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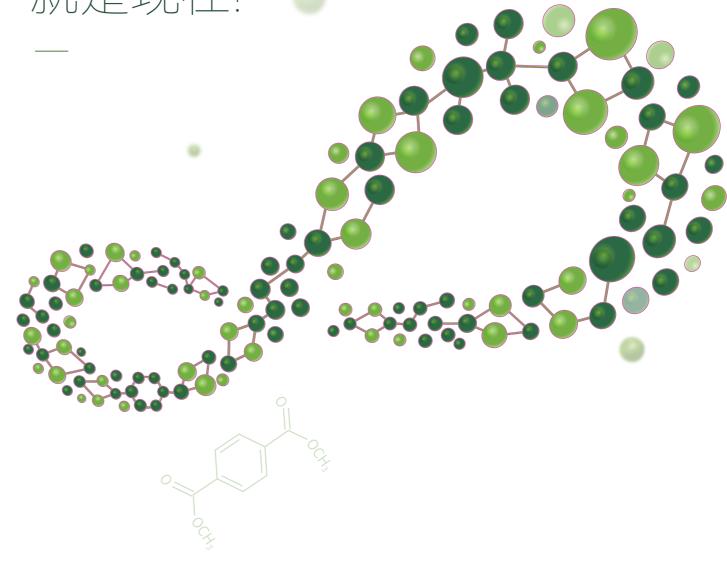
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CHEMICAL RECYCLING

RIGHT&NOW

化学法循环, 就是现在!







佳人 R-DMT 全球首发

The global debut of Jiaren recycled DMT in July 2023!

60载砥砺前行。

于1960年开始,历经日本帝人实验室研发和从2000年开始的千吨级产业化过程,以及在中国的浙江佳人从2012年以来的万吨级产业化道路和自主迭代创新,数百位科研技术人员持续艰苦钻研,通过把废旧纺织品进行解聚离心分离,实现在分子和原子层级回收聚酯,使其以原始资源的同等纯度实现再利用,2023年7月,佳人再生DMT的全球首发,标志着"逆向材料科技"产业化的一个里程碑——不仅填补了国内DMT市场的空白,也是对全球DMT可再生战略的重要补充。

随着再生DMT的上市,佳人完成了从再生DMT、再生切片到再生纤维的化学法聚酯产品的差别化应用的布局,佳人化学法循环技术也从纺服领域,扩展到工业丝、瓶级、膜级等工业级应用领域。

After 60 years of hard work.

Since 1960, after the research and development of Teijin Laboratory in Japan and the thousand-ton industrialization process from 2000, as well as the 10,000-ton industrialization and independent iterative innovation in Zhejiang Jiaren since 2012, hundreds of scientific and technical personnel have continued to work hard, through the depolymerization centrifugation of waste textiles, to achieve the recycling of polyester at the molecular and atomic level, so that it can be reused with the same purity of the original resources. In July 2023, the global debut of Jiaren recycled DMT, marking a milestone in the industrialization of 'reverse material technology' – not only to fill the gap in the domestic DMT market, but also an important supplement to the global DMT renewable strate-

With the launch of recycled DMT, Jiaren has completed the layout of the differentiated application of chemical polyester products from recycled DMT, recycled chips to recycled yarns, and Jiaren chemical recycling technology has also expanded from the field of spinning and clothing to industrial applications such as industrial yarn, bottle grade and film grade.













化学法循环,<mark>就是现在!</mark> Chemical Recycling,Right&Now

当下即未来

The present is the future

满足日益增加的多样化市场的再生材料需求,

我们期待与所有价值链参与者,通过合作共创,实现循环闭环回收利用的最佳方案和效果。 Adhering to the innate corporate heritage, Jiaren continues to carry out technological research and systematic innovation,

We support our customers at each stage of material development and co-development at each step of the process

Through cooperation and co-creation, to achieve the best solution of recycling.

今天,我们践行循环经济,以期达成可持续的未来。

Today, we practice a circular economy to achieve a sustain



源自帝人 万吨级产业化国际领先,填补国内空白。

FROM TEIJIN

10,000 TONS OF INTERNATIONAL LEADING INDUSTRIALIZATION,
FILL THE DOMESTIC GAP.

