Since 1966 Feilihua 菲利华

股票代码: 300395

QUARTZ

石 英 纤 维

FIBER

湖北菲利华石英玻璃股份有限公司

Hubei Feilihua Quartz Glass Co . , Ltd

地址：中国湖北省荆州市沙市区东方大道68号

No . 68 , Dongfang Avenue , Jingzhou , Hubei Prov. , 434001 , P . R . China

纤维事业部 Quartz Fiber & Fabrics Business Division Tel: 0716 830 0291 Fax: 0716 830 4882

集团总经办 Group General Manager's Office Tel: 0716 830 4606 Fax: 0716 831 3660

E-mail: sales-xw@feilihua.com http://www.feilihua.com

Feilihua

公司简介 Corporate Introduce

湖北菲利华石英玻璃股份有限公司主要从事半导体、光通讯、航空航天、光学及其他领域用高性能石英玻璃材料、石英纤维及制品的研发生产与销售业务，现为国内外具有较大影响力和规模优势的石英玻璃材料及制品一体化加工企业，石英纤维材料及其织物一体化制造企业。

公司始建于1966年，2014年9月10日在创业板挂牌上市，股票代码300395，现拥有荆州、潜江、上海、合肥、泰兴、济南六个生产基地以及荆州技术中心、上海研发分公司和武汉研发中心三大研发平台。

公司已通过 ISO9001、ISO14001和ISO45001体系认证，现为国家高新技术企业、全国工业玻璃和特种玻璃标准化技术委员会委员单位、湖北省企业技术中心、湖北省高性能石英玻璃及石英纤维工程技术研究中心、湖北省博士后产业基地、全国第五批创新型试点企业。

公司是全球少数几家具备批量供应能力的石英纤维供应商，一直专注于为中国航空航天领域提供产品及技术配套服务，主导编制《石英玻璃纤维纱》、《石英玻璃纤维布》、《空心石英玻璃纤维》、《石英玻璃棉》等行业标准，获得科学技术进步一等奖、长江质量奖等奖项，连续多年被评为航空航天系统优秀供应商。

Hubei Feilihua Quartz Glass Co., Ltd mainly engages in the research and development, production and sales of high-performance quartz material, quartz fiber and fabrics and products for semiconductor, optical communication, aviation and aerospace, optics and other fields. At present, Feilihua is a greater influence and scale advantages enterprise at home and abroad ,has integrated processing of quartz glass materials and products , quartz fiber material and fabrics.

Founded in 1966, Hubei Feilihua Quartz Glass Co., Ltd was listed on GEM (Growth Enterprise Market) on September 10th, 2014, with stock code 300395. Feilihua has six manufacturing bases in Jingzhou, Qianjiang, Shanghai, Hefei, Taixing and Jinan,as well as three Research and Development Center in Jinzhou ,Shanghai and Wuhan.

Certified by ISO9001, ISO14001, ISO45001 system, Feilihua is renowned as the national high-tech enterprise, member unit of National Technical Committee of Standardization of Industrial Glass and Special Glass, Enterprise Technology Center of Hubei province, Technical Research Center of Hubei high-performance quartz glass and quartz fiber project, Postdoctoral Industrial Base of Hubei Province, and the fifth batch of national innovative pilot enterprise.

As one of the few domestic suppliers capable of massive quartz fiber supply, the company focuses on providing products and technical supports services for the aerospace industry in China. Feilihua focuses on providing products and technical supports services for the aerospace industry at home and abroad, leads the compiling of industry standards such as "Quartz Fiber Yarn", "Quartz Fiber Cloth", "Hollow Quartz Fiber" and so on. Feilihua has been awarded the National Defense Science and Technology Progress First Award , the Yangtze River Quality Award, as well as an excellent supplier of aerospace systems for consecutive years.

湖北菲利华石英玻璃股份有限公司 Hubei Feilihua Quartz Glass Co.,Ltd

Feilihua

企业文化 Corporate Culture

核心价值观：Company Core Value

专注 诚信 创新 进取

Absorption Integrity Innovation Enterprising

使命：Mission

致力于为全球客户提供高性能石英产品的整体解决方案，成为石英科技创新的引领者。

To be a leader in quartz technology innovation, committed to provide overall solutions of high-performance quartz products for our global customers.

愿景：Vision

打造百年菲利华品牌，做国际一流企业。

Building Feilihua as century-old brand , to be a world-leading enterprise.

理念：Concept

共创 共享 共赢

Co-create Sharing Win-win

Feilihua 菲利华
股票代码: 300395

QUARTZ

Feilihua

企业管理方针
Enterprise Management Policy

质量方针 Quality Policy

科学管理　快速反应　持续改善　顾客满意

Scientific Management　Rapid Response　Continuous Improvement　Customer Satisfaction

环境方针 Environment Policy

以不断的技术进步和严格的管理提高产品品质和服务的同时，注重环保、节能的社会责任，始终坚持健康，持续的发展方向。

We keep on improving the quality of products & services by constant technical progress and strict management, and in the meanwhile take our social responsibilities on environmental protection and energy saving aiming at healthy and sustainable development.

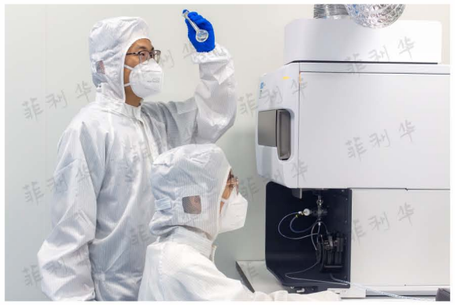
职业健康方针 Occupational Health Policy

以遵章守法为基础，坚持“安全第一、综合治理”的原则，持续改进职业健康安全工作，创建和谐企业。

Being disciplined & law-abiding, we devote on improving the conditions for occupational safety and health and a harmonious enterprise with the principle of“Safety First, Comprehensive treatment”.

Feilihua

一流的检测设备 完善的管理体系
First-class Testing Equipment　Complete Management System




Feilihua 菲利华
股票代码: 300395

QUARTZ

Feilihua

菲利华石英纤维 Feilihua Quartz Fiber

石英纤维是以高纯石英为原料，通过熔融拉制而成的无机非金属纤维，是一种电绝缘性、耐温性、力学性能极优的高性能纤维材料，在航空、航天、半导体、电子电路、高温隔热、高温过滤等方面有着广泛的应用。

早在1979年，菲利华的前身沙市石英玻璃厂就在全国首家试制成功了单丝直径7-20μm的石英纤维和高纯石英棉。

经过四十多年的发展与积累，公司先后研制生产了40余种高性能石英纤维纱及织物，其中研制的空心石英纤维产品和超细石英纤维产品以及超低介电石英纤维产品等高性能石英纤维纱及织物填补国内空白，达到了国际领先水平，拥有石英纤维类专利40余项，并先后主持起草了石英纤维各主导产品的标准。

长期的技术领先地位使得公司成为国际、国内石英纤维行业的标杆，多次获得国家相关部委和省政府的表彰。菲利华现已成为集研发、生产、销售为一体的全球较具规模优势的石英玻璃纤维制造商。

菲利华石英纤维产品主要有石英纤维纱系列、石英纤维布系列、超低介电石英纤维系列、石英棉系列、三维纺织预制件系列以及其它石英纤维制品系列。

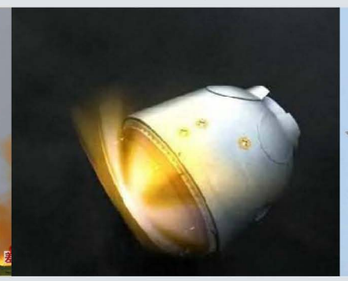
Quartz fiber is an inorganic nonmetallic fiber melted from high purity quartz, with the characteristics of excellent electric insulation, heat resistance, mechanical property, which is widely used in aviation, aerospace, semiconductor industry and for the application of heat insulation, electronic circuits, high temperature filtration, etc.

Shashi quartz glass factory, the predecessor of Feilihua, successfully produced the single filamnet diameter 7–20 um quartz fiber and high purity quartz wool back to the year 1979.

After more than 40 years' development, Feilihua has developed and produced over 40 types of high performance quartz fiber yarn and fabrics. The hollow quartz fiber product, ultra-fine diameter quartz fiber yarn, ultra-low dielectric quartz fiber and high performance quartz yarn and fabrics have filled the domestic gap and reached the international leading level. Feilihua has more than 40 patents of quartz fiber and has presided over the draft of the main quartz fiber products standards.

