

# 江苏长海复合材料股份有限公司

JIANGSU CHANGHAI COMPOSITE MATERIALS HOLDING CO.,LTD

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## Brief Introduction 公司简介

江苏长海复合材料股份有限公司成立于 2000 年，是一家集科研、产品开发、生产、销售、服务于一体的民营科技型上市企业。公司位于长三角极具活力和发展潜力的工业城市——常州市武进区，距常州机场 30 多公里，距常州火车站 16 公里，毗邻沪宁高速、沿江高速与 312 国道，交通极其方便。

通过多年发展与自主创新，长海玻纤在强手如林的市场竞争中脱颖而出，成为行业中的佼佼者。目前，公司已建成年产 5.5 万吨、8.5 万吨和 10 万吨的共三座冷窑，形成了以玻璃纤维纱、玻璃纤维短切毡、湿法薄毡、涂层毡为主的四大产品系列，品种覆盖各种无碱玻纤直绕纱、喷射纱、SMC 片材用纱、车顶棚用纱、透明板用纱、缠绕挤拉纱、短切毡用纱、聚丙烯复合纤维纱、热塑性短切原丝及无碱玻纤短切毡、薄毡、蓄电池复合隔板、方格布、网格布、复合毡、双轴向织物、多轴向织物与碳纤维、新型墙体保温复合贴面材料系列等。近年来，公司又引进了玻璃纤维连续毡、玻璃纤维复合防火板压板，连续

层压复合板等生产线。产品应用领域包括汽车制造、游艇、卫浴设施、储罐、管道包裹、冷却塔、透明板材、建筑装饰、风力发电、家用电器、运输、运动器材、橡塑制品等。

一直以来，长海玻纤将“以质量求生存，以品种求发展”的经营理念渗透到生产过程中的每一个环节。公司现有国际先进的多条玻璃纤维制品生产线，拥有拉力、厚度、可燃物含量等一系列高端质量检测设备和全电脑检测分析仪，保证玻纤生产的每一个环节都经过严格的检测。公司通过了 ISO9001:2000 质量管理体系认证，并获全国防水行业建设奖，被江苏省科学技术厅认定为江苏省高新技术企业；新型超细玻璃纤维复合隔板被命名为江苏省高新技术产品。2008 年公司通过 ISO14001, ISO9001, TS16946 管理体系。2011 年 3 月 29 日江苏长海复合材料股份有限公司在深圳交易所创业板上市，股票代码 300196。

Jiangsu Changhai Composite Materials Holding Co., Ltd., founded in 2000, is a large listed scientific and technical enterprise focusing on scientific research, product development, production, sales and service in the area of fiberglass products manufacture.

Through years of development and independent innovation, Changhai has been able to compete successfully in the fiberglass market and become the leader in the industry. Now, the company had successfully completed the three furnace with output of 55,000 tons, 85,000 tons and 10,000 tons. The company has formed four main series of products for fiberglass roving, chopped strand mat, fiberglass tissue and coated mat, covering all kinds of E-glass roving for filament winding, spray-up roving, SMC roving, chopping roving for headliner, panel roving, roving for pultrusion, assembled Roving for Chopping, combox roving (pp+fiberglass), chopped strands for thermoplastics and chopped strand mat, tissue, colored & printed tissue, battery separator, non insulation wall cover material, stitch combo mat, woven roving, stitch mat, biaxial fabric, multiaxial fabric, mesh and so on. In recent years, Changhai introduced the new product lines for continuous filament mat, fibreglass high pressure laminate, continuous laminated. Applications include automobile

manufacturing, yachts, private facilities, storage tank, pipeline coating, cooling towers, architectural decoration, wind power, household appliances, transportation, sports equipment, rubber and plastic products and so on.

All along, Changhai keeps its business philosophy—“survive by quality, development by variety”, to infiltrate into the production process in every link. By now, the company has several advanced glass fiber production lines. With kinds of international advanced quality testing equipments in tensile strength, thickness and binder content and computer analysis instruments, every progress of fiberglass is produced in rigorous testing. On 2008 year, the company obtained the ISO14001, ISO9000, TS16949 management system certification, and it received the awards of Construction of national waterproof industry and was identified as the high-tech enterprises in Jiangsu Province. New ultra-fine glass fiber compound separator was named the high-tech products in Jiangsu Province. On March 29, 2011, Jiangsu Changhai Composite Materials Holding Co., Ltd is listed on the Shenzhen Stock Exchange GEM, the stock code is 300196.



