

## 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。

经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 3 万吨的无碱池窑和 7 万吨的 ECR 池窑，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接纱、喷射纱、SMC 片材用纱、车顶棚用纱、透明板用纱、缠绕挤压纱、短切毡用纱及无碱玻纤短切毡、薄毡、蓄电池复合隔板、方格布、网格布、复合毡与缝编毡、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，玻璃纤维复合防火层压板等生产线。产品应用领域包括汽车制造、游艇、卫浴设施、储罐、管道包覆、冷却塔、透明板材、建筑装饰等。

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 环境管理体系。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。

长海已然成为玻纤制品行业的重要代表之一。在国内，长海以其优异的品质，得到了国内多家企业的一致认可；在国外，北美、南美、欧洲、中东、东南亚、大洋洲、非洲……多个国家和地区打上了长海的标记。长海一贯坚持“用户满意是我们永恒的追求！贴心服务是我们一贯的宗旨”的服务方针，将自己的品牌形象随着不断拓展的营销网络推广到世界各个角落。长海，将以大海一样的辽阔胸襟和深远发展眼光，从容面对未来市场变化带来的机遇和挑战，始终不渝的坚持自己的目标——“成为国内外领先的新型复合材料行业领军人物！”



Changzhou 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 first E-glass furnace with output of 30,000 tons and the second ECR furnace with output of 70,000 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 and chopped strand mat, tissue, colored & printed tissue, battery separator, new insulation wall cover material, stitch combo mat, woven roving, mesh and so on. In recent years, Changhai introduced the new product lines for continuous filament mat, fiberglass high pressure laminate. Applications include automobile manufacturing, yachts, private facilities, storage tank, pipeline coating, cooling towers, architectural decoration, 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. The company obtained the ISO9001: 2000 quality 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.

Changhai has become one of the important representatives in GFRP industry. Changhai has been unanimously approved by lots of countries with its excellent quality. Changhai will calmly face the future opportunities and challenges brought by market changes, and unswervingly stick to its goal – “became the domestic first and international advanced leader in new composite materials industry!”



## 缠绕型直接纱

### Roving for Filament Winding

缠绕纱与不饱和聚脂和环氧树脂相溶性好，浸透速度快，并溶于乙烯基树脂，酚醛树脂等。

缠绕纱主要用于玻璃钢管道缠绕，它通过低树脂消耗使浸透速度又好又快，并且广泛应用于航空航天、交通运输、石油、化工等领域。

The roving is compatible with polyester, vinyl ester, and epoxy resin systems. It is designed for use in FRP filament winding process. It offers rapid wet-out and wet through with low resin consumption.



#### 产品特点 Product Features

- 不饱和聚脂和环氧树脂相溶性好
- 较好的伸展性
- 低树脂
- 浸透速度快
- 浸透完全
- Multi-compatible for polyester, vinyl ester and epoxy
- Excellent unwinding performance
- Low resin demand
- Rapid and complete wet out

## 拉挤用直接纱

### Direct Roving for Pultrusion

拉挤用玻璃纤维直接无捻粗纱，主要适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，制品广泛应用于各个领域，如建筑、通讯等。

Direct Roving for Pultrusion is compatible with unsaturated polyester, vinyl ester, epoxy and phenolic resins, and is widely used in many fields, like building, telecommunication industry and so on..



#### 产品特点 Product Features

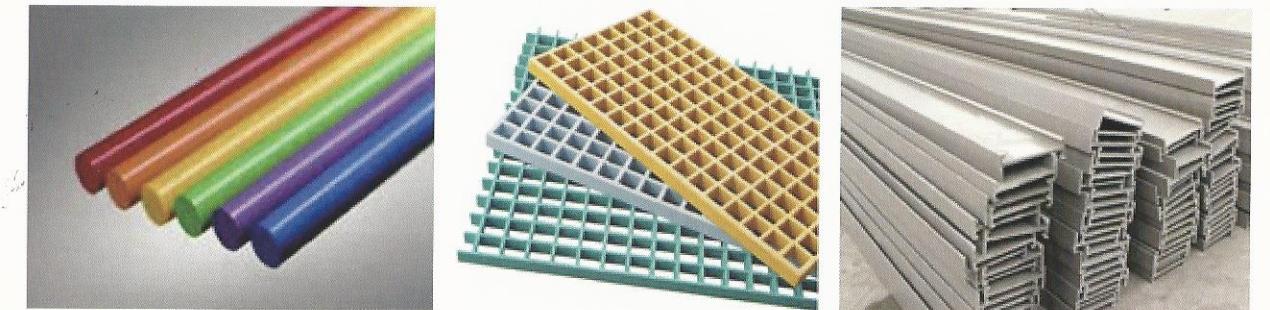
- 毛羽少
- 纤维分散性好
- 强度高
- 与多种树脂相溶
- 抽纱张力均匀
- Minimum fuzz
- Good fiber dispersion
- High compressive strength
- Multi resin systems compatible
- Even payout tension

#### 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,EP,PF	通用型 General Purpose



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,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，酚醛树脂和环氧树脂等。可用于生产玻璃纤维经编织物、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 prdoduction 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
- 强度好
- 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,EP,PF	织造性能好 Good weaving properties



## LFT 用直接纱

### Direct Roving for LFT

LFT 用玻璃纤维直接无捻粗纱，适用于增强改性PP、PA树脂。广泛用于汽车、建筑、包装、军工和电子等领域。

Direct Roving for LFT are designed for reinforcing PP and PA resins, and widely used in automotive, construction, packaging, military, electrical market and so on.