With it's long-term leading position in technology, the company has become a benchmark in the quartz fiber industry both at home and abroad, and has been granted many commendations from the relevant national ministries and commissions and the provincial government. Feilihua has become a domestic quartz fiber manufacturer with scale advantages integrating research and development, production and sales.

The quartz fiber products of Feilihua mainly include quartz fiber yarn series, quartz fiber cloth series, ultra-low dielectric quartz fiber series, quartz cotton series, three-dimensional textile preforms series and other quartz fiber products series.



石英纤维产品目录 Quartz Fiber & Fabric Content

系 列 Series	产 品 Products
石英纤维纱 Quartz Fiber Yarn	纱、无捻纱、空心纱、超细纱、耐高温纱、短切石英纤维、超短石英纤维、缝纫线 Quartz fiber yarn, Quartz roving, Hollow quartz fiber yarn, Superfine quartz fiber yarn, Heat Resistant quartz fiber yarn, Chopped quartz fiber, Ultrashort quartz fiber, Quartz fiber sewing thread
石英纤维布 Quartz Cloth	布、空心布、超薄布、网格布、2.5D布、无纬布、带、彩色石英纤维织物、导电石英纤维布 Quartz cloth, Hollow quartz cloth, Ultrathin quartz cloth, Mesh quartz cloth, 2.5D quartz cloth, Conductive quartz fiber cloth
超低介电石英纤维 Ultra-low dielectric quartz fiber	超低介电石英玻纤纱、超低介电石英玻纤布 Ultra-low dielectric quartz fiber yarn、Ultra-low dielectric quartz fiber fabric
石英棉 Quartz Wool	棉、棉毡、棉毡环、棉条 Quartz wool, Quartz felt, Quartz felt ring, Quartz sliver
三维纺织预制件 3D Textile Preforms	三维机织预制件、三维编织预制件、三维针刺预制件、三维缝合预制件 3D woven preforms, 3D braided preforms, 3D Needle Punched Preforms, 3D stitched preforms
其它石英纤维制品 Other Quartz Fiber Products	套管、绳、混纺纤维、混编织物 Sleeving, Rope, Blended textile Fiber, Mixed woven fabric

浸润剂 Sizing Agent

石英纤维拉制时需要在纤维表面涂覆浸润剂以保护表面，利于进一步加工。浸润剂通常具有以下功能：

Quartz fiber need to be coated with sizing agent to protect the surface, so as to facilitate further processing. Sizing agent usually has following functions:

- 粘结集束性，赋予石英纤维丝集束及优异的纺织工艺性，以加工成各类纱线及织物。
- 良好的界面结合性，提高纤维与基体树脂的界面结合力，提升复合材料的力学性能。

- Adhesive bunching, giving quartz fiber yarn bunching and excellent textile technology, in order to process into various yarns and fabrics.
- Good interface bonding, improve the interface bonding force between fiber and matrix resin, improve the mechanical properties of composite materials.

不同类型的浸润剂可以赋予石英纤维不同的使用特性。菲利华石英纤维可搭配的浸润剂主要类型如下：

Different type of sizing agent can attach quartz fiber different characteristics. The main types of sizing agents available with quartz fiber are as follows:

类型 Type	特性 Characteristics
环氧型 Epoxy	环氧纺织型，易去除。 Epoxy textile type, easy to be removed. 环氧K纺织增强型，可用于大多数纺织工艺和复合材料应用，与环氧树脂具有良好的相容性，也适用于氰酸酯树脂、酚醛树脂、乙烯基脂、聚酰亚胺等树脂。 Epoxy K textile enhancement, has good compatibility with epoxy resins, can be used in most textile processes and composite applications, and is also suitable for cyanate resin, phenolic resin, vinyl resin, and polyimide resin.
聚氨酯型 Polyurethane	具有优异的耐磨性，多用于纤维防护织物。可用于制作石英缝纫线、编织套管等。 Excellent in wear resistance, mostly used for fiber protective fabrics, and can be used to sewing thread, quartz sleeving and so on.
聚四氟乙烯型 Teflon	优异的滑爽性，但与树脂结合能力较弱。 Excellent in smoothness, weak ability to bond with resin.
酚醛型 Phenolic	增强纺织型，特别适用于酚醛树脂，也适用于环氧树脂。 Reinforced textile type, especially suitable for phenolic resin, also suitable for epoxy resin.
聚酯型 Polyester	与不饱和聚酯树脂、乙烯基树脂具有良好的相容性，常温固化。 Good compatibility with unsaturated polyester resin and vinyl resin, cured at room temperature.
淀粉型 Starch	纺织型，可经热清洗去除，力学性能保留率更高。 Textile type, can be removed by hot cleaning,retain higher mechanical properties.

成分与性能 Composition and Property

主要化学成分：SiO_2 Main chemical composition：SiO_2

*本表为石英玻璃典型参数

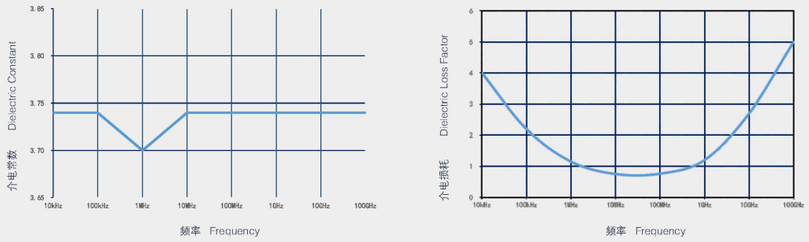
物理性能 Physical Properties		
密度	Density	2.2 g/cm^3
莫氏硬度	Mohs Hardness	7
泊松比	Poisson’s Ratio	0.16
超声波传播速度 (纵向)	Ultrasonic Propagation velocity (vertical)	5960 m・s^{-1}
超声波传播速度 (横向)	Ultrasonic Propagation velocity (horizontal)	3770 m・s^{-1}
电学性能 Electrical Properties		
10GHz介电常数	10GHz Dielectric Constant	3.74
10GHz介电损耗	10GHz Dielectric Loss Factor	0.0002
介电强度	Dielectric Strength	≈3.7 × 10^{7}V・m^{-1}
20℃时电阻率	Electrical Resistivity (20℃)	1 × 10^{20} Ω・m
800℃时电阻率	Electrical Resistivity (800℃)	6 × 10^8 Ω・m
1000℃时电阻率	Electrical Resistivity (1000℃)	1 × 10^8 Ω・m
热学性能 Thermal Properties		
热膨胀系数	Thermal Expansion Coefficient	54 × 10^{-7}K^{-1}
20℃时比热容	Specific Heat at 20℃	7 × 10^{2}J・Kg^{-1}・K^{-1}
20℃时导热系数	Thermal Conductivity at 20℃	1.38 W・m^{-1}・K^{-1}
软化点	Softening Point	1700 ℃

Feilihua 菲利华
股票代码: 300395

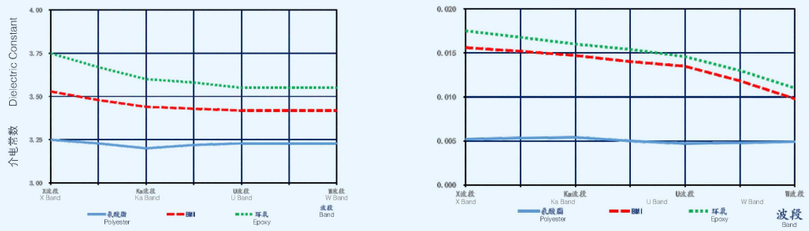
QUARTZ

电学性能及应用 Electrical Properties and Applications

石英玻璃在不同频率下的介电常数和介电损耗
Dielectric constant and loss factor of quartz glass at different frequencies.



石英纤维在不同树脂体系下的宽频介电性能
Broadband dielectric properties of quartz fiber in different resin systems.



石英纤维在非金属矿物质纤维中被公认为最佳的介电性能材料，其介电常数和介电损耗是迄今为止所有矿物纤维中最好的，并且在高频、高速和高温下仍能保持这些优异的性能。石英纤维密度低、吸湿率低，且具有优良的力学性能，被认为是雷达罩、天线窗和低介电相关应用的首选材料。

Quartz Fiber are mineral fiber with the best dielectric constant and loss factor, considered to be the best dielectric property material in non-metallic minerals, can maintain these excellent properties at high frequency, high speed and high temperature.

Quartz fiber has low density, low moisture absorption and excellent mechanical properties, considered to be the perferred material for radomes, antenna windows, and low dielectric related applications.