## 缠绕/拉挤用直接纱

### Direct Roving for Filament Winding / Pultrusion

缠绕/拉挤用玻璃纤维直接无捻粗纱主要用于增强不饱和聚酯树脂、乙烯基树脂、环氧树脂、酚醛树脂等，广泛应用于航空航天、交通运输、石油、化工、建筑、通讯等。

Direct roving for filament winding / pultrusion is compatible with unsaturated polyester resin, vinyl resin, epoxy resin, phenolic resin, etc. It is widely used in aerospace, transportation, petroleum, chemical, construction, communication and so on.



#### 产品特点 Product Features

- 毛羽少
- 纤维分散性好
- 强度高
- 与多种树脂相容
- 抽纱张力均匀
- Minimum fuzz
- Good fiber dispersion
- High compressive strength
- Multi resin systems compatible
- Even payout tension

#### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	线密度 Linear density ( tex )	适用树脂 Compatible resin	备注 Remark
906	E/ECR-GLASS	300-9600	UP,VE,PF	通用型 General Purpose
908	E/ECR-GLASS	300-9600	UP,VE,PF	通用性, 柔软 General Purpose, Softer
968	E/ECR-GLASS	300-9600	EP	通用型 General Purpose

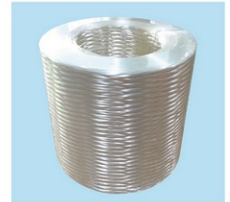


## 编织用直接纱

### Direct Roving for Weaving

编织用玻璃纤维直接无捻粗纱，适用于增强不饱和聚酯树脂、乙烯基树脂、环氧树脂和酚醛树脂等，可用于生产玻璃纤维经编物、风力发电叶片、船艇等。

Direct Roving for Weaving are compatible with polyester, vinyl ester, phenolic and epoxy resins. And are widely used during production of fiberglass warp knitting fabric, wind turbine blades, boats industry and so on.

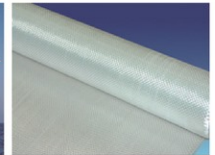


#### 产品特点 Product Features

- 毛羽少
- 工艺性能好
- 在树脂中浸透快
- 强度高
- Minimum fuzz
- Good processing characteristics
- Fast wet out in resins
- Good Tension

#### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	线密度 Linear density ( tex )	适用树脂 Compatible resin	备注 Remark
906	E/ECR-GLASS	300-4800	UP,VE,PF	织造性能好 Good Weaving Properties
908	E/ECR-GLASS	300-4800	UP,VE,PF	通用性, 柔软 General Purpose, Softer
968	E/ECR-GLASS	300-4800	EP	织造性能好 Good Weaving Properties



## 喷射纱 Spray-up Roving

喷射纱是用于连续喷射工艺的增强型玻纤纱，兼容不饱和树脂。广泛应用于汽车配件，玻璃钢船体，卫生洁具，玻璃钢储罐，管道，冷却塔等 FRP 产品。

The roving is designed for spraying process. It is treated with silane sizing which is compatible with unsaturated polyester. The typically applications include automotive parts, FRP boat hulls, sanitary products, FRP storage tanks, pipes, cooling towers and so on.



### 产品特点 Product Features

- 短切性能良好
- 模压性能优良
- 气泡容易释放
- 浸透速度适中
- 分散性能良好
- Excellent choppability
- Good moldability
- Easy air release
- Moderate wet-out
- Good fiber dispersion

### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	线密度 Linear density ( tex )	适用树脂 Compatible resin	备注 Remark
618	E/ECR-GLASS	2400/4800	UP,VE	通用型General Purpose
620	E/ECR-GLASS	2400/4800	UP,VE	机械高速High Speed Machine



## SMC 片材用纱 SMC Roving

SMC 片材用纱主要是用于结构型和 A 级、表面型 SMC 片材，适用于聚酯树脂、乙烯基树脂等。应用于卫浴等各种需要光滑表面和防水性的产品，也可以用于汽车部件，电器等结构型产品。

The roving is designed to contribute to Class "A" surface in different applications. It is suitable to be used in the automotive parts such as truck body panels, grill opening panels where smooth surface is needed. It can also be used for structural molded applications. It also contributes good laminate mechanical properties.



