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惠柏新材料科技(上海)股份有限公司 Wells Advanced Materials (Shanghai) Co., Ltd

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惠柏新材料科技(上海)股份有限公司
Wells Advanced Materials (Shanghai) Co., Ltd

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COMPANY PROFILE

公司介绍

惠柏新材料科技(上海)股份有限公司成立于 2010 年,总部位于上海市嘉定区,是一家专注于特种配方改性环氧树脂系列产品研发、生产和销售的创新技术企业。

Wells Advanced Materials (Shanghai) Co., Ltd. was founded in 2010 and headquartered in Jiading District, Shanghai. It is an innovative technology enterprise that specializes in formulating epoxy resin system and focuses on R&D, production, and sales.

为满足公司战略布局,目前公司在上海(帝福 TEF)、广州(惠利 WEM)及珠海分别设立全资子公司,致力于风电叶片用环氧树脂、新型复合材料用环氧树脂、电子电气绝缘封装用环氧树脂的研发和生产。

To meet the strategic layout of the company, WAM has currently established wholly-owned subsidiaries in Shanghai (TEF), Guangzhou (WEM), and Zhuhai to dedicate to the research and production of epoxy resin for wind turbine blade, advanced composite materials and epoxy molding compound for electronic & electrical insulation.

公司于 2021 年正式启动研发中心的项目建设,增强公司研发的深度和广度;另外公司拥有一支由六十多名研发人员组成的研发团队,持续以推动风力叶片用环氧树脂、高性能复材用环氧树脂,电子电气绝缘封装用环氧树脂及量子点材料及黏胶剂等四大研发方向为主,并向相关下游应用领域不断延伸。

In 2021, WAM officially launched the construction project of the R&D center to enhance its depth and breadth, meanwhile, consisting of over sixty members, R&D team has consistently focused on driving four major research and development directions and continuously extending into relevant downstream application areas. The four major areas are: epoxy resin for wind turbine blades, epoxy resin for high-performance composite materials, quantum dot materials and adhesives, epoxy molding compound for electronic & electrical insulation.

目前公司共计取得了【91】项专利证书,其中发明专利【24】项,为公司探索更优的环氧树脂解决方案提供技术支撑,另外公司已与 2023 年在深交所创业板首发上市!标志着惠柏新材正式进入资本市场迎来发展历程中的里程碑时刻。

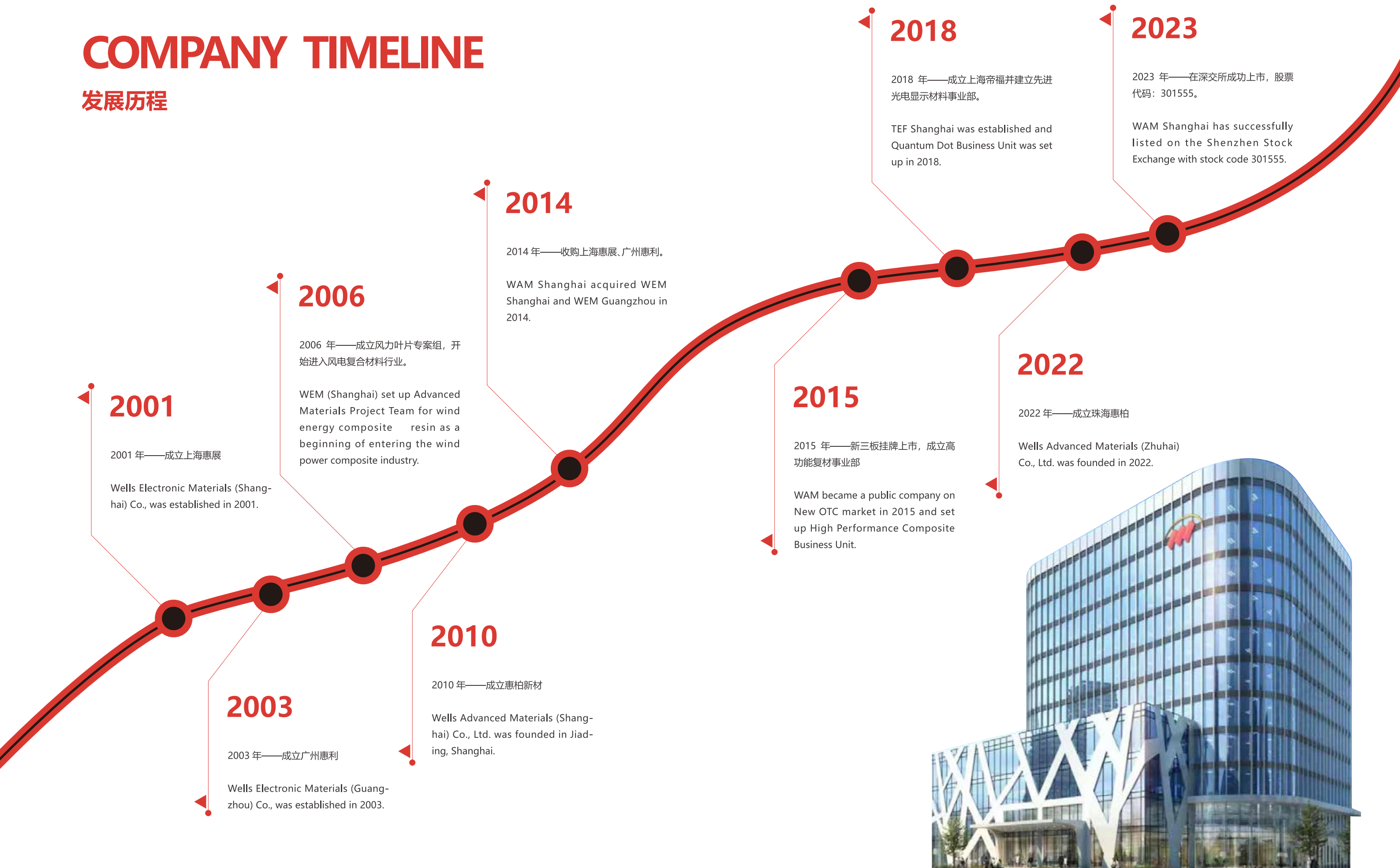
At present, WAM has obtained a total of 91 patent certificates, including 24 invention patents, providing technical support to explore better epoxy resin solutions. In a milestone moment in its developmental journey, WAM was successfully listed on the GEM of the Shenzhen Stock Exchange for the first time in 2023. This marks the official entry of WAM into the capital market, ushering in a milestone moment in its development process.