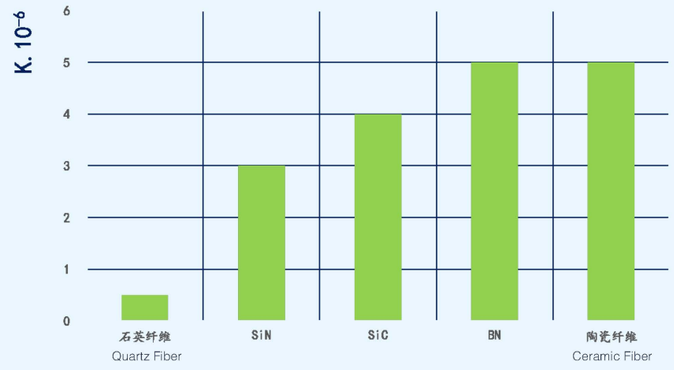
目前，利用其电学性能主要应用有：

At present, the main applications of electrical properties :

雷达罩 Radome	天线窗 Antenna window	天线口盖 Antenna port cover	卫星天线 Satellite antenna	高频高速印刷电路板 High frequency high speed printed circuit board

热学性能及应用 Thermal Properties and Applications

热膨胀系数 Thermal Expansion Coefficient



石英纤维是一种非晶体纤维，其主要成分二氧化硅的软化点约为1730℃，石英纤维的长期使用温度可达1200℃。

石英纤维在1700℃时仍有非常高的粘度，当温度继续升高时，石英纤维开始升华，同时带走大量的热量。因此石英纤维是一种极佳的耐烧蚀材料，这一特点是其他纤维不可比拟的。

石英纤维温度连续或长期超过982℃时，会有方石英晶体的析出，使纤维变硬，力学性能下降，但其物理形态的隔热性能基本不变。

Quartz fiber is an amorphous fiber, the main component is SiO_2 , the softening point is about 1730℃, the long-term service temperature can reach 1200℃.

Quartz fiber still has high viscosity at 1700℃, and when the temperature continues to rise, the quartz fiber begins to sublimate while taking away a lot of heat. Therefore, compared to other fibers,quartz fiber is an excellent ablative material.

When the temperature continuously or for long time exceeds 982℃, quartz crystal may precipitate in the fiber, which hardens the fiber and decreases the mechanical properties, but its physical form and thermal insulation properties basically unchanged.

石英纤维还具有优良的抗热冲击性能，如将它加热到1000℃后，迅速投入水中急冷，其物理形态不发生明显变化。

石英纤维的热膨胀系数是所有矿物质中最低的，且各向保持一致，轴向和径向几乎没有差异。石英纤维在高温下几乎没有收缩，在1000℃下1000小时后收缩率小于1.5%。

石英纤维具有优异的耐高温、耐烧蚀、防热隔热性能，热膨胀系数低，并且其抗热震性好、导热系数低，在高温下几乎没有收缩。

Quartz fiber also has excellent thermal shock resistance，For example, after heating it to 1000℃ , quickly putting it into cold water, its physical form does not change significantly.

The thermal expansion coefficient of quartz fiber is the lowest of all minerals, consistent in all directions, there is almost no difference between axial and radial direction. The shrinkage rate is less than 1.5% after 1000 hours at 1000 ℃.

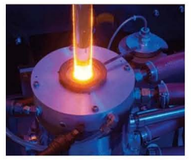
Quartz fiber has excellent high temperature resistance, ablative resistance, heat insulation performance, low linear expansion coefficient, good shock resistance, low thermal conductivity, and almost no shrinkage at high temperature.

目前，利用其热学性能主要应用有：

At present,the main applications of thermal properties:

工业绝热材料 Industrial insulation materials	高温气体过滤 High temperature gas filtration	高温炉衬 High temperature furnace lining	烧蚀材料 Ablative materials	火箭热防护 Rocket thermal protection
航行器发动机环境 Vehicle engine environment	发射装置热防护 Heating device thermal protection	飞机机身热防护 Aircraft fuselage thermal protection	发射台绝热 Launch pad thermal insulation	



化学性能及应用 Chemical Properties and Applications

石英纤维以其化学稳定性尤其是耐酸性而闻名，除氢氟酸和热磷酸外，其他液态与气态的氢卤酸和普通酸类及弱碱对其影响很小。同时，石英纤维也不溶于水和有机溶剂。

Quartz fiber is famous for its chemical stability, especially acid resistance. In addition to hydrofluoric acid and hot phosphoric acid, other liquid and gaseous halogen acids and common acids and weak bases have little effect on it. At the same time, quartz fiber is also insoluble in water and organic solvents.

目前，利用其化学性能主要应用有：

At present, the main applications of chemical properties :

实验分析用过滤介质 Filter media for experimental analysis	大气检测用过滤介质 Filter media for atmospheric detection	热酸气体的过滤 Hot acid gas filtration	耐酸复合物的加固 Reinforcement of acid-resistant compounds

健康与安全 Health and Safety

石英纤维是一种由高纯SiO_2组成的无定型纤维（单纤维长度＞20μm，长径比远大于3），目前未查询到权威机构发布的关于其对人体生命构成危害的研究信息。

Quartz fiber is an amorphous fiber composed of high purity SiO_2 (fiber length ＞20 μ m, length-diameter ratio greater than 3). At present, no research information on the harm to human life issued by authoritative institutions.

Feilihua

石英纤维纱系列
Quartz Fiber Yarn Series

石英纤维原丝经过加捻合股而成。

Made of twisting and joining quartz strands.

可用于以下纺织过程：

- 集束合股
- 纺织和编织
- 纱线缠绕工艺

Following textile process:

- Cluster and stock
- Textile and weaving
- Yarn and winding process

*菲利华石英纤维产品可按以下规格提供，也可按需求进行定制。

Feilihua quartz fiber yarns are available in the following specifications , orther requirements can be customized.

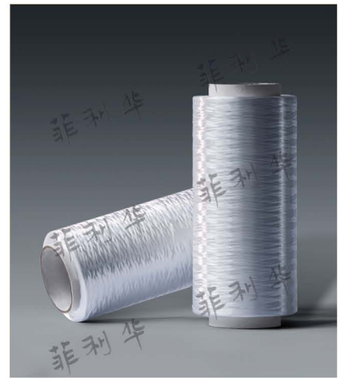
石英纤维纱 Quartz Fiber Yarn

代码 Code	二氧化硅含量（%） SiO_2 content	单丝直径（μm） Filament diameter	线密度（tex） Linear density	捻度（T/m） Twist
FQCA	≥99.95	7.5	10–1200	40–140
FQCB	≥99.90	7.5	10–1200	40–140
FQCC	≥99.0	9.0	30–800	50 / 70
FQCD	≥98.0	10.5 / 13	28–800	50 / 70

石英纤维无捻纱 Quartz Roving

采用石英玻璃棒经拉丝、烘干制得原丝，原丝不加捻合股而成。

Drying the quartz strands which drawn from quartz glass rod, then directly plying without twisting.



可用于以下纺织过程： Following textile process:

- 集束合股工艺 • Cluster and stock
- 纺织编织工艺 • Textile and weaving
- 缠绕成型工艺 • Yarn and winding process

代码 Code	线密度 (tex) Linear Density	捻度（T/m） Twist
FQR	30–2400	≤10

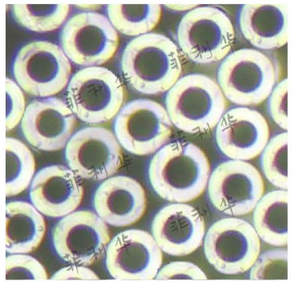
*可根据客户需求定制成A、B、C、D、空心型。

Can be customized into A/B/C/D and hollow type on demand.

空心石英纤维纱 Hollow Quartz Fiber Yarn

空心石英纤维原丝经过加捻合股而成。

Made of twisting and joining hollow quartz strands.



可用于以下纺织过程： Can be used in the following textile process:

- 集束合股工艺 • Cluster and stock
- 纺织编织工艺 • Textile and weaving
- 缠绕成型工艺 • Yarn and winding process

产品特点： Products characteristics:

- 更低的介电常数 • Lower permittivity
- 更低的介电损耗 • Lower dielectric loss
- 更好的隔热性能 • Better insulation
- 更低的体积密度（比常规低10%–25%） • Lower volume density (10-15 percent lower than usual)

代码 Code	二氧化硅含量（%） SiO_2	单丝直径（μm） Filament diameter	空心率（%） Hollow rate	空心度（%） Hollowness	线密度（tex） Linear density	捻度（T/m） Twist
FHQC	≥99.90	9–15	≥95	32–50	11–800	50

Feihua 菲利华
股票代码: 300395

QUARTZ

超细/极细石英纤维纱
Superfine/Ultrafine Quartz Fiber Yarn

采用高纯石英玻璃棒经拉丝、烘干、捻线制备出的具有更小单丝直径且连续的石英纤维。
Quartz fiber with continuous filaments and finer monofilament diameter，fabricated from high-purity quartz glass rod via drawing，drying and twisting proccesses.

