

# 开模成型用玻璃纤维产品 FIBERGLASS PRODUCTS FOR **OPEN MOLDING**





# 喷射成型工艺

喷射用无碱玻璃纤维合股无捻粗纱

# 手糊成型工艺

玻璃纤维无捻粗纱布 无碱玻璃纤维乳剂短切原丝毡 无碱玻璃纤维粉剂短切原丝毡

### **Spray-up Process**

Assembled Rovings for Spray-up

### **Hand Lay-up Process**

Woven Rovings Emulsion Chopped Strand Mats Powder Chopped Strand Mats

# 喷射成型工艺

使用喷射机将玻璃纤维短切并与树脂一起喷到模具表面,经辊压除泡固化成型。

# **Spray-up Process**

A mould is sprayed with a mixture of catalyzed resin and chopped fiberglass roving (fiberglass cut to specific length using a chopper gun). Then the glass-resin mixture is well compacted, usually manually, for complete impregnation and deairing. After curing the finished composite part is de-molded.





### 喷射用无碱玻璃纤维合股无捻粗纱

喷射用无碱玻璃纤维合股无捻粗纱主要适用于增强UP和VE。具有良好的分散性和低静电,树脂浸透性好。

### **Assembled Rovings for Spray-up**

Assembled Rovings for Spray-up are compatible with UP, VE and PU resins. They deliver properties of low static, excellent dispersion and good wet-out in resins.

产品牌号 Product Code	产品详情 Details	典型线密度 Nominal Linear Density (tex)	产品特点 Product Features	典型应用 Typical Applications
176			喷射顺畅性好,喷射分散面较大,浸透速度较慢, 垂直面不易滑落,适合生产大尺寸制件 Good runnability for spraying operation, larger dispersion area in spraying, slower wet-out, less slide on vertical surfaces, suitable for production of large parts	游泳池、储罐、船艇 Swimming pools, storage tanks, boats & yachts
180		2400 3460 4800	喷射操作顺畅性好,浸透速度适中,易辊压,易排泡, 小角度无回弹,制品力学性能和耐水性能优异, 适合高速的机械手喷射工艺 Good runnability for spraying operation, moderate wet-out speed, easy roll-out, easy removal of bubbles, no spring back in sharp angles, excellent mechanical properties and hydrolytic resistance in parts, suitable for high-speed spray-up process with robots	卫浴、玻璃钢船体、 汽车配件、化学贮罐 Sanitary ware, FRP hulls, auto parts, chemical storage tanks
180K			浸透速度快,特别适合小的制品 Fast wet-out, ideal for products with small surface	浴缸 Bathtubs

### 喷射成型工艺的终端应用市场

船艇 / 卫浴 / 汽车 / 化学化工 / 娱乐设施

### End-Use Markets

Marine / Bathroom equipment / Automotive / Chemistry and Chemical / Sports and Leisure



# 手糊成型工艺

在模具上均匀涂上脱模剂和胶衣树脂,然后铺放增强材料,用压辊及毛刷涂覆混有固化剂的树脂,使树脂浸渍增强材料并驱除气泡,铺层操作反复进行直至达到制品的设计厚度,然后在常温或加热条件下固化成型。

# **Hand Lay-up Process**

The reinforcement, in form of fiberglass strands, mat or woven roving, is first laid into a mold which has been coated with a release agent and a gel coat. Then a resin mix is applied by hand using a brush or spray gun. A roller is then used to ensure uniform impregnation, complete glass wet-out, and removal of any trapped air bubbles. This operation is repeated until the desired thickness of the structure is obtained. After curing at room temperature or under heating conditions, the finished parts are formed.





## 玻璃纤维无捻粗纱布

玻璃纤维无碱无捻粗纱布适用于各种增强树脂,如UP、VE、EP和PF等。玻璃纤维无捻粗纱布产品 幅宽范围50mm~3000mm,单位面积质量范围260g/m<sup>2</sup>~1600 g/m<sup>2</sup>,特殊规格可根据客户要 求生产。

### **Woven Rovings**

Woven Rovings are compatible with UP, VE, EP and PF resins.