未来,惠柏新材将在全球复合材料产业链中,不断开发新产品,拓展新市场,与合作伙伴共创辉煌。

In the future, WAM will continuously develop new products and expand into new markets within the global composite materials industry chain, collaborating with partners to create brilliance together.

COMPANY TIMELINE

发展历程



FLAME-RETARDANT EPOXY SERIES

阻燃复合材料用环氧树脂

混合粘度低、对玻璃纤维和碳纤维具有良好的浸润性。
阻燃性测试通过 UL94V0、BS-6853、EN45545、Docket-90A、TB/T3237、DIN5510 等；
环保要求通过 RoHS、REACH、TB/T3139 等；
应用于要求环保无卤、低烟、阻燃的复合材料制品，如医疗器械、轨道交通阻燃、航空阻燃、单体阻燃制品等。

Flame-retardant Epoxy Series

Low viscosity and good wettability to glass and carbon fibers;
UL94V0, BS-6853, EN45545, Docket-90A, TB/T3237, DIN5510 certificated;
Environmental-friendly, RoHS, REACH, TB/T3139 certificated;
Applied in composite goods which requiring halogen-free, low smoke and flame-retardant, such as medical equipment, railway, aerospace and body cover, etc.

阻燃系列环氧树脂 Flame-retardant epoxy series					
品名 Product	25℃混合粘度 Mixed Viscosity at 25℃ (mPa.s)	25℃ 操作期 Pot life at 25℃	阻燃类型 Type	推荐操作工艺 Recommended Processes	通过测试标准 Certificates
GT-720 A/B/C	1500-2100	>6h	无卤 Halogen-free	手糊 Hand Lay-up	EN45545 R1 HL3
GT-712 A-2 / B-2 / C-2	750-1050	45-80min			Docket-90A、BS-6853
GT-910A/B	290-385	80-115min		真空导流 Vacuum Infusion	DIN5510 (S-3 SR-2 ST-2 classified) ; RoHS , REACH certificated
GT-920A/B	300-500	30-70min			TB/T3237 DIN5510 (S-4 SR-2 ST-2 classified); TB/T3139
GT-807A/B	350-550	40-70min	低卤 Low-halogen		UL94V0; DIN5510 (S-4 SR-2 ST-2 classified) RoHS , REACH Certificated
GT-807 A-1 / B-1	350-550	50-80min			UL94V0; ECE R118; RoHS , REACH Certificated
GT-820A / B	120-220	45-120min			UL94V0 certificated