可用于以下纺织过程：
Following textile process:

- 集束合股工艺 • Cluster and stock
- 纺织编织工艺 • Textile and weaving
- 缠绕成型工艺 • Yarn and winding process

产品特点：
Products Characteristics:

- 纤维单丝直径仅更细，具有更大的比表面积
- Finer fiber monofilament diameter and has larger specific surface area.
- 更优异的力学性能
- Better mechanical properties.

代码 Code	二氧化硅含量（%） SiO_2	单丝直径（μm） Filament diameter	线密度（tex） Linear density	捻度（T/m） Twist	备注 Note
FUQC	≥99.90	5.0-6.0	6-800	40-140	超细石英纤维纱 Superfine Quartz Fiber Yarn
FEQC	≥99.90	3.5-5.0	4-190	40-140	极细石英纤维纱 Ultrafine Quartz Fiber Yarn

耐高温石英纤维纱
Heat Resistant Quartz Fiber Yarn

针对石英纤维在耐温领域的应用需求特别开发的耐高温高性能石英纤维。
Heat resistant quartz fiber have higher temperature and higher performance , specially developed for high-temperature resistance.

产品特点： Products Characteristics:

- 由特殊工艺生产，具备更好的耐高温性能。
- 相对于常规石英纤维，耐温性能可提升约200℃。
- Produced by special technology, has better heat resistance
- Compared with the conventional quartz fiber, the temperature resistance can be improved by 200℃.

代码 Code	单丝直径（μm） Filament diameter	线密度（tex） Linear density	捻度（T/m） Twist
HTSQT®	7.5	10-800	40-140

石英短切丝、纱
Chopped Quartz Filament and Yarn

将石英纤维原丝或纱切成预定的长度的丝或纱。分为含浸润剂和不含浸润剂两种，可根据客户要求定制。
Cut quartz filament or yarn into predetermined length. The product is divided into two types:with and without sizing agent, which can be customized according to customer requirements.

典型应用
- 与酚醛树脂、聚酰亚胺树脂等耐高温树脂复合制备短切模压件，用作烧蚀材料
- 石英陶瓷罩
- 湿法毡、表面毡
- 进一步加工成针刺类产品，用作防隔热材料

Typical application:
- Compounded with phenolic resin, polyimide resin and other high temperature resistant resins to prepare short-cut molding parts, used as ablative materials
- Quartz ceramic cover
- Wet felt, surface felt
- Further processing into acupuncture products, used as insulation materials

代码 Code	单丝直径（μm） Filament diameter	纤维长度（mm） Fiber length
FQS	5-14	0.5 - 200

超短石英纤维
Ultrashort Quartz Fiber

石英纤维通过特殊工艺制成，长度小于300μm。
Quartz fibers are produced through a special process with a length of less than 300 micrometers.

代码 Code	纤维长度（μm） Fiber length
FQM	< 300

石英纤维缝纫线
Quartz Fiber Sewing Thread

将特定浸润剂石英纤维原丝通过高捻度平衡定型而成的纱线。
Yarn made from quartz fiber filaments with a specific sizing agent through high-twist balanced setting.

代码 Code	单丝直径（μm） Filament diameter	线密度（tex） Linear density	捻度（T/m） Twist
FQST	6-8	133-800	140-380

产品特点：
- 具备良好的力学性能、平滑性、柔韧性和耐磨性
- 根据使用需求可进行定制化生产。

Products Characteristics:
- Good mechanical properties, smoothness, softness and wear resistance.
- Coating can be customized according to the requirement.

Feilihua

石英纤维布系列 Quartz Cloth

采用石英纤维纱机织而成。
Woven by quartz fiber yarn.

组织结构通常有：平纹、斜纹、缎纹。
Type of weave: plain, twill, satin.

典型应用：

- 飞机、卫星雷达罩
- 卫星天线
- 高频印刷电路板
- 各种高温环境隔热

Typical Application

- Aircraft & satellite radomes
- Satellite antennas
- High-frequency printed circuit board
- Thermal insulation in high-temperature environment

QUARTZ

石英纤维布 Quartz Cloth

代码 Code	厚度(mm) Thickness	单位面积质量（g/m²） Mass per unit	幅宽（cm） Width	组 织 Type of weave
FQW	0.06	58	30～140	平纹、斜纹 plain、twill
	0.08	73	30～140	平纹、斜纹 plain、twill
	0.10	108	30～140	平纹、斜纹 plain、twill
	0.12	112	30～140	平纹、斜纹 plain、twill
	0.14	143	30～140	平纹 plain
	0.14	135	30～140	斜纹 twill
	0.20	190	30～140	平纹、斜纹 plain、twill
	0.20	216	30～140	斜纹、缎纹 twill、satin
	0.22	230	30～140	斜纹、缎纹 twill、satin
	0.25	252	30～140	斜纹、缎纹 twill、satin
	0.28	285	30～140	斜纹、缎纹 twill、satin
	0.30	306	30～140	缎纹 satin
	0.35	350	30～140	斜纹、缎纹 twill、satin
	0.40	395	30～140	平纹、斜纹、缎纹 plain、twill、satin
	0.50	511	30～140	斜纹、缎纹 twill、satin
	0.60	606	30～140	方平、缎纹 basket、satin
	0.70	712	30～140	缎纹 satin
	0.80	830	30～140	缎纹 satin
	1.00	1100	100～140	八枚缎纹 satin

*纱线规格、布面组织结构可定制。 Yarn specifications and cloth type of weave can be customized.

空心石英纤维布 Hollow Quartz Cloth

采用空心石英纤维纱机织而成。 Woven by hollow quartz fiber yarn.

代码 Code	厚度（mm） Thickness	幅宽（cm） Width	组织 Type of weave
FHQW	0.09–0.8	100–140	平纹、斜纹、缎纹 plain、twill、satin

超密石英纤维布 Ultra-dense Quartz Cloth

采用细规格石英纤维纱经机织平纹结构而成，纱线排布密度大，纤维覆盖率高，结构致密稳固，不易变形。

Made from fine-gauge quartz fiber yarn and fabricated by plain loom weaving. It boasts ultra-high yarn packing density and full fiber coverage, featuring solid structural stability and permanent deformation resistance.

应用方向：·耐高温蜂窝芯基材

Application Direction：· High-temperature resistant honeycomb substrate.

代码 Code	厚度（mm） Thickness	单位面积质量（g/m^2） Mass per unit	幅宽（cm） Width	组织结构 Type of weave
FQW	0.055	55	30–100	平纹 plain
	0.07	72	30–100	平纹 plain
	0.08	85	30–100	平纹 plain
	0.10	108	30–100	平纹 plain

超薄石英纤维布 Ultrathin Quartz Cloth

采用石英纤维纱织造而成，厚度＜0.06mm。
更薄可做到0.022mm。
具有更低的面密度，可设计性更强。

Woven by quartz fiber yarn, thinkness less than 0.06mm , thinner to achieve 0.022mm, with lower surface density, more designable.

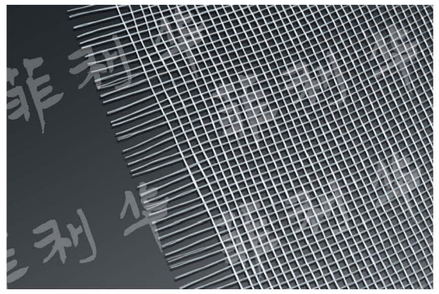
应用方向：
- 雷达罩
- 天线窗
- 高频高速覆铜板

Application Direction：
- Satellite radome
- Antenna window
- Copper-clad plate with high-frequency and high-speed

代码 Code	厚度（mm） Thickness	单位面积质量（g/m^2） Mass per unit	幅宽（cm） Width	组织结构 Type of weave
FQWUT	0.022	20	100–140	平纹 plain
	0.043	38	100–140	平纹 plain
	0.050	52	100–140	平纹 plain

*其它规格可按客户要求定制。 Other specifications can be customized according to customer requirements.

石英纤维网格布 Mesh Quartz Cloth



采用石英纤维纱经机织而成，
具有较大的网络孔隙，
更利于树脂，填料浸透。

Woven by quartz yarn, has lager network of pores, and more conducive to resin and filler penetration.

