	kJ/m²	⩾6.0	⩾7.0	⩾7.0	⩾7.0	⩾7.0	⩾7.0

备注：依照HGT 5510-2019执行，特殊需求可定制。

SSP

Solid-state Polyconde

固相缩聚

康辉新材年产2.5万吨PBT固相缩聚装置，由POLYMETRIX公司（原瑞士布勒公司）设计、制造，采用POLYMETRIX公司最新固相缩聚技术，全面引进瑞士、德国等配套设备，选用美国艾默生DCS自动控制系统，具有粘度稳定、能耗低、TVOC含量低、品种多样化等特点。

Kanghui New Material SSP equipment with an annual capacity of 25,000 tons is designed and manufactured by POLYMETRIX (the former Swiss Buhler Company) adopting the latest solid state polycondensation technology and fully imports Swiss and German equipment as well as American Emerson DCS Auto control system. This equipment is with the characteristic of stable IV, low energy consumption, low TVOC content and variety diversification.

应用领域
Application Area

主要应用于汽车、电子电气、光缆、彩虹膜、弹性纤维等行业，尤其适用于对TVOC（总挥发性有机物）含量要求严苛的领域，如汽车内饰和零部件、高端电子电气等。

It is mainly used in automobile, electronic and electrical, optical cable, rainbow film, elastic fiber and other industries, especially in the fields with strict requirements on TVOC (total volatile organic compounds), such as automotive interior and parts, high-end electronic and electrical, etc.

	项目 Item	检测方法 Test Method	单位 Unit	KH2110P	KHS2110	KHS2120	KH2300GL	KHS2130	KHS2140
化学性能 Chemical property	特性粘度 Intrinsic Viscosity	GB/T 14190	dL/g	1.070±0.025	1.100±0.025	1.200±0.025	1.200±0.025	1.300±0.025	1.400±0.025
	端羧基 Carboxyl End Groups		mol/t	≤15	≤22	≤20	≤20	≤18	≤18
	色值(L) Color L Value		-	≥92	≥92	≥92	≥92	≥92	≥92
	色值(b) Color B Value		-	≤4.0	≤4.5	≤5.0	≤5.0	≤5.0	≤5.5
	四氢呋喃 Tetrahydrofuran	KHS 001	mg/kg	≤30	≤30	≤30	≤30	≤30	≤30
物理性能 Physical property	熔体质量流动速率 Melting Flow Rate(235°C/2. 16kg)	ISO 1133	g/10min	12.0±3.0	13.0±3.0	8.5±2.0	8.5±2.0	6.0±2.0	4.5±1.0
	熔体质量流动速率 Melting Flow Rate(250°C/2.16kg)	ISO 1133	g/10min	20.0±3.0	19.0±3.0	13.0±2.0	13.0±2.0	9.0±2.0	7.2±1.0
	拉伸强度 Tensile Strength(50mm/min)	ISO 527	MPa	≥50	≥50	≥50	≥50	≥50	≥50
	断裂伸长率 Break elongation	ISO 527	%	≥150	≥150	≥250	≥250	≥350	≥400
	弯曲强度 Flexural Strength	ISO 178	MPa	≥60	≥60	≥60	≥60	≥60	≥60
	悬臂梁冲击强度(缺口) IZOD Notched Impact Strength	ISO 180	kJ/m²	≥6.0	≥7.0	≥7.0	≥7.0	≥7.0	≥7.0

备注:以上测试数据仅供参考，特殊需求可定制。
Note: The above test data are for reference only, and can be customized for special requirements.