### 产品特点 Product Features

- 割性好，分散性好
- 模性能好
- 品表面光洁，耐水性好
- 迅速的与树脂浸透和粗溶，适用 UP、VE、PU 树脂
- Excellent chopability and fiber distribution
- Excellent mold flow characteristics
- Good laminate mechanical properties
- Rapid wet through and complete wet-out

### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	线密度 Linear density ( tex )	备注 Remark
318	E/ECR-GLASS	2400/4800	通用型General Purpose



## 车顶篷用纱

### Chopping Rovings for Headliner

车顶篷纱是专为汽车车顶篷生产而设计的一种增强型玻纤。适用于不饱和聚酯树脂、乙烯基树脂和聚氨酯树脂等。具有良好的纤维分散性和优良的成型特性，使顶篷在成型过程中无褶皱及露丝现象。

It is specially designed for hot press molding automotive headliner manufacturing. It has good fiber distribution which contributes to a good finished headliner surface. It has excellent molding property so the finished headliner will not have any wrinkles.



#### 产品特点 Product Features

- 有完整的原丝集束性和高硬度
- 有良好的短切性
- 良好的破纤分散性
- 静电性好
- 有良好的表面外观和力学性能
- Hard strand integrity and high stiffness
- Excellent chopability
- Excellent fiber dispersion
- Very low static
- Good surface appearance with good mechanical properties

#### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	线密度 Linear density (tex)	适用树脂 Compatible resin	备注 Remark
312B	E/ECR-GLASS	2400/4800	UP, VE, PU	车篷用 Automotive Headliner Purpose



## 管道短切用合股纱

### Chop Rovings

660管道短切用合股纱主要用于制造玻璃钢管道，表面涂覆硅烷基浸渍剂，适用于不饱和聚酯树脂和乙烯基树脂，浸透速度快，制品具有良好的防水性和良好的机械性能。

660 assembled roving is designed for FRP chopping and pipes. It is coated with silane-based sizing, 660 suitable for unsaturated polyester resin and vinyl resin. Fast resin impregnation, the product has good water resistance and good mechanical properties.



#### 产品特点 Product Features

- 与树脂有良好的相容性
- 良好的切削性和分散性
- 优异的抗静电、耐腐蚀性能
- Good compatibility with resins
- Good chopability and dispersity
- Excellent antistatic and corrosion resistance properties

#### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	线密度 Linear density (tex)	适用树脂 Compatible resin	备注 Remark
660	E/ECR-GLASS	2400	UP, VE	通用型 General purpose



## 合股型拉挤纱

### Assembled Roving for Pultrusion

拉挤纱与不饱和聚酯树脂、乙烯基酯和环氧树脂相容。主要适用于缠绕、拉挤成型工艺，用于制造需要较高机械强度的产品。如 FRP 格栅、门窗、以及帐篷支架等型材，能够满足不同客户的多种需求。

The roving is compatible with polyester, vinyl ester, and epoxy resin systems. It is designed for use in the end products which require high mechanical properties. It can be used for FRP grid, FRP windows and doors, FRP tent supporting pole.

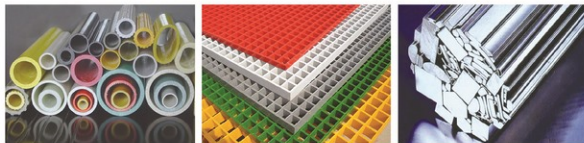


#### 产品特点 Product Features

- 制作操作性能佳
- 毛羽少
- 强度高
- 与多种树脂相容
- Easy processing and excellent performance
- Minimum fuzz
- High compressive strength
- Multi resin systems compatible

#### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	线密度 Linear density (tex)	单丝直径 Filament diameter (μm)	适用树脂 Compatible resin	可溶物含量 Size content (%)
902	E/ECR-GLASS	2400/4800	13-14	UP, VE	0.4-0.8



## 透明板用纱

### Panel Roving

透明板用纱是用来生产玻纤透明板的。适用于透明板材短切、连续生产工艺。玻纤透明板成品具有重量轻，高强度，高抗冲击性和优良的透明度。

It is designed to be used in continuous FRP transparent panel production. The finished product offers light weight, high strength, high impact resistance and excellent transparency.



#### 产品特点 Product Features

- 具有良好的短切性和碳纤维分散性
- 羽少
- 静电
- 迅速的与树脂浸透和兼容
- Good chopability and fiber dispersion
- Low fuzz
- Low static
- Fast wet through and complete wet out

#### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	线密度 Linear density (tex)	适用树脂 Compatible resin	备注 Remark
832	E/ECR-GLASS	2400-4800	UP,VE	通用型 General Purpose
832A	E/ECR-GLASS	2400-4800	UP,VE	高度透明型 High Transparent Purpose



## 玻璃纤维短切毡用纱

### Assembled Roving for Chopping

短切毡用纱适用于不饱和聚酯树脂、乙烯基树脂和环氧树脂。广泛用于制造短切原丝毡类制品和缝编复合毡。

The roving are compatible with polyester, vinyl ester and epoxy resins, principally used to produce CSM and stitch combo mats.