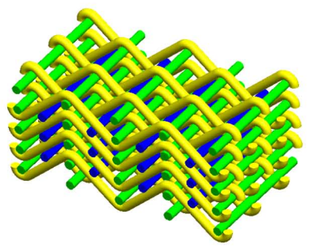
代码 Code	单位面积质量（g/m^2） Mass per unit	经纬密（根/cm） Warp density× Weft density	网格尺寸（mm） Mesh size	幅宽（cm） Width	组织结构 Type of weave
FQN	85	5×5	1.2×1.2	100–140	平纹 plain
	100	6×6	0.85×0.85	100–140	平纹 plain
	100	3.7×3.7	2×2	100–140	纱罗 leno
	40	7×7	1×1	100–140	平纹 plain

*其它规格可按客户要求定制。 Other specifications can be customized according to customer requirements.

高性能2.5D机织布 High-performance 2.5D Quartz Cloth

采用自动化机织设备生产具有一定厚度的2.5D结构石英纤维机织布。

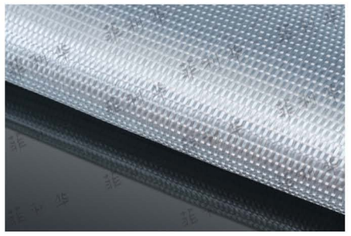
Woven by automatic weaving equipment with a certain thickness.



应用优势： Application Advantage：
- 具有更好的耐烧蚀性能
- Better ablative resistance.
- 具有更好的层间性能
- Better interlayer performance.

代码 Code	厚度（mm） Thickness	幅宽（cm） Width	单位面积质量（g/m^2） Mass per unit
FQW2.5D	0.35–17	30–197	300–20000

石英纤维无纬布 Weft-free Quartz Cloth



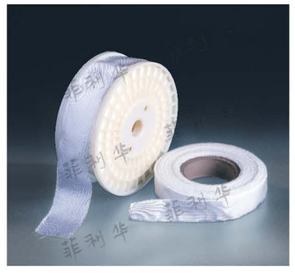
采用石英纤维纱经机织而成，具有低纬向密度。

Woven quartz fiber yarn into weft-free cloth by machine.

代码 Code	厚度（mm） Thickness	单位面积质量（g/m^2） Mass per unit	幅宽（cm） Width	组织结构 Type of weave
FQW	0.2	205	100–140	平纹 plain
	0.33	330	100–140	平纹 plain
	0.80	798	100–140	平纹 plain

*其它规格可按客户要求定制。 Other specifications can be customized according to customer requirements.

石英纤维带 Quartz Fiber Ribbon



采用石英纤维纱经机织而成的带状织物。

Woven quartz fiber yarn into ribbon fabric by machine.

代码 Code	厚度（mm） Thickness	幅宽（mm） Width	组织结构 Type of weave
FQT	0.1–1.0	15–100	平纹、斜纹 plain、 twill

*其它规格可按客户要求定制。Other specifications can be customized according to customer requirements.

彩色石英纤维织物 Colored Auartz Fiber Fabric

采用彩色石英纤维经提花织机织造而成，可织造各种立体图案，用于制作具有功能性、装饰性、环保性的高端墙面装饰材料。

Woven with colored quartz fibers using a jacquard loom，this fabric can produce intricate three–dimensional patterns，it is ideal for crafting high–end wall decor that combines functionality, aesthetic appeal, and eco–friendliness.

*可根据客户需求定制各种图案。

Custom patterns are available based on customer requirements.

导电石英纤维布 Conductive Quartz Fiber Cloth

高性能复合材料，由高纯度石英纤维编织基布经特殊处理工艺表面覆金属（如铜、镍、银等）处理而成，是替代传统金属网布的理想化轻量解决方案。

It is a high–performance composite material，fabricated by subjecting high–purity quartz fiber woven base fabric to Special Finishing processes for surface metallization with metals such as copper、nickel or silver. It serves as an ideal lightweight alternative to traditional metal mesh fabrics.

外观：

表面光洁，颜色随复合类型的不同有所差异。

Appearance:

The surface presents a smooth finish,and the color differs depending on the composite type.

代码 Code	基材石英布厚度（mm） Thickness of quartz fiber fabric substrate	单位面积质量(g/m^2) Mass per unit	导电性能(mΩ/□) Electrical conductivity	屏蔽性能（dB） Shielding Effectiveness
FMQW	0.05–0.2	50–250	⩽100	⩾60

*基材、面密度、金属镀层类型等可根据客户需求定制。 Base materials, areal density, and metal coating types can be customized according to customer requirements.

应用优势：

结合了石英纤维的耐高温、
低膨胀系数以及金属的高导电性，
电磁屏蔽和耐腐蚀的特性。

Application Advantage:

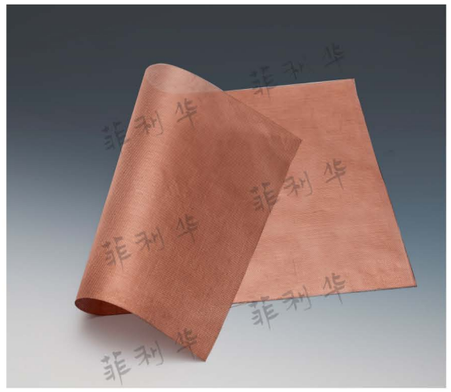
- Combines the high-temperature resistance and low thermal expansion coefficient of quartz fiber with the high conductivity, electromagnetic shielding capability, and corrosion resistance of metals.

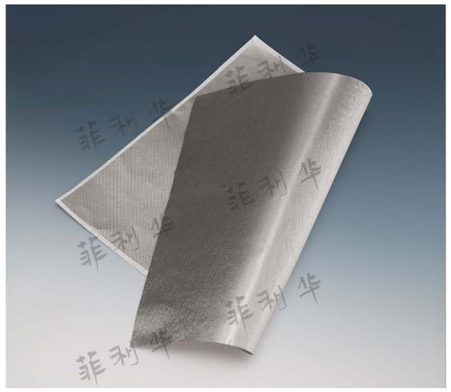
应用方向：

卫星电磁屏蔽层、发动机隔热组件、
电子通讯、燃料电池双极板。

Application Direction ：

- Satellite electromagnetic shielding, engine thermal insulation components, electronic communications, fuel cell bipolar plate.





Feilihua

超低介电石英纤维
Ultra-low dielectric quartz fiber

超低介电石英玻纤纱
Ultra-low dielectric quartz fiber yarn

采用高纯石英玻璃棒经拉丝、烘干、捻线制备出的具有更小单丝直径的石英纤维，具有化学稳定性、耐高温、低介电、低膨胀等性能。

The quartz fiber with finer filament diameter was produced from high-purity quartz glass rods through drawing, drying, and twisting processes, exhibiting excellent chemical stability, high-temperature resistance, ultra-low dielectric properties, and low thermal expansion.

主要用于制造超低介电石英玻纤布，是下一代高频高速覆铜板增强材料优选，广泛应用于5G/6G通讯基站、高性能主板、数据中心高速互联系统、汽车自动驾驶电子控制单元、高端电子产品以及航空航天电子设备等尖端领域。

It is mainly used for manufacturing ultra-low dielectric quartz fiber cloth. It is the preferred reinforcing material for the next-generation high-frequency and high-speed copper-clad laminates ,and is widely applied in cutting-edge fields such as 5G/6G communication base stations, high-performance motherboards, high-speed interconnection systems in data centers, electronic control units for automotive autonomous driving, high-end electronic products, and aerospace electronic equipment.

产品代号 Product code	线密度（tex） Linear density	单丝直径（μm） Filament diameter	捻度（T/m） Twist	断裂强力（N/tex） Breaking strength	二氧化硅含量（%） SiO_2 content
FLH-QD1000	5±0.4	5.5±0.5	36±4	≥0.3	≥99.95
FLH-QD500	10±0.5	5.5±0.5	36±4	≥0.3	≥99.95
FLH-QDE1700	2.9±0.1	6.0±0.5	36±4	≥0.3	≥99.95
FLH-QDE1500	3.3±0.3	6.5±0.5	36±4	≥0.3	≥99.95
FLH-QE275	18.5±0.5	7.5±0.5	36±4	≥0.3	≥99.95
FLH-QE510	9.6±0.5	7.5±0.5	36±4	≥0.3	≥99.95
FLH-QE1020	4.86±0.4	7.5±0.5	36±4	≥0.3	≥99.95

*其他规格由供需双方商定。 Other specifications can be customized according to customer requirements.

超低介电石英玻纤布
Ultra-low dielectric quartz fiber fabric

采用超低介电石英玻纤纱织造而成，经过特殊处理后具有优异的绝缘性、耐高温性、尺寸稳定性、低介电、低膨胀等特性。

Woven from ultra-low dielectric quartz fiber yarn and specially treated, it exhibits excellent insulation properties, high-temperature resistance, dimensional stability, ultra-low dielectric characteristics, and minimal thermal expansion.