PBT

PBT modified engineering plastics

PBT改性工程塑料

康辉新材PBT改性全面采用全进口克劳斯玛菲挤出生产线，以辽宁营口、江苏汾湖、江苏南通为主要生产基地，其中营口具备改性PBT产能1.5万吨/年，汾湖15万吨/年，南通基地也在加速建设中。康辉新材PBT改性工程塑料性能优异，已先后取得REACH注册、欧盟RoHS认证、美国FDA认证、UL黄卡认证、IATF16949认证、VDE认证，可以根据不同客户的不同需求提供定制化综合解决方案，全力满足不同产品需求。

Kanghui New Material' s PBT modification adopts fully imported Krauss Maffei extrusion production lines, with Yingkou in Liaoning, Fenhu in Jiangsu, and Nantong in Jiangsu as the main production bases. Among them, Yingkou has a modified PBT production capacity of 15,000 tons per year, and Fenhu has a production capacity of 150,000 tons per year. The construction of Nantong base is also accelerating. Kanghui New Material PBT modified engineering plastics has excellent performance, and has successively obtained REACH registration, EU RoHS certification, US FDA certification, UL yellow card certification, and IATF16949 certification,VDE certification. It can provide customized comprehensive solutions according to the different needs of different customers, and fully meet different needs. product demand.

改性PBT特性
Modified PBT characteristics

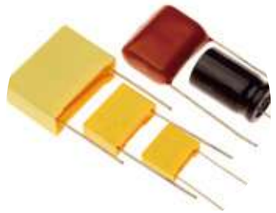
- 优良的机械性能
- 优良的耐候和耐热老化性能
- 优良的耐化学品能力
- 优良的电气性能
- 优良的耐疲劳和耐蠕变性能
- 结晶速度快、易成型
- 吸水率较小，尺寸稳定性好
- 良好的阻燃性

- Excellent mechanical properties
- Excellent weather resistance and heat aging resistance
- Excellent chemical resistance
- Excellent electrical performance
- Excellent fatigue and creep resistance
- Fast crystallization speed and easy molding
- Small water absorption, good dimensional stability
- Good flame retardancy

改性PBT应用
Application of modified PBT

主要应用于连接器、继电器、插座、线圈骨架、电容器、端子座、散热风扇、照明、车灯、执行器、传感器、家电配件等汽车、电子电器、工业、家电、化妆品领域。

It is mainly used in connectors, relays, sockets, coil frames, capacitors, terminal blocks, cooling fans, lighting, car lights, actuators, sensors, home appliance accessories and other automotive, electronic appliances, industrial, home appliances, cosmetics fields.



	检测项目 Test Item	检测标准 Test Standard	单位 Unit	PBT增韧 PBT toughening KHBT1100	PBT+15%GF 增强 Enhance KHBT1115	PBT+30%GF 增强 Enhance KHBT1130	PBT 阻燃 Flame retardant KHBT2100
物理性能 physical property	比重 Specific Gravity	ISO 1183	g/cm³	1.30	1.40	1.50	1.38
	收缩率 Shrinkage Rate 平行方向 Transverse	ISO294	%	0.8-2.3	0.2-0.6	0.2-0.5	0.9-1.9
	收缩率 Shrinkage Rate 垂直方向 Longitudinal	ISO294	%	1.2-2.3	0.8-1.6	0.8-1.4	1.2-2.1
	饱和吸水率Saturated Water Absorption	ISO 62	%	0.2	0.2	0.2	0.2
	玻纤含量 Glass Fiber Content	ISO3451	%	-	15	30	-
机械性能 Mechanical properties	拉伸强度 Tensile Strength（10mm/min）	ISO 527	MPa	60	115	150	50
	断裂伸长率 Elongation at Break（10mm/min）	ISO 527	%	18.0	4.0	4.0	15.0
	弯曲强度 Flexural Strength（2mm/min）	ISO 178	MPa	75	150	200	75
	弯曲模量 Flexural Modulus（2mm/min）	ISO 178	MPa	2200	4500	8000	2200
	缺口冲击强度 Notch impact strength	ISO180	kJ/m²	6	7	10	8
	无缺口冲击强度 Unnotch Impact Strength	ISO180	kJ/m²	不断裂 Non-break	45	60	不断裂 Non-break
热性能 Thermal performance	热变形温度 Heat Distortion Temp.（1.82MPa）	ISO 75	°C	60	190	205	60
	阻燃性 Flammability	UL94	CLASS	HB	HB	HB	V0
	熔点Melting Temperature	DCS	°C	225	225	225	225
电性能 Electrical properties	体积电阻率 Volume Rosistivity	IEC60093	Ω-CM	10^{15}	10^{15}	10^{15}	10^{15}
	介电强度 Dielectric Strength	IEC60243	V/mm	20	20	20	20