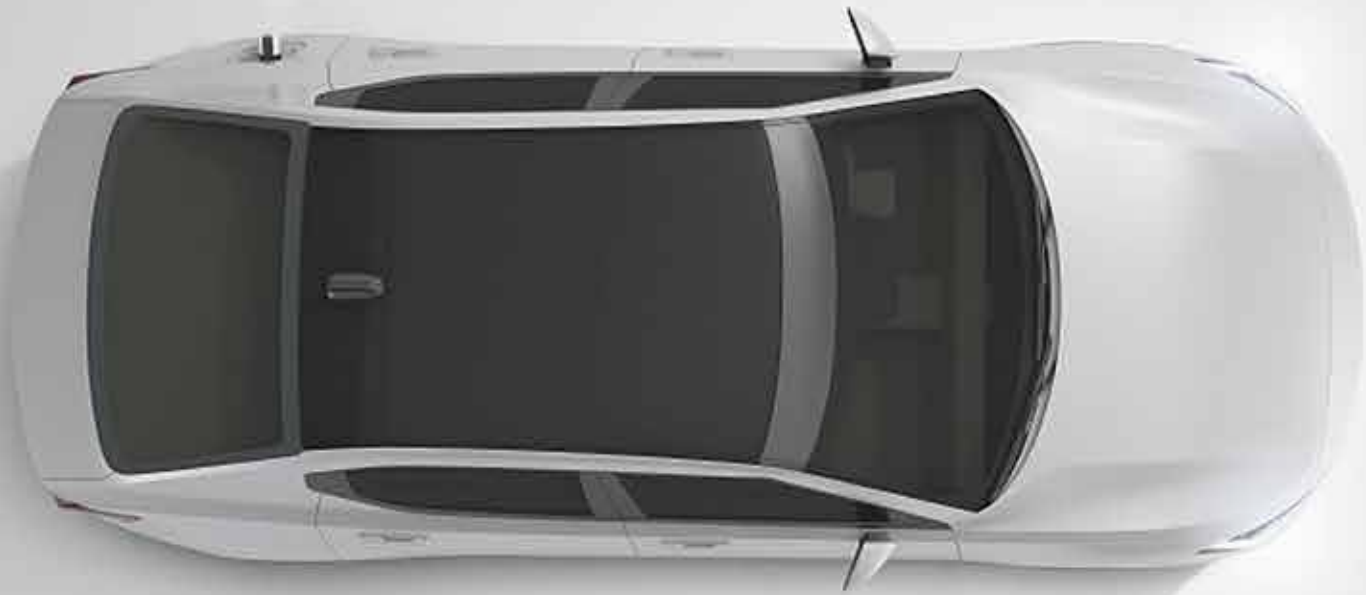
FLAME-RETARDANT EPOXY SERIES 阻燃系列

产品推荐: GT-910A/B
1、低粘度, 适合于真空导流工艺;
2、高强度高韧性, 浸润性优异;
3、无卤环保, 通过 RoHS、REACH 环保性测试;
4、阻燃满足 DIN5510-2(S-3 SR-2 ST-2)要求。

Product Recommendation: GT-910A/B
1. Low viscosity, particularly suitable for vacuum infusion process.
2. High strength and toughness, superb wettability.
3. Halogen-free and environmental friendly; RoHS, REACH certificated.
4. Passed DIN5510-2 (S-3 SR-2 ST-2 classified).

AUTOMOTIVE EPOXY SERIES

快速固化RTM环氧树脂



配套产品 Preforming Binder		
品名 Product	用途 Application	特征 Features
AM-8902	内脱模剂 Internal release agent	适用于 RTM 系统自动化内脱模剂 助脱模, 提高生产效率 无需打磨, 可直接喷漆 Internal release agent for the automated RTM system. Easy to release for FRP products, and increase the efficiency of mass production. Painting without surface treatment.
AM-8907	定型剂 Binder	适用于 RTM 系统自动化 预成型用之定型剂 软化点 115-130°C Binder for preforming process, to prevent the deformation of fibers during HP-RTM process. Softening point at 120-130°C.

快速固化环氧树脂 Fast Cure Epoxy Resin						
品名 Product	25°C混合粘度 Mixed Viscosity @ 25°C (mPa.s)	凝胶时间 Gel Time(sec)		玻璃化转移温度 Tg(°C)	推荐成型工艺 Recommended Process	特性 Features
		@100°C	@120°C			
AM-8936A/B	900-1400	35-55	20-40	≥120	HP-RTM	1-3min cure
AM-8940A/B	700-1000	45-60	25-45	≥120		2-4min cure
AM-8956A/B	60-120@80°C	70-120	30-60	≥100	C-RTM	阻燃, 过 UL94 V0 Flame retardant, UL94 V0 Certificated.
AM-8960A/B	200-400	200-300	50-70	120-130	WCM	高韧性、浸润性佳 High toughness, good wettability
AM-8970A/B	800-1000	125-155	55-85	≥180	HP-RTM C-RTM	耐高温 High heat resistance
AM-8971A/B	250-300	445	180	≥200		耐高温 High heat resistance
AM-8931A/B	700-1000	55-65	25-45	≥110	WCM	2-5min cure

HP-RTM: High Pressure Resin Transfer Molding
C-RTM: Compression Resin Transfer Molding
WCM: Wet Compression Molding



轮毂
Wheel Rim



电池包
Battery Housing



引擎盖
Engine Hood



储氢气瓶
Pressure Vessel



板簧
Leaf Spring



车门
Door

PREPREG
EPOXY SERIES

预浸料用环氧树脂

预浸料环氧树脂 Prepreg Epoxy Resin			
品名 Product	特征 Features	玻璃化转变温度 Tg(°C)	用途 Product use
WP-B1268	80°C低温固化 Cured at 80°C	> 80°C	头盔、船舶、汽车 helmet, vessels, automobile
WP-H1655	耐高温 High heat resistance	Tg≥170°C	自行车圈 bicycle rim