Woven Rovings are available with a width range of 50mm to 3,000mm and a weight range of  $260g/m^2$  to 1,600  $g/m^2$ . Other specifications are also available on customer request.

产品认证 Certification	认证产品牌号 Product Code	证书号 Certificate No.	
	EWR270		
	EWR360	TAK00001TH	
挪威船级社	EWR500		
DNV	EWR580		
	EWR600		
	EWR800		
	EWR270	LR2002408ALP	
	EWR360	LR2002409ALP	
英国劳氏船级社 LR	EWR580	LR2002410ALP	
	EWR600	LR2002411ALP	
	EWR800	LR2002412ALP	

#### 手糊成型工艺的终端应用市场

船艇 / 建筑 / 汽车 / 卡车 / 化学化工 / 电子电气和电信 / 运动休闲 / 风能

### **End-Use Markets**

Marine / Building and Construction / Automotive / Chemistry and Chemical / Electrical and Electronics / Sports and Leisure / Wind Energy





## 无碱玻璃纤维乳剂短切原丝毡

无碱玻璃纤维乳剂短切原丝毡是由玻璃纤维原丝经短切后,随机无定向均匀平铺,然后用乳剂粘结剂粘结在一起而制成的片状毡片。可使用于增强UP和VE等。幅宽范围200mm~3120mm,特殊规格可根据客户要求生产。

### **Emulsion Chopped Strand Mats**

Emulsion Chopped Strand Mats are made of randomly distributed chopped strands held together by an emulsion binder. They are compatible with UP and VE resins. The roll width ranges from 200mm to 3,120mm. Special requirements may be available upon request.

产品牌号 Product Code	<b>产品详情</b> Details	单位面积克重 Area Weight (g/m²)	典型幅宽 Typical Width (mm)	适用树脂 Resin Compatibility	产品特点 Product Features
E01				1040 聚酯树脂 乙烯基树脂 1270 UP, VE	拉伸强度高,适用于生产面积较大的产品,操作时无飞扬, 树脂浸穿性好,浸透速度快,气泡容易排除,制品机械强度高,耐酸腐蚀性优异 High tensile strength, allowing to produce large-area parts, no airborne fiber when operating, good wet-through and fast wet-out in resins, rapid air lease, high mechanical strength, superior acid corrosion resistance
E10		225, 300 375, 450 600, 900			辊压排泡性非常好,树脂含量低 Rapid air lease reducing rolling out times, low resin consumption
E20					覆模性好,树脂浸穿性好,浸透速度快,气泡容易排除, 减少辊压次数,提高生产效率,树脂消耗少,制品机械强度高,耐酸腐蚀性优异 Good moldability, good wet-through and fast wet-out in resins, rapid air lease, reducing rolling out times and increasing productivity, low resin consumption, high mechanical strength, superior acid corrosion resistance



### 无碱玻璃纤维粉剂短切原丝毡

无碱玻璃纤维粉剂短切原丝毡是由玻璃纤维原丝经短切后,随机无定向均匀平铺,然后用粉剂粘结剂粘结在一起而制成的片状毡片。可适用于增强UP、VE、EP和PF等。产品幅宽范围200mm~3120mm,可根据客户的使用要求和习惯,提供不同浸透和分解时间要求的产品。

### Powder Chopped Strand Mats

Powder Chopped Strand Mats are made of randomly distributed chopped strands held together by a powder binder. They are compatible with UP, VE, EP and PF resins. The roll width ranges from 200mm to 3,120mm. Additional demands on wet-out and decomposition time can be available upon request.