	检测项目 Test Item	检测标准 Test Standard	单位 Unit	PBT+15%GF 阻燃 Flame retardant KHBT2115	PBT+30%GF 阻燃 Flame retardant KHBT2130	PBT合金 PBT Alloy KHCT2130	PBT无卤 阻燃 Flame retardant KHBT3130
物理性能 physical property	比重 Specific Gravity	ISO 1183	g/cm³	1.49	1.60	1.55	1.5
	收缩率 Shrinkage Rate 平行方向 Transverse	ISO294	%	0.3-0.6	0.2-0.5	0.2-0.5	0.1-0.4
	收缩率 Shrinkage Rate 垂直方向 Longitudinal	ISO294	%	1.2-1.8	0.8-1.4	0.8-1.4	0.8-1.4
	饱和吸水率Saturated Water Absorption	ISO 62	%	0.2	0.2	0.2	0.2
	玻纤含量 Glass Fiber Content	ISO3451	%	15	30	30	30
机械性能 Mechanical properties	拉伸强度 Tensile Strength（10mm/min）	ISO 527	MPa	125	150	120	125
	断裂伸长率 Elongation at Break（10mm/min）	ISO 527	%	4.0	4.0	3.0	2.5
	弯曲强度 Flexural Strength（2mm/min）	ISO 178	MPa	160	200	170	165
	弯曲模量 Flexural Modulus（2mm/min）	ISO 178	MPa	5500	8500	7500	8000
	缺口冲击强度 Notch impact strength	ISO180	kJ/m²	7	9	10	7.5
	无缺口冲击强度 Unnotch Impact Strength	ISO180	kJ/m²	50	60	60	45
热性能 Thermal Properties	热变形温度 Heat Distortion Temp.（1.82MPa）	ISO 75	°C	195	205	155	205
	阻燃性 Flammability	UL94	CLASS	V0	V0	V0	V0
	熔点Melting Temperature	DCS	°C	225	225	-	225
电性能 Electrical Properties	体积电阻率 Volume Rosistivity	IEC60093	Ω-CM	10^{15}	10^{15}	10^{15}	10^{15}
	介电强度 Dielectric Strength	IEC60243	V/mm	20	20	20	20

备注:以上测试数据仅供参考,特殊需求可定制。
Note: The above test data are for reference only, and can be customized for special requirements.

THF

Tetrahydrofuran

四氢呋喃

THF是一类杂环有机化合物,它是最强的极性醚类之一,在化学反应和萃取时用作一种中等极性的非质子溶剂。无色易挥发液体,有类似乙醚的气味。溶于水、乙醇、乙醚、丙酮、苯等多数有机溶剂。

THF is a kind of heterocyclic organic compounds, it is one of the strong polarity ethers,and can be used as medium polar aprotic solvents in chemical reaction and extraction. THF is a kind of colorless and volatile liquid , which smells similar to ether and is soluble in most of the organic solvent as water, ethanol, ether, acetone, and benzene.

应用领域
Application

主要用作溶剂、有机合成的原料。
用作色谱分析试剂、有机溶剂及PTMEG。
作为一种重要的有机合成原料且是性能优良的溶剂,特别适用于溶解聚氯乙烯、聚偏氯乙烯和丁苯胺、广泛用作表面涂料、防腐涂料、印刷油墨、磁带和薄膜涂料的溶剂,并用作反应溶剂,用于电镀铝液时可任意控制铝层厚度且光亮。

It is mainly used in solvent and raw material of organic synthesis.
It can be used as chromatographic reagent, organic solvent and PTMEG.
As an important organic synthetic raw material and excellent solvent, it is especially suitable for dissolving polyvinylidene, polyvinylidene and butylamine, widely used as solvent for surface coating, anticorrosive coating, printing ink, tape and film coating, and as reaction solvent. It can control the thickness and brightness of aluminum layer arbitrarily when it is used in electroplating molten aluminum.