预浸料环氧树脂 Prepreg Epoxy Resin			
品名 Product	特征 Features	玻璃化转变温度 Tg(°C)	用途 Product use
WP-R1200	超薄克重 ultra-thin gram weight	> 115°C	渔具行业、体育用品、休闲器械等 Fishing rods, sporting goods, leisure equipment
WP-CFR02	球拍专用预浸料环氧树脂 Special prepreg epoxy resins for rackets	137°C	网球、羽毛球等球拍专用 Specially used for tennis and badminton rackets
WP-R5600W3K	无白点 No white spots	> 95°C	3 K布专用 Specially for 3K fibers
WP-S1000	高流动性 High Fluidity	> 130°C	渔具、体育用品等 Fishing rods, sporting goods
WP-1076	预浸料专用无卤阻燃环氧树脂、94V0 Halogen-free flame retardant prepreg epoxy resin, UL-94V0 certificated	129°C	广泛应用于3C产品 Widely used in 3C products
WP-S5000	低流动性 Low Fluidity	> 130°C	自行车、体育用品、工业用品等 Fishing rods, sporting goods
WP-H2002	耐高温 High glass transition temperature	> 200°C	特种耐高温需求产品 High heat resistance demand
WP-L1600	超长操作期、反应放热量低 long operation period and low heat release	> 90°C	风力发电叶片大梁 Wind blade spar cap
WP-L5100	中温快速固化 Fast-curing	> 120°C	体育休闲产品 Leisure sporting goods
WP-L1230	中低温快速固化预浸料专用环氧树脂 Medium and low temperature fast cure prepreg epoxy resin	126°C	低空领域、无人机 UAM, UAV
WP-2201	低烟无卤阻燃、玻纤 EN45545 R1 HL3 Smokeless, halogen-free and flame-retardant	> 150°C	轨道交通、建筑行业 Railway , architecture
WP-2120 黑色	无卤阻燃、快速固化、UL94V0 Halogen-free, Flame-retardant and fast-curing	> 110°C	电池壳、汽车用 Battery housing, automobile

预浸料环氧树脂

无溶剂环氧树脂体系；
具有优良的铺贴操作性；
可使用时间长，加热成型放热量低；
适用于碳纤维、玻璃纤维等；
制品拥有优异的物理性能。

Prepreg Epoxy Resins

Non-solvent epoxy resin system;
Good shaping and pasting performance to operate;
Long operation period, thermoforming with low heat release;
Mainly used in carbon and glass fibers;
Excellent physical properties of prepreg products.

WIND ENERGY EPOXY SERIES

风电叶片用环氧树脂

Wind Energy Epoxy Series

通过德国劳埃德船级社 (DNV GL) 认证；
对玻纤和碳纤维表现出较好的浸润性；
冬、夏树脂配方，把气温变化对粘度的影响降至最低；
真空树脂操作适用期灵活，
根据不同固化剂的选择适用期在 1h 至 4h 范围；
手糊树脂低温固化后 24h 内达到 60% 以上固化度，
可进行打磨、承重等操作。

Wind Energy Epoxy Series

Qualified by Germanischer Lloyd (DNV GL).
Good wettability to glass and carbon fibers.
Winter and Summer resin formulations minimize the influence of
climates changes on viscosity.
Flexible pot life of vacuum resins from 1h~4h according to choices
of hardeners.
Cured at low temperature, hand lay-up resins reach more than 60%
curing degree within 24h, capable of being polished and loaded.

WIND TURBINE GENERATOR EPOXY RESIN
风电叶片环氧树脂

产品推荐：LT-5078A/B-3

- 1、混合粘度低，特别适合于真空导流工艺；
- 2、可操作时间长，可满足大中型制品的生产；
- 3、产品绝佳的机械强度。

Product Recommendation: LT-5078A/B-3

- 1. Low mixed viscosity, particularly suitable for vacuum infusion process.
- 2. Long pot life to satisfy the requirement of large/medium sized products.
- 3. Excellent mechanical strength.