浙江佳人新材料有限公司成立于 2012 年,成立之初系日本帝人株式会社与精工控股集团共同投资兴建,在"帝人"实验室及千吨级科研先发优势基础上,2016 年以来由浙江佳人技术团队、联合精工科技及国内多所科研院所共同研发自主创新化学法再生万吨级产业化技术,并构建起再生DMT\再生切片\再生纤维的绿色再生循环体系。目前佳

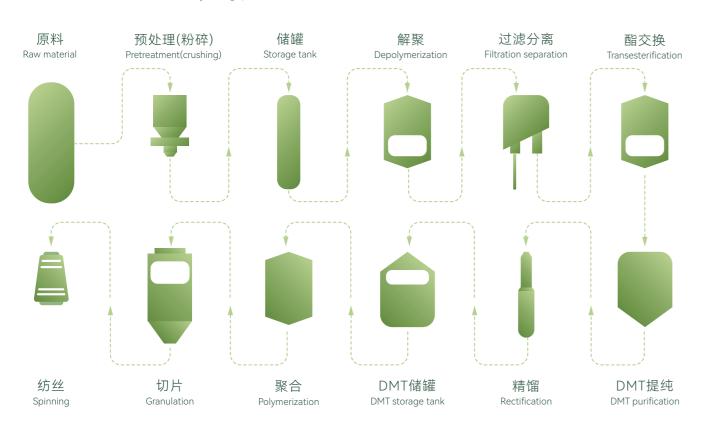
人化学法具备每年 4 万吨废旧纺织品处理能力,占地 100 亩的浙江绍 兴袍江制造基地年产绿色再生产品 3 万吨,年产 15 万吨绿色再生新 材料项目在 2023 年已全面启动建设,建成后产能世界领先。

Zhejiang Jiaren New Materials Co., LTD., founded in 2012, was jointly invested by Teijin Co., Ltd. and Jinggong Holding Group. On the basis of 'Teijin' laboratory and first-mover advantage of thousand-ton scientific research, Since 2016, Zhejiang Jiaren technical team, joint Jinggong Technology and a number of domestic research institutes have jointly developed independent innovation chemical recycling 10,000-ton industrial process technology, and built a green recycling system of recycled DMT \ recycled chip \ recycled yarn. At present,

Jiaren Chemical process has the annual processing capacity of 40,000 tons of waste textiles, covers an area of 100 acres of Zhejiang Shaoxing Paojiang manufacturing base with an annual output of 30,000 tons of green recycled products, and is located in Shaoxing Keqiao 340 acres of new 150,000 tons of industrial park has started construction in 2023.

佳人化学法循环工艺流程

Jiaren chemical method recycling process flow



添加化学法回收健全您的循环方案

ADDITIVE CHEMICAL RECOVERY IMPROVE YOUR CIRCULAR PLAN

废旧纺织品和废旧聚酯已被公认为是一个巨大的机会,大部分是可以通过多种方式回收和再利用的潜在资源,其中基于物理法和化学法技术的回收我们认为是协同共生的,唯有"两全其美"才是完整的循环方案。并且化学法具有无可替代的高纯度和高值化利用优势。其特有的"小分子解聚-聚合技术"可将难以回收的聚酯转化为近似于原生材料品质的再生聚酯,可广泛应用于纺织、汽车、食品、日化和电子等领域。

Waste textiles and waste polyester have been recognized as a large opportunity, most of them are potential resources that can be recycled and reused in a variety of ways, which based on physical and chemical technology recycling we believe is synergistic symbiosis, only the 'best of both worlds' is a complete cycle program. Chemical method has irreplaceable advantages of high purity and high value utilization. Its unique 'small molecule depolymerization – polymerization technology' can convert polyester into recycled polyester approximate to the quality of the original material, which can be widely used in textile, automotive, food, daily chemical and electronic fields.

