



## 产品说明 Product Description

396 为无碱直接无捻粗纱，采用 E 玻璃配方，表面涂覆硅烷基浸润剂，可兼容于聚酯、乙烯基、环氧及聚氨酯树脂体系。本产品主要适用于编织及缝编工艺，也可用于缠绕、拉挤成型工艺。

本产品具有优越的树脂相容性，适用于预浸、真空辅助树脂灌注成型工艺制造大型风力发电叶片，也适用于缠绕或拉挤工艺生产电线杆、集装箱门板等产品。

396 Direct Roving is based on E-glass formulation and coated with a silane-based sizing. It is compatible with polyester, vinyl ester, epoxy, and polyurethane resin systems. It is mainly designed for weaving and stitching, as well as for filament winding and pultrusion processes.



396 has excellent resin compatibility. It is suitable for prepreg and vacuum-assisted resin infusion processes to manufacture large wind blades, and also for winding and pultrusion processes to make utility poles, container doors and panels, etc.

## 产品特点 Product Features

- ◎ 工艺灵活性高
- ◎ 可与多种树脂匹配
- ◎ 浸透快速且完全
- ◎ 优异的耐酸腐蚀性
- High process flexibility
- Multi-resin compatibility
- Fast and complete wet-out
- Excellent acid corrosion resistance

## 规格代号 Specification

玻璃类型 Glass type	E		
浸润剂类型 Sizing type	硅烷 Silane		
典型纤维直径 Typical filament diameter (μm)	13	17	21
典型线密度 Typical linear density (tex)	300	600 1200 2400	2000
示例 Example	EDR17-2400-396		

## 技术指标 Technical Parameters

项目 Item	线密度偏差 Linear density variation (%)	含水率 Moisture content (%)	可燃物含量 Sizing content (%)	断裂强度 Breakage strength (N/tex)
检测方法 Test method	ISO 1889	ISO 3344	ISO 1887	ISO 3341
指标 Standard range	± 4	≤ 0.07	0.48 ± 0.10	≥ 0.40

## 机械性能 Mechanical Properties

机械性能 Mechanical properties	单位 Unit	实验值 Value	树脂 Resin	测试方法 Test method
拉伸强度 Tensile strength	MPa	2471	EP	ASTM D2343
拉伸模量 Tensile modulus	GPa	81.3	EP	ASTM D2343
剪切强度 Shear strength	MPa	67.0	EP	ASTM D2344
强度保留率(72小时水煮) Strength retention(72 hr boiling)	%	> 96	EP	/

以上数据为实验室针对EDR17-600-396产品的具体实验值，仅供参考。

The above data are actual experimental values for EDR17-600-396 and to be used for reference only.

## 使用说明 Instructions

- ◎ 本产品可在12个月内使用最佳，使用前应保存在原包装内。
- ◎ 产品使用时注意防护，避免产品擦毛、损伤等情况。
- The product is best used within 12 months after production, and should be kept in the original package before use.
- Care should be taken when using the product to prevent it from being scratched or damaged.



## 使用说明 Instructions

- ◎ 使用前调理纱线的温湿度与环境温湿度平衡，使用时对环境温湿度进行适当控制。
- ◎ 使用时请合理控制张力并保证张力均匀性。

·The temperature and humidity of the product should be conditioned to be close or equal to the ambient temperature and humidity before use, and the ambient temperature and humidity should be properly controlled during the use.

·When using the product, please control the tension properly and ensure the tension uniformity.

## 包装信息 Packaging

项目 Item	单位 unit	指标 Standard			
典型包装方式 Typical packaging method	/	采用托盘包装 Packed on pallets.			
典型纱团高度 Typical package height	mm (in)	260 (10.2)			
纱团内径 Package inner diameter	mm (in)	160 (6.3)			
典型纱团外径 Typical package outer diameter	mm (in)	280 (11.0)		310 (12.2)	
典型纱团重量 Typical package weight	kg (lb)	19 (41.9)		23 (50.7)	
层数 Number of layers	层 (layer)	3	4	3	4
每层纱团个数 Number of packages per layer	个 (pcs)	16		12	
每托纱团个数 Number of packages per pallet	个 (pcs)	48	64	36	48
每托重量 Net weight per pallet	kg (lb)	912 (2010.6)	1216 (2680.8)	828 (1825.4)	1104 (2433.9)
托盘长度 Pallet length	mm (in)	1140 (44.9)		1270 (50.0)	
托盘宽度 Pallet width	mm (in)	1140 (44.9)		960 (37.8)	
托盘高度 Pallet height	mm (in)	940 (37.0)	1200 (47.2)	940 (37.0)	1200 (47.2)

## 贮存 Storage

在没有特殊要求的情况下，玻璃纤维产品应贮存在干燥、阴凉的地方，防止受潮。最佳存储条件为温度  $-10^{\circ}\text{C} \sim 35^{\circ}\text{C}$ ，相对湿度  $\leq 80\%$ 。为确保安全，避免损坏产品，托盘的堆码高度不应超过三层。当堆放两层或三层高时，要求正确地、平稳地移动上面的托盘。

Unless otherwise specified, the fiberglass products should be stored in a dry, cool and moisture proof area. The best temperature and humidity should be maintained at  $-10^{\circ}\text{C} \sim 35^{\circ}\text{C}$  and  $\leq 80\%$  respectively. To ensure safety and avoid damage to the product, the pallets should be stacked not more than three layers high. When the pallets are stacked in two or three layers, special care should be taken to correctly and smoothly move the upper pallet.

