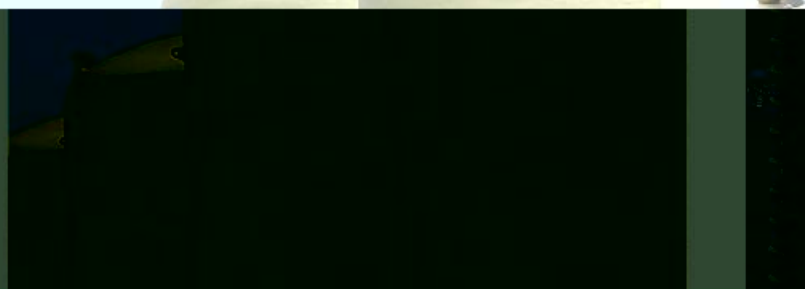


E6-CK Glass Fiber

Best Corrosion Resistance Solution for High-Performance Composite Material



Company Profile

China Jushi specializes in the production of glass fiber. The company has attained the leadership position in the global glass fiber industry in terms of Output, Technology, R&D, Quality and Market share.

Woven and chopped strand mats under the "Jushi" brand have been listed as "China Top Brand" products and the trademark "JUSHI" has been recognized as "China Famous Trademark". The principal products of Jushi have been approved by China Classification Society (CCS), DET NORSKE VERITAS (DNV), Bureau Veritas (BV), Lloyd's Register (LR), Germanischer Lloyd (GL) and Attestation De Conformité Sanitaire (ACS).

Jushi produces E-glass and C-glass glass fiber products including rovings, chopped strands, chopped strand mats, woven rovings and electrical yarns and fabrics in over 20 product categories and 1000 specifications. These products are sold in all provinces in China and exported to over 100 countries. The key regions include North America, Middle East, Europe, Southeast Asia and Africa with exports accounting for 30% of the total sales volume.

Jushi people adhere to our core values of "Behavior, Innovation, Responsibility, Learning, Enthusiasm" to build the company into an international group with leading manufacturing scale, advanced technology, talented team, excellent management, powerful execution, great achievements and fast growth. China Jushi strives to lead the modernization of China's fiberglass industry and maintain the leadership position in the global glass fiber industry through endless pursuit of innovation and excellence.



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Best Corrosion Resistance Solution for
High-Performance Composite Materials

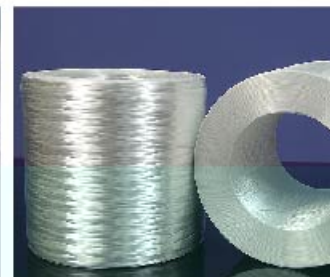
To achieve clean production and minimize environmental footprint, Jushi Group started

using E6-CR glass fiber in 2008. With the rapid development of new applications, the design of fiberglass composite parts is becoming more and more demanding. For example, both the manufacturers and end users want products with long-term consistent

performance and excellent properties. It combines all the benefits of E6[®] glass fiber with excellent corrosion resistance, thus meeting the requirements of the most demanding applications. E6-CR provides customers with best solutions for corrosion resistance.

E6-CR GLASS FIBER

Excellent Corrosion
Resistance

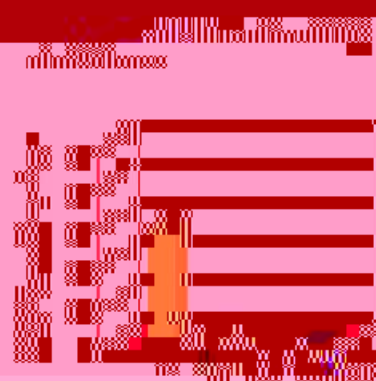


Compared with typical FRP, E6-CR offers the following unique benefits:

- Higher chemical stability

Chemical Resistance Data: Acetic acid (5%)