#### 产品特点 Product Features

- 分散性好, 纤维分布均匀
- 切割性好, 毛羽少
- 抗静电性好
- 树脂浸透性好
- Good dispersion, excellent fiber distribution
- Excellent choppability, minimum fuzz
- Good anti-static property
- Good wet-out in resins

#### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	线密度 Linear density (tex)	单丝直径 Filament diameter (μm)	适用树脂 Compatible resin	可絮物含量 Stitch content (%)	备注 Remark
201	E/ECR-GLASS	2400	12-13	UP, VE	0.5 ± 0.15	通用型 General Purpose
826	E/ECR-GLASS	2400	12-13	UP,VE	0.5 ± 0.15	透明型 Transparent Purpose



## GMT 合股纱

### Assembled Roving for GMT

GMT 合股纱适用于增强性 PP 树脂, 是一种结构材料, 广泛应用于汽车、建筑、包装、电器等领域。

Assembled roving for GMT is designed for reinforcing modified PP. And it is a structural material, which is widely used in automotive, construction, packaging, electrical equipments industry and so on.



#### 产品特点 Product Features

- 与树脂的相容性好
- 纤维硬度好
- 抗电性和韧性优越
- Multi-compatible with resins
- Good strand stiffness
- Excellent static control for easy chopping

#### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	线密度 Linear density (tex)	适用树脂 Compatible resin	备注 Remark
702	E/ECR-GLASS	2400	PP	短切分散性好, 低静电。在PP树脂中浸透好 Good Dispersion after chopping, low static, good compatible with PP



## 玻纤聚丙烯复合纤维纱 Combotech Roving (PP+FIBERGLASS)

玻纤聚丙烯复合纤维纱是一种玻璃纤维涂覆PP树脂而成的高性能预浸料，可直接用来成型PP树脂复合材料，而不需要添加额外的树脂。

该产品适用的成型工艺包括模压，真空辅助成型，拉挤成型和缠绕成型等，其应用领域涵盖航空航天，汽车工业，建筑，体育器材，新能源等各个方面。

COMBOTECH ROVING (PP+FIBERGLASS) is a kind of high performance prepreg which is made of glass fiber coated PP resin, which can be directly used to form PP resin composite, without the need to add extra resin.

This product is suitable for molding process, including die casting, vacuum assisted molding, pultrusion and filament winding, etc., and its applications include aerospace, automotive industry, construction, sports equipment, new energy and other aspects.



### 产品特点 Product Features

- 稳定的热塑性预浸料，自身浸渍优良
- 生产环境清洁，可回收，绿色环保
- 工艺周期短，生产效率高
- 玻纤含量高
- Stable thermoplastic prepreg, excellent impregnation
- Production environment clean, recyclable, green environmental protection
- Short process cycle, high production efficiency
- High glass fiber content

### 技术参数 Technical Specification

产品代号 Product code	纤维类型 Type of fiber	树脂 Resin	玻纤含量 Fiberglass Content	线密度 Linear density (tex)	产品颜色 Product color
CH-PP60/1870N	E/ECR-GLASS	Polypropylene resin	60%	1870	Natural color

## 玻璃纤维湿法短切丝 Fiberglass Wet Chopped Strands

湿法短切丝（水拉丝）是由连续玻璃纤维原丝经短切成一定长度而制成，是制造玻璃纤维纸和薄毡的原材料。

广泛应用于建筑材料，石油化学，照明工业，电器工业等。玻璃纤维纸和薄毡可以用作蓄电池的隔板、油毡。

Wet chopped strands are produced from continuous filament strands and used as raw material of fiberglass paper and fiberglass tissue mat, it's widely uses in building materials, petrochemistry, light industry and electrical industry, the main applications are battery separators, asphalt felts, etc.



### 产品特点 Product Features

- 出色的流动性
- 能在水中快速均匀地分散
- 在石膏中突出的分散性
- Super fluidity
- Good dispersion in water
- Excellent distribution in gypsum

### 技术参数 Technical Specification

产品代号 Product code	短切长度 Chop length/mm	含水率 Moisture content(%)	可溶物含量(%) Size content (%)
502	3,6,9,12	10±2	0.10±0.05