风电叶片用环氧树脂 Wind Energy Epoxy Series			
品名 Product	混合粘度 Mixed Viscosity 25°C(mPa.s)	操作期 Pot Life 25°C	玻璃化转移温度 Tg (°C)
LT-5078 系列 (Series)	200-300	80-200 min	≥75
LT-5088 系列 (series)	200-300	≥110min	≥70
LT-5089 系列 (Series)	800-2000	10-80min	> 75
LT-5093 A/B-1	≤ 250	30-60min	≥65
LTC-6010 系列 (Series)	120-220	60-190min	72-85
LT-5080A/B-OS	160-260	190-260min	>80
LT-5094A/B	≤ 300	>100min	>75
ML-5419A/B-1	<350	>80min	≥110
AD-1055 A-H/B-H 系列 (Series)	N/A	20°C 0.5-3h	>60

PULTRUSION EPOXY SERIES

拉挤工艺用环氧树脂

适合高性能复合材料拉挤工艺,最高耐温可达 230°C (DMA);
与各种类型纤维具有优良的匹配性;
在无需添加粉料的情况下得到光滑的制品表面;
应用于高性能复合材料电缆芯、碳纤医疗棒材、螺纹复合材料锚杆、风力叶片大梁,电力横担、风力叶片预埋螺栓套、抽油杆、拉挤板材、片材及异型材等各类环氧拉挤领域。

Suitable for pultruding process of high-performance composite products, maximum heat resistance to 230°C (DMA).
Excellent suitability for all kinds of fibers.
Smooth product surface without adding any powders.
Mainly used in all kinds of epoxy pultruding fields, such as high performance composite cable core, carbon fiber medical rods, threaded bolts, wind blades spar cap, wire cross arm, pre-embedded bolt set of turbine blades, sucker rods, pultruding panels, sheets and profiles.



碳纤维方管



碳纤维板材



拉挤电缆芯

拉挤工艺用环氧树脂 Pultrusion Epoxy Series				
品名 Product	配比 Mixed Ratio	25°C混合粘度 Mixed Viscosity @25°C (mPa.s)	玻璃化转移温度 Tg (°C)	特性 Characteristics
AP-3280A/B	100:105	800-1200	≥120	风电叶片大梁配方 快速拉挤, 速度: 600-800mm/min Excellent pultruding speed up to 600-800mm/min
AP-3124A-2/B-2	100 : 105	800-1200	≥115	风电大梁预埋件配方, formulation for pre-embedded bolt of wind blades
AP-3000A/B	100 : 80	500-900	≥120	拉挤效果卓越,可使用时间长, 对碳纤维和玻璃纤维有良好的浸润性 Excellent pultruding speed, long using period; Excellent wettability to glass and carbon fibers
AP-3011A-3/B-3	100 : 80	800-1000	≥110	透明性好的快速固化型环氧树脂体系 Fast-curing transparent epoxy series
AP-3003A/B	100 : 70	300-600	≥130	力学性能优越, Tg≥ 130°C, 通过 94V0 Excellent mechanical performance : Tg≥ 130°C, 94V0 certified.
AP-3160 A/B	100:100	200-500	≥165	Tg≥ 165°C 的低粘度快速固化型环氧树脂体系 Fast-curing epoxy series with low viscosity; Tg≥ 165°C.
AP-3009 A/B	100:100	450-850	≥200	Tg≥200°C 的超高温快速固化型环氧树脂体系 Ultra-heat resistance and fast-curing epoxy series; Tg≥200°C.

PULTRUSION EPOXY RESIN 拉挤工艺用环氧树脂

产品推荐: AP-3280A/B

- 1、低粘度,与各类纤维浸润匹配性优异;
- 2、适用性更强,可以拉复杂截面的型材;
- 3、拉挤速度优异,5mm 平板可以做到 700mm/min 以上。
- 4、制品表面光洁度高。

Product Recommendation: AP-3280A/B

- 1. Low viscosity and excellent wettability to all kinds of fibers;
- 2. Be able to pultrude complex cross-sections of profiles with strong applicability;
- 3. Excellent pultruding speed up to more than 700 mm/min for 5mm composite sheet;
- 4. High product surface smoothness.

FILAMENT WINDING EPOXY SERIES

缠绕工艺用环氧树脂

适用于各种类型玻纤、碳纤复合材料缠绕工艺；
颜色透明、产品不易变黄；
阶梯耐温等级，可满足各类缠绕产品的需求；
较强的柔韧性并保持较高的强度，保证缠绕制品优异的综合性能；常温超长操作时间，保证缠绕过程中的粘度稳定，工艺性良好，有效避免流胶、气泡等问题；
应用于压力容器、GRE 高压管道、高性能复合材料电杆、套筒等各类缠绕产品领域。

Filament Winding Epoxy Series

Suitable for all kinds of glass and carbon fibers in filament winding process.
Transparent, not easy to turn yellow.
Various heat resistance grades to meet requirements of all kinds of filament wound products.
High toughness together with high strength to make sure the excellent combination property.
Long pot life at room temperature ensuring stable viscosity during processing.
Excellent processing property reducing the loss of resin and formation of bubbles.
Mainly used in wound products such as pressure vessel, GRE high pressure pipes, high-performance composite poles and cartridges.

FILAMENT WINDING EPOXY RESIN 缠绕工艺用环氧树脂

产品推荐: AF-4308A/B、AF-4007A/B

- 1、压力容器专用缠绕树脂体系，与碳纤维匹配性极佳，具有阻燃性。
- 2、高强度高韧性，保证制品具有优秀的综合性能。

Product Recommendation: AF-4308A/B、AF-4007A/B

- 1. Specific for special for pressure vessel winding resin series, high suitability to carbon fibers, flame-retardant.
- 2. High strength and high toughness ensuring the excellent combination property.