THF出厂纯度可达
99.99%

产品典型性能 TYPICAL PROPERTY OF PRODUCT

项目 ITEM	单位 UNIT	测试方法 Test method	典型值 Typical value
四氢呋喃含量 THF Purity	wt%	气相色谱法 Gas chromatography	≥99.95
色度 Color	铂-钴色号 Platinum-cobaltic color number	UV分光光度计法 UV spectrophotometry	≤5
水分含量 Moisture Content	wt%	卡尔费休·库仑法 Karl-Fishcher Coulometry	≤0.015
过氧化物含量 Hydrogen Peroxide Content	wt%	滴定法 Titration	≤0.003
稳定剂 BHT Content	ug/g	气相色谱法 Gas chromatography	M ± 50

*Special requirements can be customized. *有特殊要求可定做。

PET

Polyethylene Terephthalate

聚对苯二甲酸乙二醇酯

PET由精对苯二甲酸和乙二醇经过酯化、缩聚反应所生成。康辉新材PET装置采用德国吉玛五釜连续工艺,采用国外先进设备,装置年产20万吨。在线粘度计实时控制,确保特性粘度波动范围小。聚酯切片均匀性好、稳定性强、加工性能卓越,质量达到国际领先水平。

项目 Item	单位 Unit	膜级高速切片 High-Speed Film-grade Polyester Chip	膜级超高速切片 Super High-Speed Film-grade Polyester Chip
		KH2650A	KH2650B
特性粘度 Intrinsic Viscosity	dL/g	0.650 ± 0.01	0.640 ± 0.01
端羧基 Carboxyl End Groups	mol/t	28 ± 4	28 ± 4
熔点 Melting point	℃	≥260	≥260
二甘醇含量 Diethylene glycol content	%	1.20 ± 0.10	1.20 ± 0.10
色值(L) Color L Value	-	≥82	≥82
色值(b) Color B Value	-	3.0 ± 2.0	3.0 ± 2.0
水分 Moisture	%	≤0.4	≤0.4
灰分 Ash	%	≤0.05	≤0.05
铁含量 Iron content	mg/kg	≤2	≤2
粉末 Powder	mg/kg	≤80	≤80
异状切片 Irregular shape chip	%	≤0.4	≤0.4
百粒重 Hundred-pellet weight	g/100pc	2.8 ± 0.1	2.8 ± 0.1

备注:以上测试数据仅供参考,所有物性均通过ISO9001体系认证,同时符合REACH,ROHS,FDA,REACH高关注度物质标准。
Remark:Data listed above is for reference only ,All specifications mentioned above are ISO9001 approval and comply with REACH , ROHS , FDA&REACH SVHC regulations.

PET (polyethylene terephthalate) is produced from purified terephthalic acid and ethylene glycol through esterification and polycondensation reactions. Kanghui New Material PET production line adopts German Zimmer five-reactor continuous process, with annual capacity of 200 kilotons. The real-time control of online viscosity meter can ensure the minimum fluctuation range of product intrinsic viscosity. The quality of PET chips

应用领域
Application Area

主要应用于聚脂薄膜、化纤用涤纶、无纺布、改性塑料等。
It is mainly used in polyester film, polyester for chemical fiber, non-woven fabric, modified plastics, etc.