产品牌号 Product Code	产品详情 Details	单位面积克重 Area Weight <sub>(g/m²)</sub>	典型幅宽 Typical Width (mm)	适用树脂 Resin Compatibility	产品特点 Product Features
P02		225, 300 375, 450	1040 1270	聚酯树脂 环氧树脂 乙烯基树脂 UP, EP, VE	拉伸强度高,适用于手糊工艺生产面积较大的制品,树脂浸穿性好, 浸透速度快,气泡气容易排除,制品机械强度高,耐酸腐蚀性能优异 High tensile strength, suitable for use in hand lay-up process to produce large-area parts. good wel-through and fast wet-out in resins, rapid air lease, high mechanical strength, superior acid corrosion resistance
P20		600, 900			毡质柔软,覆模性好,方便手工撕裂,树脂浸穿性好,浸透速度快,气泡容易排除, 减少辊压次数,树脂消耗少,制品机械强度高,耐酸腐蚀性能优异 Soft mat, ease of manual tearing apart, good conformability, wet-through and fast wet-out in resins, rapid air release reducing rolling out times, low resin consumption, high mechanical strength, superior acid corrosion resistance

产品认证 Certification	认证产品牌号 Product Code	证书号 Certificate No.	
	EMC300		
挪威船级社	EMC450	- - TAK00001TJ	
DNV	EMC600		
	EMC900		
	EMC225(E)		
	EMC300(E)		
	EMC375(E)	LR23251143ALP	
	EMC450(E)	LNZ3Z31143ALF	
英国劳氏船级社	EMC600(E)	-	
LR	EMC900(E)		
	EMC300(P)		
	EMC450(P)	LR2002414LP	
	EMC600(P)		
	EMC900(P)		

开模成型用玻璃纤维产品	喷射成型工艺 Spray-up Process
Fiberglass Products for Open Molding	手糊成型工艺 Hand Lay-up Process
管道成型用玻璃纤维产品	缠绕成型工艺 Filament Winding Process
自起版主角级均匀矩) 前 Fiberglass Products for Pipes	离心浇铸成型工艺 Centrifugal Casting Process
<b>供了</b> . 孔则田址 帝/(7) (4) - 立日	SMC成型工艺 SMC Process
模压成型用玻璃纤维产品 Fiberglass Products for Compression Molding	BMC成型工艺 BMC Process
	LFI工艺 LFI Process
连续型材用玻璃纤维产品	拉挤成型工艺 Pultrusion Process
Fiberglass Products for Continuous Profiles	连续板材成型工艺 Continuous Panel Molding Process
	挤出与注塑工艺 Extrusion and Injection Processes
热塑性塑料用玻璃纤维产品	UFT成型工艺 LFT Process
所至日本至何7月初知時1年)日日 Fiberglass Products for Thermoplastics	GMT成型工艺 GMT Process
	CFRT成型工艺 CFRT Process
	■ 膨化工艺 Texturizing Process
其它玻璃纤维产品	增强石膏工艺 Reinforcements for Gypsum
Fiberglass Products for Other Processes	汽车顶棚成型工艺 Automotive Headliner Molding Process
	编织工艺 Weaving Process
布毡用玻璃纤维产品 Fiberglass Products for Fabrics and Mats	制毡工艺 Mat Production Process
玻璃纤维制品	制毡工艺 Mat Production Process
iberglass Mats and Woven Rovings	编织工艺 Weaving Process
	模压成型 Mold Pressing
	层压板材成型 Laminate Molding
高性能复合纤维	缠绕成型 Filament Winding
High Performance Hybrid Fibers	拉挤成型 Pultrusion
	真空辅助成型 Vacuum-Assisted Molding
连续型玻璃纤维布/纱	连续型玻璃纤维布 Continuous Electronic Glass Fiber Fabric
圧狭空吸场纤维相// 纱 Continuous Electronic Glass Fiber Fabric and Yarn	连续型玻璃纤维纱 Continuous Glass Fiber Yarn
电子布产品	覆铜板上胶工艺 Copper Clad Laminate Coating Process
电子和产品 Electronic Fabrics	绝缘板上胶工艺 Insulation Board Coating Process



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