产品聚焦于前沿科技的核心赛道，深度赋能人工智能算法创新与大模型生态结构、高频通讯领域的6G技术突破以及航空航天领域的先进飞行器设计与深空探测技术发展，以尖端科技驱动行业变革与产业升级。

The product focuses on the core tracks of cutting-edge technologies, deeply empowers the innovation of artificial structure of large language models, contributes of 6G in the high-frequency communication field, and promotes the development of advanced aircraft design and deep-space exploration technologies in the aerospace field, driving industry transformation and industrial upgrading with cutting-edge technologies.

产品代号 Product code	经纬密（根/inch） Warp density× weft density	纱线规格 Yarn specification	厚度（mm） Thickness	单位面积质量（g/m^2） Mass per unit	二氧化硅含量（%） SiO_2 content
Q1027	75*75	FLH-QDE1500	0.024	19.5	≥99.95
Q1035	66*68	FLH-QE1020	0.028	26	≥99.95
Q1078	54*54	FLH-QE510	0.045	42	≥99.95
Q2118	65*62	FLH-QE275	0.085	95	≥99.95

*其他规格由供需双方商定。 Other specifications can be customized according to customer requirements.

Feilihua

石英棉系列 Quartz Wool

石英棉是由石英玻璃棒熔融喷吹而成的非连续不定型石英纤维。石英棉质地柔软蓬松，具有良好的保温隔热性能。

Quartz Wool is a discontinuous and amorphous quartz fiber, made by melting and blowing quartz glass rods. Quartz wool is soft and fluffy, with good thermal insulation performance.

典型应用

- 热保护系统
- 航空用隔热材料
- 热酸液体和气体的过滤
- 熔炉密封和绝缘

Typical Application:

- Thermal protection systems
- Aeronautical insulation materials
- Filtration of hot acid liquids and gases
- Furnace sealing and insulation

石英棉 Quartz Wool

代码 Code	单丝直径（μm） Filament diameter			
FQWO	1–3	3–5	5–8	9–14

*规格和包装可以根据客户要求定制。 Specifications and packaging can be customized according to customer requirements.

石英棉条 Quartz Sliver

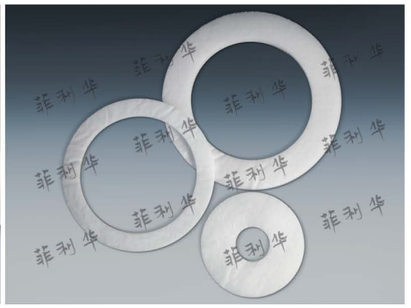
石英棉经加工而成的条状产品。具有良好的保温隔热性能。

Roll quartz wool into long strip, has good thermal and insulation performance.

代码 Code	单丝直径（μm） Filament diameter	长度（mm） Length
FSWS	3–5	≤2000

*规格尺寸可按客户要求定制。 Size can be customized according to customer requirements.

石英棉毡、棉毡环 Quartz Felt 、Quartz Felt Ring



采用石英棉与有机粘结剂加工而成，可制成平板状或环状。具有优良的绝缘性、抗震性。

Processing quartz wool and organic adhesive into quartz felt , then cut into plate or ring shape,has excellent high–temperature insulation and good seismic resistance.

代码 Code	单丝直径（μm） Filament diameter	厚度（mm） Thickness	棉毡尺寸（mm） Felt Size	备注 Note
FQLDF	1–5 / 5–8	1–10	300×300 450×450 600×600	棉毡 Quartz Felt
FSWR	3–8	2、5	ϕ125*ϕ49 ϕ214*ϕ70	棉毡环 Quartz Felt Ring

*可按客户要求定制。 Can be customized according to customer requirements.

石英滤膜 Quartz Filter

石英棉可经湿法成型工艺制成滤纸、滤筒、平板、卷材、预制件等，用于仪器分析、气体过滤、环境采样、保温隔热等领域。

Quartz wool can be made into filter paper, filter catridge, plate, coil, and preformed parts,etc. through wet forming process, which is used in instrument analysis, gas filtration, environmental sampling, thermal insulation and other fields.

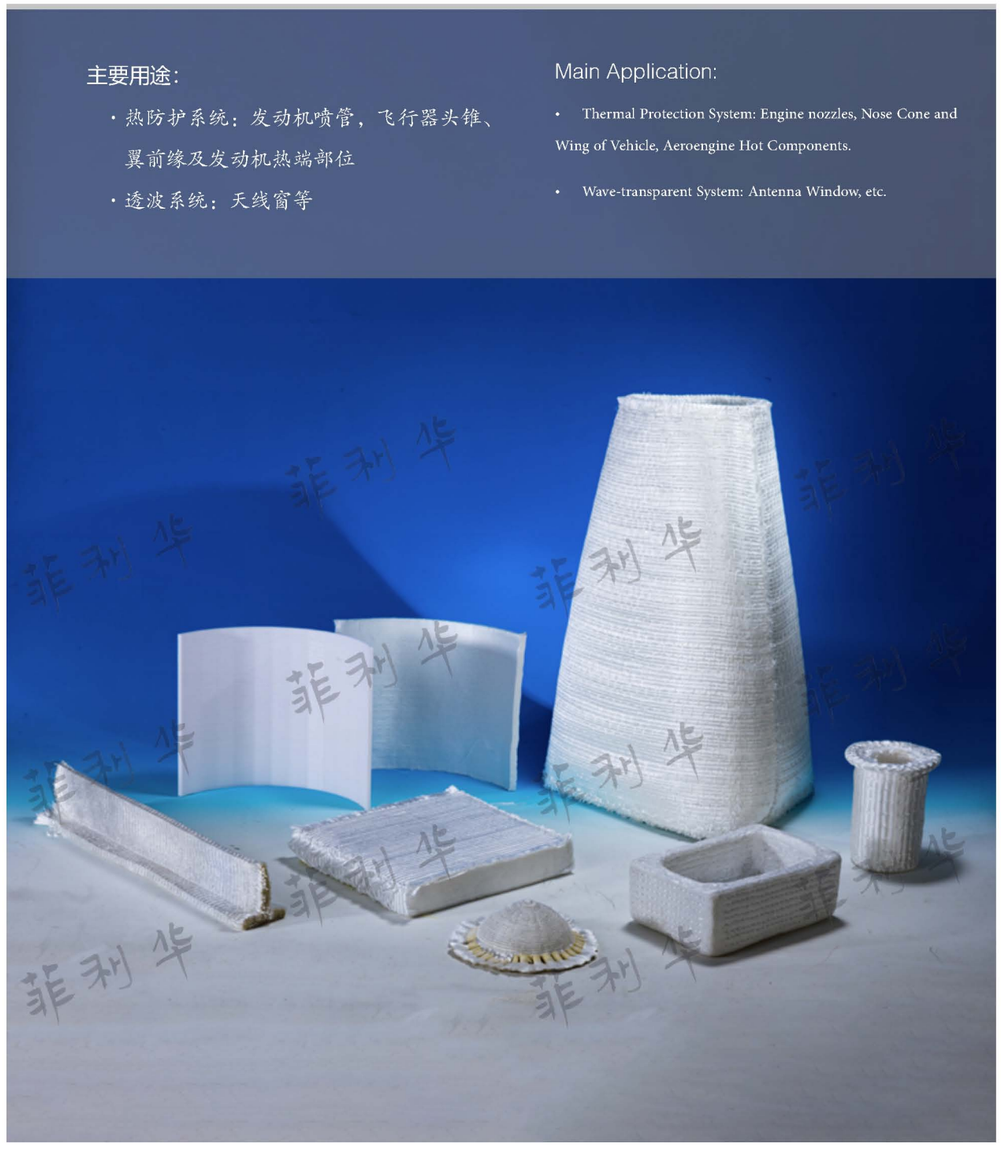
三维纺织预制件系列
3D Textile Preforms

主要用途：

- 热防护系统：发动机喷管，飞行器头锥、翼前缘及发动机热端部位
- 透波系统：天线窗等

Main Application:

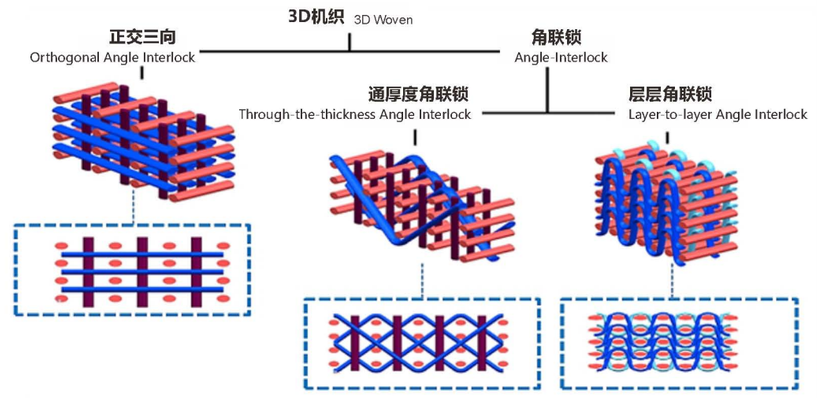
- Thermal Protection System: Engine nozzles, Nose Cone and Wing of Vehicle, Aeroengine Hot Components.
- Wave-transparent System: Antenna Window, etc.