截止2023年6月佳人统计过去8.5年时间里

Jiaren since 2015 during the past 8.5 years

累计生产再生产品 — 21 万吨

累计废旧纺织品回收利用 — **29.4** 万吨(相当于 **8.8** 亿件T恤)

累计节省石化原料使用 — 8.4 万吨

累计减少二氧化碳排放 — 32.55 万吨

累计减少能耗 — 相当于 39.9 万吨标煤

100 亩 一 占地

210,000 tons - cumulative production of recycled products

880 million T-shirts - 294,000 tons of waste textiles have been recycled, equivalent to 880 million T-shirts

84,000 tons - reduce the use of fossil raw materials

325,500 tons - a cumulative reduction in carbon emissions

399,000 tons - reduced energy consumption (based on standard coal)

100 acres - land area

来源:天祥LCA报告, Report # SHAH01388363



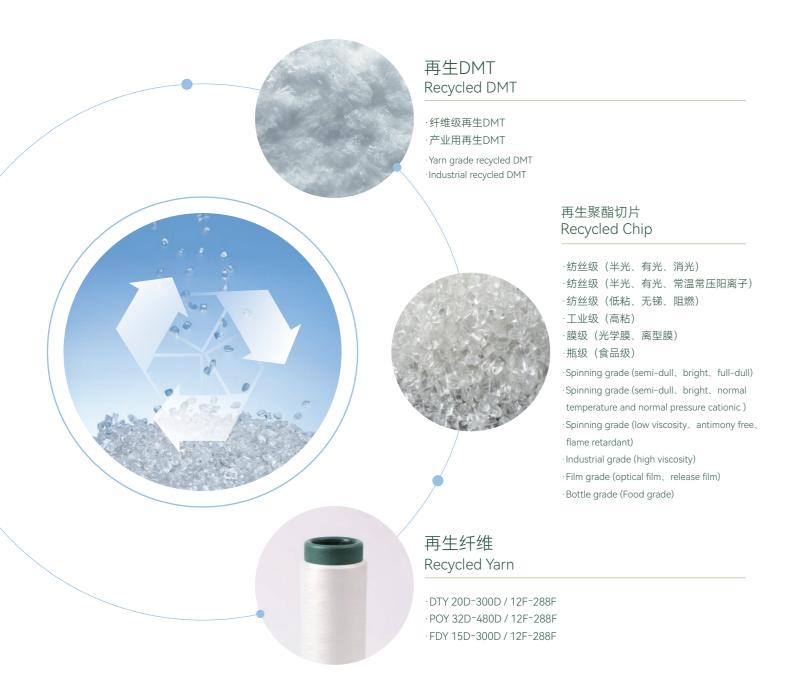
佳人化学法 三大系列再生聚酯产品

JIAREN CHEMICAL METHOD

THREE SERIES OF RECYCLED POLYESTER PRODUCTS

佳人完成了从再生DMT、再生切片到再生纤维的化学法再生聚酯产品的差异化应用布局

Jiaren has completed the differentiated application layout of chemically processed recycled polyester products from recycled DMT, recycled chips to recycled yarn.



更高纯度更高价值的创新应用

HIGHER PURITY
INNOVATIVE APPLICATIONS FOR HIGHER VALUE

佳人绿色再生聚酯产品可广泛应用于运动、户外、时装、家纺、汽车、消费电子、 食品饮料、化妆品、家电、医疗等行业领域。

Products are widely used in sportswear, outdoor, fashion, home textile, automotive, consumer electronics, food and beverage, cosmetics, home appliances, medical and other industries.









Sportswear

Home textile

Fashior

istriai A

Automotiv

























再生DMT系列

R-DMT SERIES

Recycled dimethyl terephthalate 再生对苯二甲酸二甲酯 CAS NO::120-61-6

物化性质

无色斜方晶系结晶体,不溶于水,易溶于乙醚和乙醇

Physicochemical property

Colorless rhombic crystal, insoluble in water, soluble in ethyl ether and ethanol

产品用途

用于合成聚酯纤维、树脂、薄膜、聚酯漆及工程塑料等

Product application

Used for the synthesis of polyester yarn, resin, film, polyvinegar paint and engineering plastics



Dimethyl Terephthalate

R-DMT产品系列及应用

R-DMT product series and applications

CHDM(CYCLOHEXANEDIMETHANOL) 环己烷二甲醇

产品特性 / Product characteristics

熔点高,耐热性好,光泽度好,耐化学腐蚀、耐冲击,易于加工成各种形状、外观和特殊效果

High melting point, good heat resistance, good gloss, chemical corrosion resistance, impact resistance, easy to process into various shapes, appearances and special effects.