缠绕工艺酸酐固化剂体系

AMINE HARDENER SYSTEM

适中的粘度，特别适合缠绕工艺。
对玻纤和碳纤维表现出较好的浸润性，保证制品品质。操作适用期长，适合玻璃钢管道缠绕。
应用于高压管道、船管等领域。
Moderate viscosity, particularly suitable for filament winding process.
Excellent wettability to glass and carbon fibers, to make sure the product quality.
Long pot life, highly suitable for wound GFRP pipes, pressure pipes, wound tubing.

缠绕工艺用环氧树脂 Filament Winding Epoxy Resin

品名 Product	配比 Mixed Ratio	混合黏度 Mixed Viscosity 25°C(mPa.s)	玻璃化转移温度 Tg (°C)	特性 Characteristics
AF-4122 A/B	100 : 80	500-1000	≥115	韧性好，操作工艺性优良，对玻纤和碳纤具有良好的浸润性 Good toughness, excellent processing property, good wettability to glass and carbon fibers.
AF-4184 A/B	100 : 110	300-1000	≥180	低黏度，高耐温，操作性优异，对玻纤和碳纤浸润性优良 Low viscosity, high heat resistance, superb operability, good wettability to glass and carbon fibers.
AF-4900 A/B	100 : 120	1000-1500	≥210	高耐温，高韧性，优越的存储稳定性 Ultra-high heat resistance and high toughness, excellent storage stability.
AF-4080 A/B	100 : 70	800-1200	≥95	具有阻燃性，优良的操作工艺 flame-retardant, excellent operability.
AF-4081 A/B	100 : 70	800-1500	≥150	
AF-4206 A/B	100 : 100	200-500	≥110	碳纤维优良的浸润性和结合性，低粘度，可用于高要求的氢气应用 Low viscosity, excellent wettability and binding to carbon fibers; especially suitable for high demanding hydrogen vessels.
AF-4303A/B	100 : 85	350-550	≥110	可应用于压缩天然气(CNG)容器的热机械和压力循环要求 Designed to meet the requirements of thermo-mechanical and pressure-cycling for CNG vessels.
AF-4020A/B	100 : 100	200-500	≥120	低粘度，操作工艺性优良，对玻纤和碳纤具有良好的浸润性 Low viscosity, excellent operability, good wettability to glass and carbon fibers.
AF-4510A/B	100 : 30	250-350 (27°C)	≥75	胺类体系具有高机械性能、低温固化能力和较高反应活性，适用于 LPG 瓶 Amine based system with high mechanical performance, low temperature curing capability and higher reactivity, suitable for LPG vessels.
AF-4602A/B	100 : 85	600-1100	≥105	工艺性优良、满足 LPG 容器压力循环要求 excellent operability; to meet the requirement of pressure-cycling for LPG vessels.

General Vacuum Infusion and Hand lay-up epoxy Series

通用型真空灌注及手糊用环氧树脂

Excellent wettability to both glass and carbon fibers.

Suitable for different processes, such as VARI, RTM, etc.;

Widely used in composite fields such as marine, automobiles, cabinets and violin cases, etc.

对玻纤和碳纤维表现出较好的浸润性;

适用于不同的生产工艺,如真空灌注、手糊、RTM 工艺等;

广泛应用于各种复合材料应用领域,如船舶、汽车、箱体、提琴盒等。

模具系列环氧树脂 / 模具胶衣 Mold series epoxy resin/Gel-coat			
系列 A series of	品名 Product	分类 classification	特性 Characteristics
模具系列 Mold series	ML-5816A/B	手糊工艺 Hand lay-up process	Tg≥150℃
	WZ-6017A/B		Tg≥120℃
	ML-5813A/B	真空工艺 Vacuum technology	Tg≥150℃
	ML-5419A/B-1		Tg≥120℃
	ML-5417A/B		Tg≥110℃
	MG-7103AB	模具胶衣 Gel-coat	Tg≥120℃, 色号 RAL 3013 (番茄红色) (Tomato red)

General Vacuum infusion and hand lay-up epoxy Series

通用型真空灌注及手糊用氧树脂

产品推荐: GE-7118 系列

- 1、通过搭配不同的固化剂,可适应不同的操作工艺需求;
- 2、混合粘度低,适用于真空灌注工艺;
- 3、应用范围广,制品性能优异。

Product Recommendation: GE-7118 series

1. Suitable for different processes by using different hardener.
2. Low viscosity, suitable for VARI process.
3. Suitable for varied fields, excellent product properties.