Feilihua

三维机织预制件系列 3D Woven Preforms

2.5D角联锁结构系列	Interlock structure
正交三向结构系列	Orthogonal Structure
蜂窝结构系列	Honeycomb Structure Series



3D机织物为各向异性材料，易实现复杂结构件的仿形织造，可设计性强。根据复合材料各方向的力学性能要求，灵活设计经纬纱线的含量，满足产品的力学性能。同时根据产品后期的工艺要求，可调整织物的刚性，使其适应不同复合材料的制备工艺和服役要求。

The 3D woven preforms is an anisotropic material, which is easy to reach the near–net shape weaving of complex structural parts and has strong designability. According to the mechanical properties of the composite material in all directions, the content of warp and weft yarn is flexibly designed to meet the mechanical properties of the product. At the same time, according to the process requirements in the later stage of the product, the rigidity of the fabric can be adjusted to adapt to the preparation process and service requirements of different composite materials.

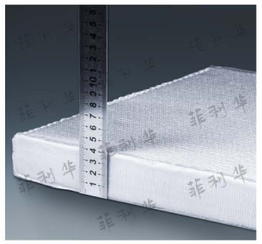
2.5D结构系列 3D Structure Series

可实现 高厚2.5D平板织物的自动化织造。
可实现 变截面仿形织物的自动化织造。
可实现 封顶整体仿形织物的低成本织造。

Achievable
Automative weaving of high thickness 3D plate preforms;
Automatic weaving of near-net shape preforms with variable section;
Low cost weaving of capped integral near-net shape preforms.

应用优势：具有更好的耐烧蚀性能，具有更好的层间性能。

Application advantage: Better ablative resistance , better interlayer performance.



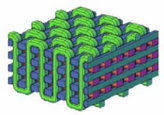
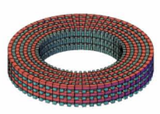
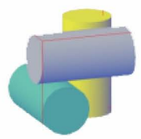
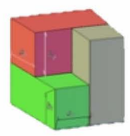
产品名称 Products	厚度（mm） Thickness	幅宽（mm） Width
2.5D高厚平板系列产品 3D high thickness plate series products	1–90	100–1300
2.5D仿形系列产品 3D near-net shape preforms	2.5D罩体系列、3D壳体系列等 3D cover series、3D shell shape series, etc.	

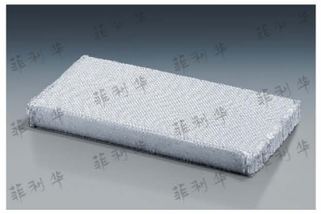
*可根据客户需求定制。 Can be customized according to customer requirements.

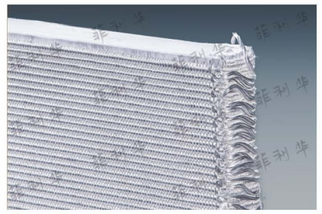
正交三向结构系列 Orthogonal Structure

可实现 80mm以内高密细纱纤维正交三向织物的织造。
可实现 150mm以内粗纱纤维正交三向织物的织造。

Achievable
Low linear density yarn(≤80mm), orthogonal structure.
High linear density yarn(≤150mm), orthogonal structure.





蜂窝结构系列 Honeycomb Structure Series

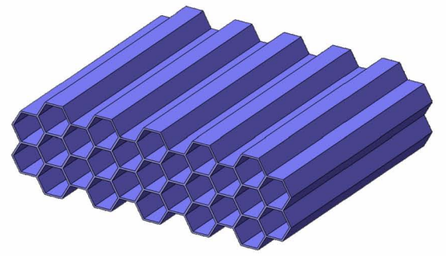
可实现 蜂窝织物自动化织造。
可实现 矩形、六边形、梯形结构蜂窝。

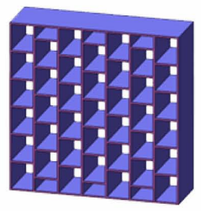
Achievable
Automated weaving of honeycomb fabric.
Rectangle、Hexagon、Trapezoidal structure honeycomb.

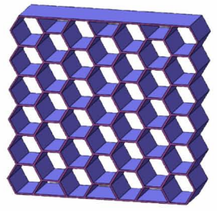
应用优势：

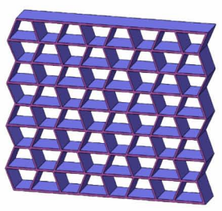
可设计性强，轻量化结构，适应于高温透波、高精度隔热等极端环境。

Application advantage:
High design flexibility, Lightweight structure, suitable for extreme environments such as high-temperature wave transmission and high-precision thermal insulation.




矩形蜂窝
Rectangular honeycomb


六边形蜂窝
Hexagonal honeycomb


梯形蜂窝
Trapezoidal honeycomb

蜂窝单元边长（mm） Side length of honeycomb cell	蜂窝单元壁厚（mm） Thickness of Honeycomb cell	幅宽（mm） Width
可定制 Customizable	0.03–4	≤700

Feilihua

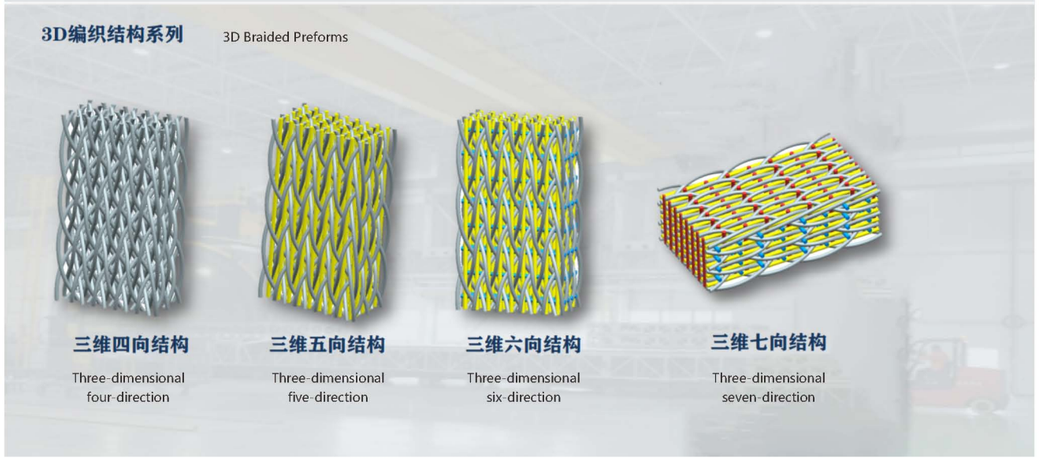
三维编织预制件　3D Braided Preforms

应用优势：

具有更好的耐烧蚀性能
具有更好的层间性能

Application Advantage：

Better ablation resistance.
Better interlaminar property.



三维整体编织技术在工艺上突出的特点是具有编织变截面或异形截面织物的能力，运用编织工艺和设备上的技术特点，通过改变编织底盘中携纱器的阵列形状和每个携纱器所载纱线的细度及其运动形式，能够按零件的形状和尺寸大小直接编织出三维预制件，进而保证零件整体结构性能。

三维编织产品一次整体成型，具有结构不分层、层间强度高、综合力学性能好的特点。

The outstanding feature of 3D braided technology is the ability to weave preforms with variable or irregular cross-section. By using the technical characteristics of weaving technology and equipment,3D prefabricated parts can be directly woven according to the shape and size of the parts by changing the array shape of the yarn carrier in the weaving chassis and fineness of the yarn carried by each yarn carrier and its movement form, and ensure the overall structural performance of the parts.

3D braided products are formed as a whole of at one time, which has the characteristics of non-layered structure, higher interlayer strength and better comprehensive mechanical properties.