产品应用 / Product application

高端化妆瓶、医用防护面罩、洗手液瓶、医疗标签、PETG收缩膜、电池标签等产品。 Advanced cosmetic bottles, medical protective masks, hand sanitizer bottles, medical labels, PETG shrink film, battery labels and other products.



TPEE (THERMOPLASTIC POLYESTER-ETHER ELASTOMER) 热塑性聚酯弹性体

产品特性 / Product characteristics

耐高温,耐低温,耐化学性,具有橡胶的弹性和工程塑料的强度,且易加工成型。 High temperature resistance, low temperature resistance, chemical resistance, with rubber for elastic and engineering plastic strength, and easy to process molding.

产品应用 / Product application

汽车部件、电线电缆、工业管道、改性材料等产品。

Automotive parts, wire and cable, industrial pipes, modified materials and other products.



DOTP (DI-2-ETHYLHEXYLTEREPHTHALATE) 对苯二甲酸二异辛酯

产品特性 / Product characteristics

耐热、耐寒、电绝缘性能好,也是PVC塑料用的一种功能优良的增塑剂。

Heat resistance, cold resistance, good electrical insulation properties, is also a good functional plasticizer for PVC plastics.

产品应用 / Product application

PVC增塑剂、电缆料、人造革等生产领域。

PVC plasticizer, cable material, artificial leather and other production fields.



PBAT (BUTYLENEADIPATE-CO-TEREPHTHALATE) 聚对苯二甲酸-己二酸丁二醇酯

产品特性 / Product characteristics

延展性好,断裂伸长率,耐热性和冲击性能,是目前生物降解塑料中市场应用最好的降解材料之一。

Good ductility, elongation at break, heat resistance and impact properties, is currently one of the best biodegradable materials in the market.

产品应用 / Product application

一次性塑料用品、宠物袋、快递塑料包装、农用膜等产品。

Disposable plastic products, pet bags, express plastic packaging, agricultural film and other products.



再生切片系列

再生半消光切片 / 再生大有光切片 / 再生全消光切片

应用于生产涤纶长丝,可纺性近似于原生切片。 在生产超细旦高F涤纶长丝(如: FDY 15D / 12F、FDY 20D / 48F、DTY 20D / 24F等)时,性能尤为突出。

Applied to the production of polyester filament, spinnability is similar as the original chip.

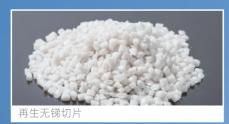






再生无锑切片/再生阻燃切片

产品用于各类环保纺织品的制造,无重金属,含磷阻燃共聚聚酯,可纺性好、质量稳定、 满足人们健康安全的追求。可通过欧盟 高效阻燃,适用于消防类纺织品的制造。





再生常温常压阳离子切片

Antimony-free semi-dull: The products are used in the manufacture of all kinds of environmental protection textiles, no heavy metals, to meet the requirements of health and safety. Can pass the EU "EN71-3:2013" test standards.

Flame retardant: phosphorus-containing flame retart— It can be spun filament or staple yarn for weaving dant copolypolyester, good spinnability, stable qualibric, with the products are used in the manufacture of all kinds of environmental protection textiles, no heavy metals, to meet the requirements of health and safety. Can pass the EU textiles manufacturing.

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Flame retardant: phosphorus-containing flame retart— It can be spun filament or staple yarn for weaving dant copolypolyester, good spinnability, stable qualibric, brightly dyed fabrics. Can also be blended with other yarns, dyed into different patterns of hemp gray effect or two-color, multi-color effect of the fabric, reducing the cost.



再生高粘切片

产工业丝,可应用于轮胎、安全带、安全气囊等。

cording to customer requirements, and can be customized if the carboxyl end group, DEG, particle size and other aspects are required. Mainly used to produce industrial silk, can be used in tires, seat belts, airbags and so on.



再生低粘切片

用于服装到工业材料等产品中。

and the composite spinning product has excellent extensibility, soft texture, good hair color and soft cushioning. Used in products ranging from clothing to industrial materials.