通用型真空灌注及手糊用环氧树脂 / 产品胶衣 / 胶粘剂 General vacuum infusion and hand lay-up epoxy Series/Coating Series/Adhesive		
系列 A series of	品名 Product	特性 Characteristics
真空灌注树脂 VARI	ML-8190A/B	高耐温树脂, Tg≥180℃ High heat resistance, Tg≥180℃
	QT-8158A/B	超长操作期, 电力绝缘真空浸胶 Extra-long pot life, vacuum dipping glue for power insulation
	GE-7501A/B	碳纤维制件表面透明性好, 常温固化韧性好 Good transparency of CFRP surfaces; good toughness after curing at room temperature
	QC-360A/B	碳纤维制件表面透明性好, 常温固化, 操作期 25-45min 左右 Good transparency of CFRP surfaces; cured at room temperature, pot life around 25-45min
	AM-8926A/B	快速固化, 操作期 10-25min 左右 Fast cured, pot life around 10-25min
	LT-5028A/B	混合粘度低, 通过 DNVGL 认证; 适用于风力发电叶片, 船舶游艇制作, 汽车车体等。 Low mix viscosity Suitable for manufacturing of wind blades, marine, yacht and automobile body etc. Certified by GL.
	GE-7118A/B	适用于大件制品 / 风电叶片配件制作, 操作期长约 120-200min Suitable for large products/wind turbine blades, Long pot life around 120-200min.
	GE-7124A/B	
手糊树脂 Hand lay-up	GE-7601A/B	碳纤维制件表面透明性好, 常温固化, 操作期 20-40min Good transparency of CFRP surfaces; cured at room temperature, pot life around 20-40min
	GE-7119A/GE-7121B	快速固化, 操作期 20±8min Fast cured, pot life around 20±8min
	GE-7119A/GE-7122B	操作期 60±20min Pot life around 60±20min
产品胶衣 Gel-coat	LG-7003A/B 系列	无色透明手糊树脂, 快慢自由搭配使用, 操作期 5-60min 左右 Transparent Hand lay-up series, pot life around 5-60min, flexible usability of hardener for long or short curing time
		Tg≥70℃, 色号 RAL 9003 (信号白色) (Signal White, RAL 9003) 色号 B05 (海灰色) (Sea Grey, B06)、 色号 RAL 6020 (铭绿色) (Inscription Green, RAL 6020)、 色号 RAL 7037 (土灰色) (Earthy Grey, RAL 7037) 及 色号 RAL 8016 (桃花心木褐红色) (Mahogany Maroon, RAL 8016) 等
胶粘剂 Adhesive	AD-1055A/B-HK	Tg≥75℃, 常规粘接, 表面修补, 快速固化 Conventional adhesive, surface repairing, fast cured
	AD-1058A/B 系列	Tg≥80℃, 常规粘接 Conventional adhesive, Tg≥80℃
	AD-1056A/B	金属粘接, 粘接强度高 Metal bonding, high bonding strength.

EPOXY MOLDING COMPOUND

for electronic & electrical insulation

电子电气封装用环氧树脂

LED 封装用环氧树脂

Epoxy Resin for LED Encapsulation

适用于家电LED封装、指示灯、数码显示板封装、红外发射管和灯珠装、电器连接器、户内外小间距显示等。

It is suitable for LED encapsulation of home appliances, indicator lights, digital display board encapsulation, infrared emitting tubes and lamp bead encapsulation, electrical connectors, indoor and outdoor small-pitch display screens, etc.

电子元器件胶粘剂

Waterproof and insulation epoxy molding compound

适用于各类电感器、变压器粘接、填充、密封, 继电器密封粘接, 芯片底部粘接固定。

It is suitable for bonding, filling, sealing of various inductors and transformers, also for sealing and bonding of relays, and bonding and fixing of the bottom chips.

防水绝缘灌封用环氧树脂

Waterproof and insulation epoxy molding compound

适用于各类电子元器件及电路绝缘灌封、各类不同固化条件下电子电气密封。

It is suitable for all kinds of electronic components and circuit insulation and encapsulation, and electronic and electrical encapsulation under various curing conditions.

TOWPREG CARBON FIBER 碳纤维预浸丝

干法缠绕 压力容器的首选材料，可广泛应用于航空航天、汽车、船舶、基础设施和体育等领域。

Carbon fiber towpreg is the first choice of pressure vessels for dry winding, which can be widely used in aerospace, automotive, marine, infrastructure and sports fields.

产品特性 Properties

- 标准环氧树脂系统;
- 优异的机械性和极高的力学性能;
- 均匀的树脂含量 (±3%) 和可定制预浸丝宽度;
- 优异的工艺性-合适的粘性/容易放卷/高速缠绕;
- 有中高温树脂体系, 100%热熔工艺/无溶剂, Tg120°C/180°C/200°C。
- Standard epoxy resin system;
- Excellent mechanical properties and extremely high mechanical performance;
- Uniform resin content (±3%) and customizable towpreg width;
- Excellent processability: suitable viscosity, easy to unwind, high speed winding.
- Provide medium and high-temperature resin systems, 100% hot melt process/solvent-free, Tg120°C/180°C/200°C.