HENGLI ECO

PBAT

Polybutylene Adipate Terephthalate

聚对苯二甲酸一己二酸丁二酯

PBAT（聚对苯二甲酸一己二酸丁二酯）属于热塑性生物降解塑料，不仅具有优异的力学性能、良好的加工性，并且在自然环境中通过微生物或酶的代谢，能够被分解成二氧化碳和水等含氧化合物。
康辉新材生物降解聚酯PBAT/PBS项目，采用先进的生产设备，依托丰富的聚合经验，配套新品实验中心，具备顶尖的产品检测技术和完善的质量保证体系。
康辉新材生物降解聚酯材料已通过国际行业权威检测认证且获得相应的证书：欧盟DINCERTCO、OK COMPOST、Seeding认证，美国BPI认证，澳大利亚ABA认证，日本JBPA认证等，远销欧洲、东南亚、日韩等海外市场。

PBAT (polybutylene terephthalate adipate) is a thermoplastic biodegradable plastic, which not only has excellent mechanical properties and good processability, but also can be decomposed into carbon dioxide and Oxygenated compounds such as water.
Kanghui New Material Biodegradable Polyester PBAT/PBS project adopts advanced production equipment, relies on rich polymerization experience, and is equipped with a new product experiment center with top product testing technology and a complete quality assurance system.

The biodegradable polyester materials of Kanghui New Material have passed the authoritative testing and certification of international industries and obtained corresponding certificates: DINCERTCO, OK COMPOST, Seedling in Europe, BPI certification in the United States, ABA certification in Australia, JBPA certification in Japan, etc., and are exported to Europe, Southeast Asia, Japan, etc. South Korea and other overseas markets.

应用领域
Application

主要应用于生物降解购物袋、快递袋、包装薄膜、农用薄膜、3D打印、一次性餐具、医疗用品等。

It is mainly used in biodegradable shopping bags, express bags, packaging films, agricultural films, 3D printing, disposable tableware, disposable medical supplies, etc

项目 Item	单位 Unit	数值 Value	项目 Item	单位 Unit	数值 Value
密度 Density (25°C)	g/cm³	1.23±0.03	端羧基 Carboxy End Groups	mol/t	⩽ 25
熔点 Melting Point	°C	113~123	拉伸强度 Tensile Strength	MPa	⩾15
熔体流动速度 Melt Flow Rate	g/10min	<5	断裂伸长率 Break Elongation	%	⩾500
水分 Moisture Content	%	⩽0.1	弯曲强度 Flexural Strength	MPa	⩾3
色值 (L) Color L Value	-	⩾70	弯曲模量 Flexural Modulus	MPa	⩾30
色值 (a) Color A Value	-	⩽5	维卡软化点 A_{50}	°C	88±2
色值 (b) Color B Value	-	⩽10	灰分 Ash	%	⩽0.1

备注:以上测试数据仅供参考，特殊需求可定制。
Note: Data listed above is for reference only, special requirements can be customized.

PBS

Polybutylene Succinate

聚丁二酸丁二酯

PBS(聚丁二酸丁二酯)属热塑性聚酯，树脂呈乳白色，无嗅无味，力学性能优异，耐热性能好，热变形温度高，具有良好的生物相容性和生物可吸收性，易被自然界的多种微生物或动植物体内的酶分解、代谢，最终分解为二氧化碳和水，是典型的可完全生物降解聚合物材料。

PBS is a kind of thermoplastic polyester. The resin is milky white, odorless and tasteless. It not only has excellent mechanical properties but also good heat resistance which can bear higher heat deflection temperature. . It has good biocompatibility and bioabsorbability, and is easy to be decomposed and metabolized by a variety of microorganisms, animals and plants in the natural world, and finally decomposed into Carbon oxide and water. PBS is a typical 100% biodegradable polymer materials.

应用领域
Application

主要应用于注塑、餐具、纸淋膜、纤维、包装薄膜、农用薄膜、医疗领域等。

It is mainly used in injection molding, tableware, cup coating,fiber and packaging film, agricultural film,medical field etc.