再生膜级切片 (光学膜/离型膜)

光学 PET 膜是为改变光学零件表面光学特点而 离型膜是指薄膜表面能有区分的薄膜。离型 具有均匀的晶体结构,狭窄的分子质量分布;无 镀在光学零件表面上的一层或多层膜,主要用。膜在电子行业的高端应用,主要是在生产过。毒、无味、有玻璃般透明和光泽;切片广泛用于 途为消费电子显示面板、屏幕、裸眼 3D 显示等。 程起承载、固定、分隔作用。



film plated on the surface of optical parts to change the optical characteristics of the surface of optical parts, the main use of consumer electronics display panels, screens, naked eye 3D display and so on.



再生膜级切片 (离型膜)

再生瓶级切片

瓶类包装容器;可用于制造食品、饮料包装瓶。

ular mass distribution. Non-toxic, tasteless, glass-like transparency and luster; Chips are widely used in bottle packaging containers; It can be used to make food and beverage packaging bottles.





三项措施结合 确保佳人产品可追溯

THE COMBINATION OF THREE METHODS ENSURES THAT JIAREN PRODUCTS CAN BE TRACED

所有产品均含有佳人化学法特有的DNA可以通过国际权威认证, 化学成分检测或通过在重合工序添加特定追踪剂三大措施实现产品的可追溯性。

All products contain the unique DNA of Jiaren chemical recycling method, which can be traced through international authoritative certification, chemical composition testing, or by adding specific tracers during the overlapping process.

为了每一根再生纤维的品质,我们的生产线和检验检测中心所采用的设备均来自德国、瑞士、美国和日本等国家

FOR THE QUALITY OF EVERY PIECE OF REGENERATED YARN

Our production line and testing center are equipped with equipment from Germany, Switzerland, the United States, Japan and other countries.









化学成分检测 Chemical composition testing Due to the uniqueness of Jiaren chemi 国际权威标准认证 际权威机构的认证实现可追溯 nternational authoritative inizations can be traced. 通过在重合工序添加特定追踪剂 从而实现产品的可追踪 Designated tracking agent

佳人企业资质

JIAREN ENTERPRISE QUALIFICATION

- 陈文兴院士领衔的专家工作站
- 省级博士后工作站
- 国家废旧纺织品化学法循环再利用纤维研发生产基地
- 浙江省科技小巨人
- 浙江省隐形冠军培育企业
- 浙江省级企业研究院
- 浙江省企业技术中心
- 浙江省级绿色低碳工厂
- 工信部绿色设计产品



国家级第三批重点"小巨人"企业 The third batch of national key "little giant" enterprises



国家高新技术企业















佳人全球业务版图

JIAREN GLOBAL BUSINESS MAP

佳人业务覆盖全球30多个国家和地区,逾百个品牌与佳人开展可持续合作。

Jiaren business covers more than 30 countries and regions around the world, and over 100 brands have carried out sustainable cooperation with Jiaren.













期待更多合作伙伴加入。化学法循环, 就是现在!

We're looking forward to seeing more partners join us, chemical recycling, Right&Now!

佳人发展历程

JIAREN DEVELOPMENT

佳人成立 与日本帝人合资

Jiaren was established Joint venture with Teijin

2015

Jiaren is officially put into operation

2016

帝人公司退出股权 佳人独自研发迭代 实现3万吨级量产

Teijin company withdrawal of equity, Jiaren independently developed iteration, to achieve 30,000 tons of mass production

2017

佳人与品牌商合作 在行业首推T2T项目

Jiaren cooperated with brand owners to launch the T2T project

·启动柯桥15万吨新项目 ·成功研发瓶级、膜级、工业级 再生切片系列开启切片销售

Start a new project of 150,000 tons in Keqiao

·Successfully developed bottle grade, film grade, industrial grade recycled chip series, and officially started chip selling

2023

·佳人再生DMT全球首发 填补国内空白 ·启动回收工厂建设

·The global debut of Jiaren recycled DMT to fill the domestic market gaps ·Start the construction of recycling plants

2030年 构建50万吨级 再生聚酯产业集群

In the future: In 2030, Jiaren is going to build an recycled polyester industrial cluster of 500,000 tons