Material	Acetic acid (5%)	Hydrochloric acid (10%)	Sulfuric acid (10%)	Nitric acid (10%)	Phosphoric acid (10%)
E6-CR	Excellent	Excellent	Excellent	Excellent	Excellent
FRP	Good	Good	Good	Good	Good
Carbon fiber	Excellent	Excellent	Excellent	Excellent	Excellent
Kevlar	Good	Good	Good	Good	Good
Fiberglass	Good	Good	Good	Good	Good
Carbon fiber	Excellent	Excellent	Excellent	Excellent	Excellent
Kevlar	Good	Good	Good	Good	Good
Fiberglass	Good	Good	Good	Good	Good



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E6-CR REINFORCEMENTS

Excellent Environment Durability

In the future, end-use composite products will operate in even harsher environments and the end-users will expect enhanced durability. Compared with E6®glass fiber, **E6-CR enhanced glass fiber** reinforced composite materials offer better corrosion resistance and temperature endurance, making composite parts more reliable and cost effective.

Superior Mechanical Properties

Test Sample	Property	Standard	E	E6®	E6-CR
Tensile property of impregnated roving, Epoxy resin	Tensile strength (MPa)	ASTM D2343	1900~2000	2500~2700	2500~2700
	Tensile modulus (MPa)	ASTM D2343	73~75	81~83	81~84
1200 g/m ² UD fabric, (tested in 0° direction), Infusion process, Epoxy resin	Tensile strength (MPa)	ISO 527-5	/	1120.6	1125.0
	Tensile modulus (MPa)	ISO 527-5	/	42.6	42.9
	Fiber Volume Content (%)	ISO 1172	/	53.6	54.0
	Tensile strength (MPa)	ISO 14126	/	805.5	810.5
	ensile modulus (GPa)	ISO 14126	/	42.9	43.1
	Fiber Volume Content (%)	ISO 1172	/	54.3	54.4

Chemical Stability

Degradation (% Loss) after boiling in water for 7 days

Sample	Property	Standard	E6®	E6-CR
800g/m ² woven roving Unsaturated polyester Hand laid laminates	Glass content (%)	ISO 1172	57	57
	Tensile strength (MPa)	GB/T 1447	38.1%	11.4%
	Tensile modulus (GPa)	GB/T 1447	2.8%	1.9%
	Flexural strength (MPa)	GB/T 1449	29.5%	22.3%
	Flexural modulus (GPa)	GB/T 1449	2.6%	1.8%

Temperature Resistance

Glass fiber reinforced composites are increasingly used in harsh environments, such as pipes used in oil-field processing or in treatment of high temperature waste gases. Drastic changes in ambient temperature reduce the strength and thus shorten the operating life of composite materials.

The composite samples tested below were dried for 10 days at 180, and then put in an -60 environment for another 10 days. The relative loss of properties after the exposure is shown in the table below.

Sample	Property	Standard	E6®	E6-CR
100g/m ² woven roving Unsaturated polyester Hand laid laminates	Glass content (%)	ISO 1172	58	58
	Tensile strength (MPa)	GB/T 1447	4.9%	4.5%
	Tensile modulus (GPa)	GB/T 1447	6.8%	6.1%
	Flexural strength (MPa)	GB/T 1449	17.0%	15.4%
	Flexural modulus (GPa)	B/T 1449	14.0%	12.8%

ENVIRONMENTAL PROTECTION

Become a Model for Clean Production

China Jushi is committed to improving our environmental footprint. We have invested heavily in the most modern technologies available to reduce pollutant emissions into our environment. Improved oxygen firing technology reduced total waste gas emissions from the furnace by 80% and the nitrogen oxide emissions by over 90%. State of the art glass recycling technology ensures zero discharge of process waste glass fiber. Modern waste purification technology enables zero discharge of industrial waste water from our production process. E6-CR glass fiber is produced by more scientific production technology and process which not only improve the product performances, but also control air pollutants at source. The development of E6-CR glass fiber is consistent with our constant commitment to social responsibility and sustainability. Not only have we achieved the goal of improving our glass fiber products, but we also have improved our environmental footprint at the same time.

E6-CR



CUSTOMER AND TECHNICAL SUPPORT ORGANIZATION

Offer Best Technical Support

China Jushi possesses world class core technologies and advanced testing and analysis capabilities for glass, organic chemistry, fiberglass and composites. We have established a global network of marketing and technical support.





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