项目 Item	单位 Unit	数值 Value	项目 Item	单位 Unit	数值 Value
密度 Density (25°C)	g/cm³	1.25 ± 0.03	端羧基 Carboxy End Groups	mol/t	⩽ 50
熔点 Melting Point	°C	105~116	拉伸强度 Tensile Strength	MPa	⩾25
熔体流动速度 Melt Flow Rate	g/10min	⩽10 10-20 20-40	断裂伸长率 Break Elongation	%	⩾150
水分 Moisture Content	%	⩽0.1	弯曲强度 Flexural Strength	MPa	⩾25
色值 (L) Color L Value	-	⩾75	弯曲模量 Flexural Modulus	MPa	⩾400
色值 (a) Color A Value	-	⩽5	灰分 Ash	%	⩽0.1
色值 (b) Color B Value	-	⩽10			

备注:以上测试数据仅供参考，特殊需求可定制。
Note: Data listed above is for reference only, special requirements can be customized.

PBAT

PBAT modified plastics

PBAT改性塑料

PBAT改性塑料是PBAT与PLA及淀粉或钙粉等无机粉体材料，通过特殊塑化分散处理，共混改性制备而成。目的为了改进产品的物理性能和力学性能。一般可用于可降解购物袋、一次性餐具、农用地膜等领域。

PBAT modified plastic is prepared by blending and modifying PBAT, PLA, starch or calcium powder and other inorganic powder materials through special plasticizing and dispersing treatment. The purpose is to improve the physical and mechanical properties of the product. Generally, it can be used in degradable shopping bags, disposable tableware, agricultural mulch and other fields.

PBAT与淀粉共混
PBAT Blended With Starch

PBAT与淀粉,聚乳酸(PLA)共混
PBAT Blended With Starch And PLA

PBAT与碳酸钙共混
PBAT Blended With Calcium Carbonate

KHAT2025F

项目 Item	单位 Unit	测试标准 Test Standard	数值 Value
密度 Density	g/cm³	ISO 1183	1.20-1.30
熔融指数 Melt Flow RateMFR(190 °C,2.16kg)	g/10min	ISO 1133	≤5
拉伸强度 Tensile Strength	MPa	ISO 527	≥12
断裂伸长率 Break Elongation	%	ISO 527	≥300
熔点 Melting Points	°C	ISO 11357	100-135°C

KHAT2125F

项目 Item	单位 Unit	测试标准 Standard test	数值 Value
密度 Density	g/cm³	ISO 1183	1.20-1.30
熔融指数 Melt Flow RateMFR(190 °C,2.16kg)	g/10min	ISO 1133	≤5
拉伸强度 Tensile Strength	MPa	ISO 527	≥12
断裂伸长率 Break Elongation	%	ISO 527	≥300
熔点 Melting Points	°C	ISO 11357	100-135°C

KHAT3125F

项目 Item	单位 Unit	测试标准 Test Standard	数值 Value
密度 Density	g/cm³	ISO 1183	1.40-1.45
熔融指数 Melt Flow RateMFR(190 °C,2.16kg)	g/10min	ISO 1133	≤5
拉伸强度 Tensile Strength	MPa	ISO 527	≥12
断裂伸长率 Break Elongation	%	ISO 527	≥300
熔点 Melting Points	°C	ISO 11357	100-135°C

备注:以上测试数据仅供参考，特殊需求可定制。
Note: Data listed above is for reference only, special requirements can be customized.

ENVIRONMENTAL PROTECTION MATERIAL

环保材料

BOPET

PET Film GRS Recyclable

GRS可回收塑料薄膜

GRS认证再生功能膜，含有一定比例再生料功能膜。目前已经广泛应用于日用品、家具、园艺产品、五金零件等外包装，是解决塑料污染的又一条路径。康辉新材在国内率先获得了GRS认证，能够为客户提供符合国际规范的再生功能膜。

GRS certified regenerative functional film, containing a certain proportion of recycled materials have been widely used in the outer packaging of daily necessities, furniture, hardware parts packaging, it is another way to solve plastic pollution. Kanghui New Material took the lead in obtaining GRS certification in China, and can provide customers with regenerative functional films that meet international standards.