建信佳人15万吨再生项目规划鸟瞰图 位于中国浙江绍兴柯桥循环经济产业园 其中第一期 5 万吨计划 2024 年建成投产

Bird's eye view of the 150,000 tons recycled project planning of Jianxin Jiaren Located in Shaoxing, Zhejiang, China Keqiao circular economy Industrial Park The first phase of 50,000 tons is planned to be completed and put into operation in 2024

2012

佳人正式投产

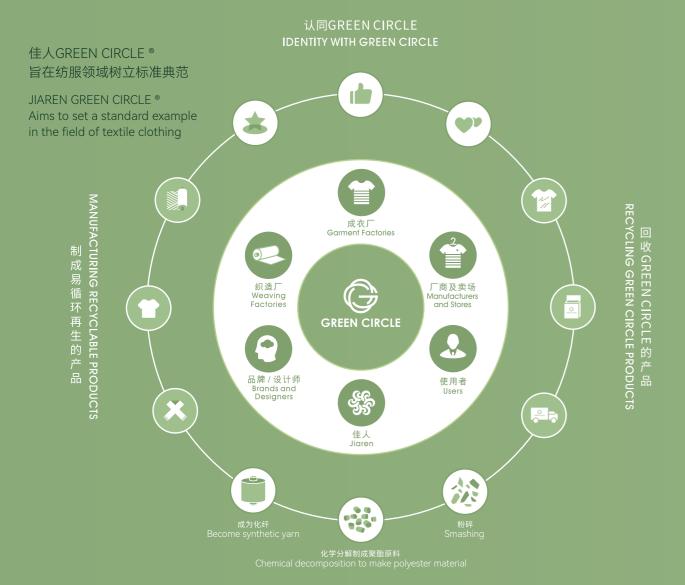
2022

产品差别化加速, 成功研发再生低粘 再生阳离子、再生阻燃等 再生切片

Product differentiation accelerated and successfully developed recycled chips such as recycled low viscosity chips, recycled cationic chips, recycled flame retardant chips, etc

GREEN CIRCLE®

佳人化学法永续循环生态



MANUFACTURING POLYESTER YARN 制成再生聚酯纤维

GREEN CIRCLE® -- 佳人化学法永续循环生态

佳人"GREEN CIRCLE" 化学法循环生态"是一个以产业链思维构建的化学法循环生态圈。其主旨是以产业共生推动循环事业的发展。

生态圈成员包括废品回收和分类、再生利用和下游制造、零售商、品牌商等相关企业。目前佳人"GREEN CIRCLE®" 以纺服领域为基础,未来将进一步扩大到聚酯瓶、薄膜等相关产业。

GREEN CIRCLE * -- Chemical Method Recycling Ecosystem

'GREEN CIRCLE®' is a chemical method recycling ecosystem constructed with an industrial chain thinking. Its main purpose is to promote the development of circular industries through industrial symbiosis.

The members of the ecosystem include enterprises related to waste recycling and classification, recycling and downstream manufacturing, retailers, brand owners and other related enterprises. Currently, the Jiaren 'GREEN CIRCLE ®' based on the textile and clothing industry, it will further expand to related industries such as polyester bottles and films in the future.

T2T是佳人基于GREEN CIRCLE体系内的特定项目,旨在纺服领域树立标准典范。该项目由佳人与品牌或其他组织共同策划和携手,协同设计、生产、销售、消费者等产业链相关方,共同积极构建纺织品从摇篮到摇篮(回收 -- 利用 -- 循环)的行业内闭环。

T2T is a specific project within the GREEN CIRCLE system that aims to set a standard in the field of textile clothing. The project is jointly planned and joined by Jiaren and brands or other organizations to collaborate with the relevant parties of the industrial chain such as design, production, sales and consumers to actively build a closed loop within the industry of textiles from cradle to cradle (recycling – utilization – recycling).

目前佳人已与包括DECATHLON、H&M、NIKE、PUMA、ADIDAS、INDITEX、QS、KMART在内的众多品牌商深度推进T2T项目合作。

At present, Jiaren has deeply promoted T2T project cooperation with many brands including DECATHLON、H&M、NIKE、PUMA、ADIDAS、INDITEX、OS、KMART.