SPECIAL PREPREG RESINS 特种预浸料专用树脂

Wells Advanced Materials (Shanghai) Co., Ltd

WP-X7000

预浸料专用双马树脂

Bismaleimide Resin (BMI Resin)

优异的高温力学性能

Excellent mechanical properties at high temperatures

树脂流动性控制好

Controllable resin fluidity

热熔树脂/无溶剂: 气孔最少化, 体现最高品质

Hot-melt resin/solvent-free: Minimized porosity for the highest quality

良好的预浸料操作性: 具备适当的粘度、黏性和柔软度

Good prepreg operability: appropriate viscosity, stickness and softness

合理的价格和优良品质

Reasonable price and excellent quality

通过更高温度固化或后处理可以获得更高的使用温度

Higher service temperatures can be obtained by curing or post-processing at higher temperatures

WP-M4500

预浸料专用氰酸酯树脂

Cyanate Resin

低吸湿率, 内应力低, 微裂纹少

Low moisture absorption, low internal stress, less microcracks

低真空质损、介电常数和损耗角正切值

Low vacuum mass loss, dielectric constant and loss tangent

低线胀系数 (CTE) 和湿膨胀系数 (CME)

Low CTE and CME

良好的工艺性及储存稳定性

Good manufacturability and storage stability

WP-R5800

预浸料专用中温固化环氧树脂

Medium Temperature Cure Epoxy Resin

良好的树脂流动控制性

Controllable resin fluidity

适合于非热压罐成型 (OOA)

Suitable for non-autoclave forming (OOA)

优良的增韧体系

Excellent toughening system

良好的工艺性及储存稳定性

Good manufacturability and storage stability

EF系列结构粘接环氧胶膜

EF Series Structural Adhesive Epoxy Film

强度高、韧性好、耐老化、抗疲劳、裁切使用方便等特点！

可用于金属、复合材料板-板粘接、预浸料层间粘接、铝蜂窝板芯粘接等。可广泛用于航空、建筑、铁路、体育用品等领域。

另有其他种类胶膜，可接受产品定制。

High strength, good toughness, aging resistance, fatigue resistance, and easy to cut and use, among other features!

It can be used for bonding metal, composite materials, board-to-board bonding, prepreg layer bonding, and aluminum honeycomb core bonding. It can be widely used in fields such as aerospace, construction, railway, sports equipment, and more.

Other types of films and customized products are available.

PE蓝膜/PE blue film

胶膜/Adhesive film

离型纸/Release paper

无载体胶膜结构

Carrier-free film structure

PE蓝膜/PE blue film

胶膜/Adhesive film

载体/Carrier

胶膜/Adhesive film

离型纸/Release paper

带载体胶膜结构

Carrier film structure

产品类别

Category

无载体纯胶膜；有载体胶膜/Carrier-free film structure; Carrier film structure
细分不同厚度，不同载体/Subdivided into different thicknesses and different carriers

EF系列结构粘接环氧胶膜性能/EF series structural bonding epoxy film performance

产品名称 Product name	种类 Type	克重 (g/m2) Gram weight (g/m2)	玻璃化温度 Tg	剪切强度 (MPa) Shear strength (MPa)	90°C剥离强度 90°C peel strength	滚筒剥离强度 N.mm/mm
EF-0110	CF ^[1]	EF-0110: 100	115-120°C	≥ 20	≥ 30	-
EF-0120		EF-0120: 200				-
EF-0130		EF-0130: 300				-
EF-0210	CF ^[1]	EF-0210: 100	115-120°C	≥ 20	≥ 30	-
EF-0220		EF-0220: 200				≥ 25
EF-0230		EF-0230: 300				≥ 30
EF-0310N	C ^[2]	100	115-120°C	≥ 25	≥ 30	-
EF-0320N		200				≥ 40
EF-0330N		300				≥ 50
EF-0410N	C ^[2]	100	115-120°C	≥ 25	≥ 30	-
EF-0420N		200				≥ 60
EF-0430N		300				≥ 80

*注释/Notes
[1] CF: Carrier-free 无载体胶膜
[2] C: Carrier带载体胶膜

性能比较

Performance Comparison

四个胶膜系列配方相近，剪切强度和90度剥离强度标准有胶厚要求，故四个配方的基本剪切强度和90度剥离强度基本一致；
抗老化及高低温性能也基本一致；
最大区别在于滚筒剥离强度；
影响滚筒剥离的因素：1) 配方；2) 胶厚；3) 载体。

The four film series have similar formulas, and the shear strength and 90-degree peel strength standards have adhesive thickness requirements, so the basic shear strength and 90-degree peel strength of the four formulas are basically the same;
The anti-aging and high and low temperature performance are also basically the same;
The biggest difference is the roller peel strength;
Factors affecting roller peeling: 1) Formula; 2) Adhesive thickness; 3) Carrier.