PBT

Recycled Material

回收材料

康辉新材环保PBT，具有优良的综合机械性能、耐热性、耐疲劳性、低摩擦系数以及耐候性等特点，其吸水率低，仅为0.1%，在潮湿环境中仍能保持各种物性，循环使用5次，强度仍能保持在50%以上，被广泛用于连接器、继电器以及散热风扇等汽车零部件，为电动车以及新能源汽车发展做出巨大贡献。与简单填埋和焚烧处理相比，循环再生塑料颗粒可以作为塑料工业的原料投入再利用，实现了真正意义上的资源循环利用。

Kanghui new material environmental protection PBT has excellent comprehensive mechanical properties, heat resistance, fatigue resistance, low friction coefficient and weather resistance, etc. Its water absorption rate is low, only 0.1%, and it can still maintain various physical properties in a humid environment , recycled 5 times, the strength can still maintain more than 50%, it is widely used in auto parts such as connectors, relays and cooling fans, and has made great contributions to the development of electric vehicles and new energy vehicles. Compared with simple landfill and incineration, recycled plastic particles can be reused as raw materials in the plastics industry, realizing the real recycling of resources.

SOCIAL RESPONSIBILITY
社会责任


2018国际水协
“改变行业的技术革新奖”

在企业发展壮大过程中，恒力集团注重环境保护，节能减排工作取得了重大成果，通过了ISO环境管理体系认证和欧洲绿色环保认证，率先在全国同行业中实施中水回用工程，在行业内率先建成国家级绿色工厂。并在各大产业园安装屋顶太阳能光伏发电项目实现并网发电，将为企业生产建设提供清洁优质的电能，同时也为减少温室气体排放做出贡献，再次体现了恒力落实企业社会责任、践行绿色发展的理念。

同时尽心尽力地履行社会责任，积极支持慈善事业的发展，扶助弱势群体。2012年成立“恒力慈善基金会”。以强烈的家国情怀和责任担当，在产业报国、抗击“新冠”、乡村振兴、捐资助学、抗灾救灾等领域均有作为。企业创立至今，各类捐款累计超10亿元。

In the process of enterprise development and growth, Hengli Group pays attention to environmental protection, and has achieved significant results in energy conservation and emission reduction. It has passed ISO environmental management system certification and European green environmental protection certification, and is the first to implement reclaimed water reuse projects in the same industry across the country. The industry took the lead in building a national-level green factory. And installed rooftop solar photovoltaic power generation projects in major industrial parks to realize grid-connected power generation, which will provide clean and high-quality electric energy for the production and construction of enterprises, and also contribute to the reduction of greenhouse gas emissions, which once again reflects Hengli's implementation of corporate social responsibility and practice the concept of green development.

At the same time, the company actively fulfills social responsibilities, supports the development of charity and helps vulnerable groups. In 2012, Hengli Charity Foundation was established. With strong feelings of home and country and sense of responsibility, the company made achievements in serving the country with industry, fighting against COVID-19, rural revitalization, educational donation, disaster relief and other fields. Since its establishment, various kinds of donations have accumulated over 1 billion yuan.

Energy conservation & Environmental protection
Be a practitioner of green development

节能环保，做绿色发展践行者

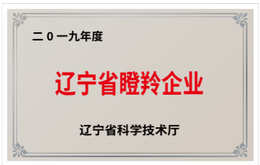
Photovoltaic power generation
Be a developer of green energy

光伏发电，做绿色能源发展者

Social welfare,
Be an implementer of corporate responsibility

社会公益，做企业责任落实者

HONOR AND CERTIFICATE
企业荣誉和资质



ISO9001 ISO14001 ISO45001 IATF 16949:2016 DIN Geprüft kampo otherbar

FDA VDE UL REACH RoHS Global Recycled Standard TÜV

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