#### 产品特点 Product Features

- 张力均匀
- 与树脂的相溶性好
- 工艺性能优
- Consistent tension
- Multi-compatible with resins
- Good Moulding

#### 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
908	E-GLASS	300-2400	PA,PBT,PET	强度高，毛羽少，浸渍效果好，适合CFRP工艺 High strength,low fuzz,good wet-through, Compatible with CFRT process



## 产品特点 Product Features

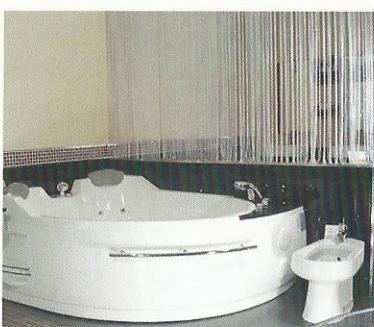
- 短切性能良好
- 模压性能优良
- 气泡容易释放
- 浸透速度适中
- 分散性能良好
- 与多种树脂相溶
- Excellent choppability
- Good moldability
- Easy air release
- Moderate wet-out
- Good fiber dispersion
- Compatibility with multiple resins

## 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相溶，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 )	适用树脂 Compatible resin	备注 Remark
618	E-GLASS	2400/4800	UP,VE	通用型General Purpose
620	E-GLASS	2400/4800	UP,VE	机械高速High Speed Machine



## 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
316	E/ECR-GLASS	2400/4800	通用型General Purpose



## 车顶蓬用纱 Chopping Roving for Headliner

车顶蓬纱是专为汽车车顶蓬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
- Hard strand integrity and high stiffness
- 有良好的短切性
- Excellent chopability
- 良好的玻纤分散性
- Excellent fiber dispersion
- 静电性好
- Very low static
- 有良好的表面外观和力学性能
- 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	车顶用 Automotive Headliner 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.

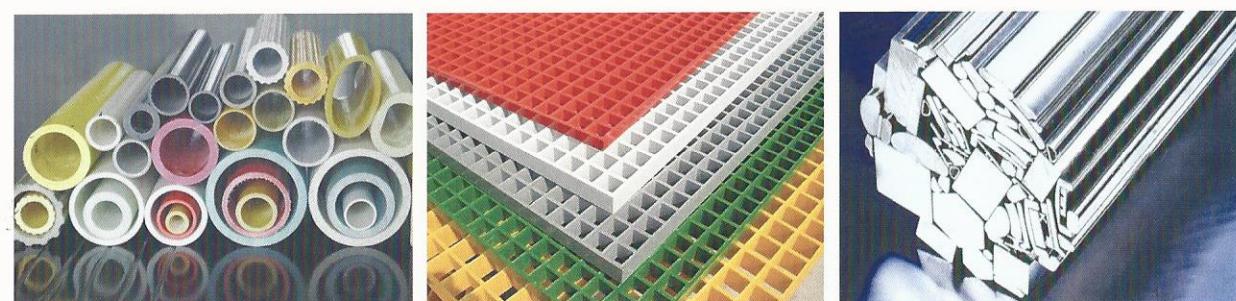


### 产品特点 Product Features

- 制作操作性能佳
- Easy processing and excellent performance
- 毛羽少
- Minimum fuzz
- 强度高
- High compressive strength
- 与多种树脂相溶
- 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( $\mu$ m )	适用树脂 Compatible resin	可燃物含量 Size content ( % )
902	E/ECR-GLASS	2400/4800	13-14	UP, VE	0.4-0.8



## 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

- 与树脂的相溶性好
- Multi-compatible with resins
- 纤维硬挺度好
- Good strand stiffness
- 抗电性和短切性优
- 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 chipping, low static, good compatible with PP



## 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 used in building materials, petrochemistry, light industry and electrical industry, the main applications are battery separators, asphalt felts, etc.

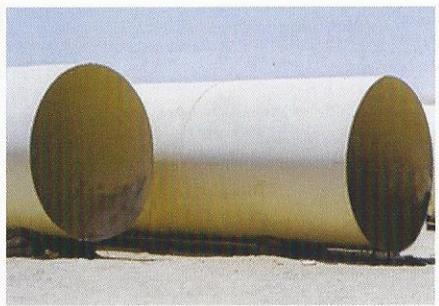


### 产品特点 Product Features

- 出色的流动性
- Superb fluidity
- 能在水浆中快速均匀地分散
- Good dispersion in water
- 在石膏中突出的分散性
- 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(%)	可燃物含量(%) Size content(%)
502	3,6,9,12	10±2	0.10±0.05



## 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玻纤分散性
- 羽少
- 静电
- 迅速的与树脂漫透和兼溶
- Good chopability and fiber dispersion
- Low fuzz
- Low static
- Fast wet through and complete wet out

## 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
- 树脂漫透性好
- 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 )	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

### 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( $\mu$ m )	适用树脂 Compatible resin	可燃物含量 Size content (%)	备注 Remark
201	E-GLASS	2400	12-13	UP, VE	0.5±0.15	通用型 General Purpose
826	E-GLASS	2400	12-13	UP,VE	0.5±0.15	透明型 Transparent Purpose