批注:根据LCA报告数据,佳人每生产一吨再生产品,可减少1.55吨二氧化碳排放,减少1.9吨标煤的能源损耗 Note: According to the LCA report data, each ton of recycled products produced by Jiaren can reduce 1.55 tons of carbon dioxide emissions and reduce energy consumption of 1.9 tons of standard coal

控股股东中建信集团 提供强大支持

THE CONTROLLING SHAREHOLDER ZHONGJIANXIN HOLDINGS GROUP PROVIDES STRONG SUPPORT

是一家高科技、多元化、外向型的大型民营企业,通过上海市首批民营企业总部认定,上海企业百强,中国制造业企业 500 强。

精工钢构(600496.SH)成为全国钢结构行业连续 7 年排名第一企业,2022 年业务承接额已超 200亿元。

过去 20 年,精工钢构先后承建了北京奥运会主场馆鸟巢、北京大兴机场、港珠澳大桥香港旅检大楼、世界最高楼 1007 米沙特国王塔、卡塔尔世界杯主场馆金色之碗等国内外知名钢结构建筑。

2022 年,中建信集团通过重整投资,成为碳纤维明星上市公司精工科技(002006.SZ)、以及黄酒龙头上市公司会稽山(601579.SH)的控股股东。

集团实体产业运营与产业投资并行发展,经过23年发展,截至以2022年末计,集团总资产355亿元,净资产90亿元,营业收入242亿元。

It is a high-tech, diversified and export-oriented large private enterprise, which has been recognized by the first batch of private enterprise headquarters in Shanghai as one of the top 100 enterprises in Shanghai and the Top 500 Manufacturing enterprises in China.

Jinggong Steel Structure (600496.SH) has become the first enterprise in the steel structure industry in China for 7 consecutive years, and the business undertaking has exceeded 20 billion yuan in 2022. In the past 20 years, Jinggong Steel Structure has undertaken the construction of the Bird's Nest, the main venue of the Beijing Olympic Games, the Beijing Daxing Airport, the Hong Kong-Zhuhai-Macao Bridge Hong Kong Passenger Inspection building, the world's tallest building 1007 meters King Saudi Tower, Qatar World Cup stadium Golden Bowl and other well-known steel structure buildings at domestic and overseas.

In 2022, Zhongjianxin Holdings Group became the controlling shareholder of carbon yarn star listed company Seiko Technology (002006.SZ) and rice wine leading listed company Kuaijishan (601579.SH) through restructuring investment.

The Group's real industry operation and industrial investment develop in parallel. After 23 years of development, as of the end of 2022, the Group has total assets of 35.5 billion yuan, net assets of 9 billion yuan and operating income of 24.2 billion yuan.

旗下产业

拥有境内 3 家上市公司、20 家高新技术企业和 4 家国家专精特新小巨人企业。 精工钢构(600496.SH)、精工科技(002006.SZ)、会稽山(601579.SH)、佳人新材料、墙煌彩铝、九仙尊。

INDUSTRIES

It has 3 domestic listed companies, 20 high-tech enterprises and 4 national specialized special new small giant enterprises Jinggong Steel Structure (600496.SH), Jinggong Technology (002006.SZ), Kuaijishan (601579.SH), Jiaren new materials, Qianghuang Colored Aluminum, Jiuxian Zun.





人才 - 佳人最宝贵的资产

用人理念

爱才惜才:80% 中高层干部由应届生培养,干部平均年龄低于35岁

公平公正:公平竞争,能上能下,任人唯贤,人尽其才

开放包容: 职业化团队, 我们都来自五湖四海

EMPLOYMENT PHILOSOPHY

成长机会

职业发展: 管理·专业双通道+任职资格体系牵引职业发展

格标准及任职资格评审机制支持员工专业序列纵向发展或跨专业轮岗发展。

GROWTH OPPORTUNITY



经理及新员工培养 Manager and new employee training

金牛班 Taurus Class



集团 60% 以上的高管拥有清华、北大 及中欧名校学习背景

27 位国家领军型人才 27 national leading talents

293 位硕士

8 位海内外英才 8 home&abroad talents

2 位享受国务院津贴专家 2 State Council allowance experts

451 位国家注册结构师、建造师 451 national registered structural engineers and constructors