三维编织平板系列
3D Braided Plate Series

厚度（mm） Thickness	幅宽（mm） Width	长度（m） Length
1–40	10–200	≤5

三维编织梁系列
3D Braided Beam Series

可实现
L型、T型和H型结构
不同结构组合外形

Achievable
L、T and H braided structures
Different structure combination shape

厚度（mm） Thickness	幅宽（mm） Width	长度（m） Length
1–40	10–200	≤5

三维编织异形系列
3D Near-net Shape Series

可实现
大尺寸异型结构

可实现
变截面异型结构

可实现
封顶技术

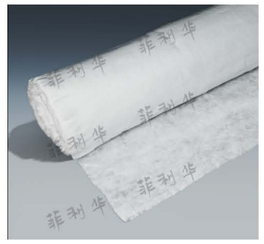
Achievable
Large size and heterogeneous structure
Variable section and shaped structure
The technique of capping

Feilihua

三维针刺预制件 3D Needle Punched Preforms

采用石英短切纤维经开松、梳理、针刺生产而成。
Made of quartz staple fiber by opening, combing and needling.

应用优势： 保温隔热性能优异；三维微孔结构、孔隙率高，气体过滤阻力小。
Application Advantage： good heat insulation, three-dimensional microporous structure, high porosity, low gas filtration resistance.



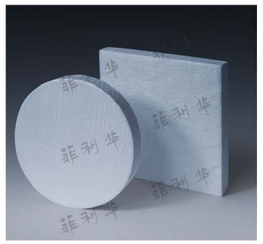
针刺网胎系列 Needled Felt Series

面密度（g/m²） Mass per unit	幅宽（mm） Width	长度（m） Length
70–400	1000	≤50

三维针刺平板系列 3D Needle Punching Plate Series

可实现 梯度密度结构
Gradient density can be achieved.

厚度（mm） Thickness	体积密度（g/cm³） Volume density
1–200	0.1–0.85



异型三维针刺系列 Special-shaped 3D Needle Punching Preforms Series

Achievable
Large size and heterogeneous structure
Variable section and shaped structure
The technique of capping

可实现
大尺寸异型结构

可实现
变截面异型结构

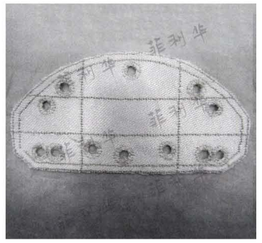
可实现
封顶技术

Feilihua

三维缝合预制件 3D Stitched Preforms

采用自动缝纫技术、实现不同层合织物的整体成型。
Automatic stitched technology , realize the whole forming of different laminated preforms.

应用优势： 可实现异形曲面的整体缝合。
Application Advantage： 可实现包括2D织物、2.5D结构织物、针刺结构织物的三维整体缝合。
integral stitching of special-shaped surface.
3D integral stitching including 2D , 2.5D and needle-structured preforms.



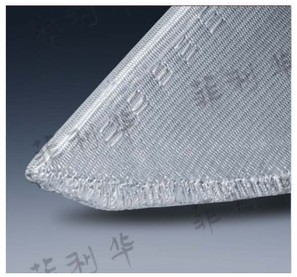
缝合平板系列 Stitched Plate Preforms Series

自动化缝合设备
Automatic stitched equipments

可实现
异形平面的缝合
不同结构的组合式缝合

Achievable
Stitching of heteromorphic plane
Stitching of different structures

异型缝合系列 Irregular Stitched Preforms Series



可实现
大尺寸异型结构

可实现
变截面异型结构

可实现
封顶技术

Achievable
Large size and heterogeneous structure
Variable section and shaped structure
The technique of capping

针刺缝合系列 Needle Stitched Series

可实现 梯度密度结构 Gradient density can be achieved.

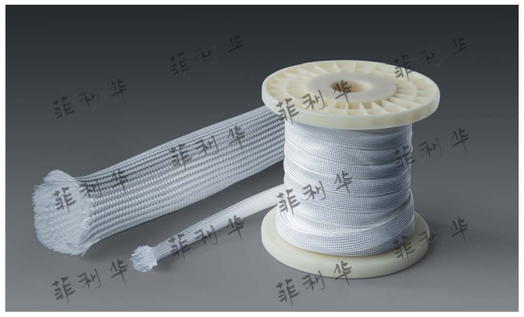
厚度（mm） Thickness	体积密度（g/cm³） Volume density
1–200	0.1–0.9

Feilihua

其他石英纤维制品 Other Quartz Fiber Products

可按客户要求定制
Can be customized according to customer requirements.

石英纤维套管 Quartz Sleeving



采用石英纤维纱经套管机编织而成，也可生产成有芯套管。

Woven quartz fiber yarn into quartz sleeving by cashing machine, and can be produced into cored sleeving.

典型应用:

- 汽车行业包装和绝热
- 高温密封和垫圈
- 管道和排气装置的包装
- 电绝缘

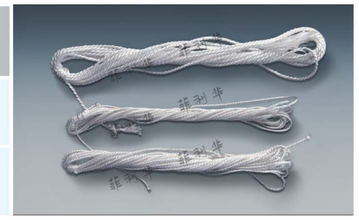
Typical application:

- Automotive industry packaging and insulation
- High temperature seal and gasket
- Piping and exhaust packing
- Electrical insulation

代码 Code	单丝直径（μm） Fiber diameter	壁厚（mm） Thickness	公称内径（mm） Nominal inside diameter	单位长度质量（g/m） Mass per unit length
FQSL	7–13	0.3–2.0	0.3–118	0.6–500

石英纤维绳 Quartz Fiber Rope

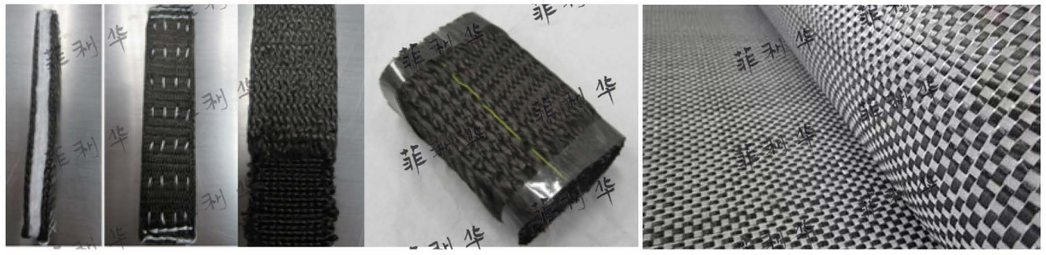
代码 Code	纤维绳直径（mm） Fiber Rope diameter	结构 Structure
FQTR	1.5–10	三股扭绳 Three strands of twisted rope
FQRR	1–10	三维实心编织绳 3D solid braided rope



混编织物 Mixed Woven Fabric

石英纤维纱可与其他特种纤维混纺或混编后制成短切纤维、布、三维预制件等制品。

Quartz fiber yarn mixed with other special fibers, then cut into chopped fiber or woven into cloth ,3D preform and other products.



其它纤维制品 Other Fiber Products

不锈钢纤维制品，氧化铝纤维织物，碳化硅，氮化硅纤维制品，其他陶瓷纤维制品等。

Stainless steel fiber products, alumina fiber fabrics, silicon carbide, silicon nitride fiber products, other ceramic fiber products,etc.

Feilihua

石英纤维产品使用说明

1. 石英纤维长期使用温度可达1200℃，软化点温度高达1730℃。

2. 石英纤维耐磨性较差，使用前应避免表面摩擦，以防破坏纤维结构。氢氟酸和200℃热磷酸会明显腐蚀石英纤维，其它化学物质对石英纤维的影响很小。

3. 石英纤维产品使用时应保证手部清洁、无汗，避免纤维接触碱性物质，以防析晶降低石英纤维耐高温性能。

4. 石英纤维产品应密封包装，贮存在相对湿度<75%RH、通风的室内。

5. 石英纤维产品运输时应避免重压或撞击，注意防潮。

Feilihua

Instructions for Quartz Fiber

1. The long-term use temperature of quartz fiber can reach 1200℃, and the softening point is as high as 1730℃.

2. Quartz fiber has poor wear resistance, and surface friction should be avoided before use to prevent damage to the fiber structure. Hydrofluoric acid and 200℃ hot phosphoric acid will obviously corrode quartz fiber, but other chemical substances have little effect on quartz fiber.

3. When using quartz fiber products, hands should be cleaned with no sweat, and fiber contact with alkaline substances should be avoided to prevent the decrease of high temperature resistance of quartz fiber due to crystallization.

4. The quartz fiber products should be sealed and stored in a ventilated room with a relative humidity of less than 75%RH.

5. Quartz fiber products transportation should avoid heavy pressure or impact, and pay attention to moisture.

2026年6月印