JUSHI®

High Performance "E6® Enhanced Glass Fiber"
Will Promote the Progress of Composites

Enhanced Glass Fiber

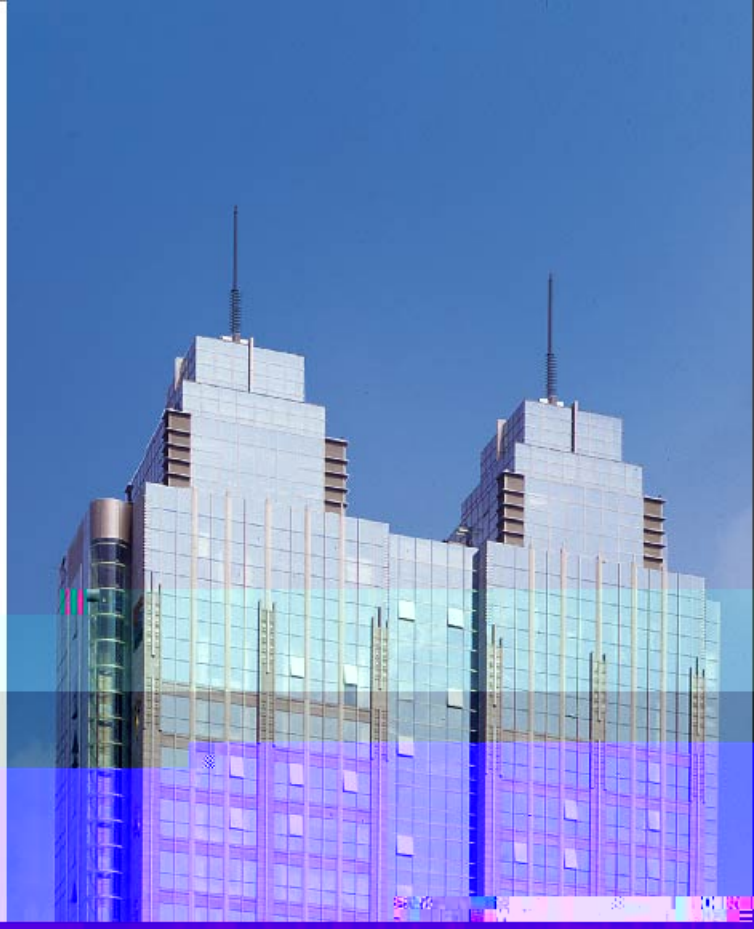
— High Performance Environment-friendly Fiberglass

— Compliant with ASTM D578 and ISO 2078 Standards

— An Optimal Combination of Both Fee E-glass and E-CR Glass

中国巨石股份有限公司
CHINA JUSHI CO., LTD

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. Jushi Group is a Chinese national, key high technology enterprise, operating a distinguished Post-Doctoral program.

Jushi always adheres to its fundamental Management principles:

- "Apply science and technology for development,
- Build the brand name to expand market share,
- Emphasize management to improve efficiency and
- Employ talented people to enable future growth".

The company owns proprietary, world-class core technologies

JUSHI

GOALS

Enhance Product Performance

Expand Applications

Minimize Environmental Footprint

Increase Customer Satisfaction

With the rapid development of new applications, the design of fiberglass composite parts is becoming more and more demanding, requiring composite materials to deliver better performance, including increased strength, lighter weight, and enhanced corrosion resistance. Manufacturers and end users want products with long-term consistency and reliability.

To meet these demands, as well as

and acid corrosion resistance, thus meeting the requirements of the most demanding applications. **E6** provides Jushi Group with a complete new technology platform on which new solutions are developed for a wide range of applications for different end-use markets.

E6 Enhanced Glass Fiber

REVOLUTIONARY NEW GLASS FIBER

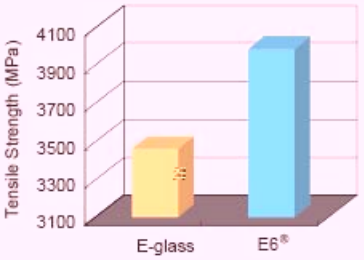
Expands the Scope of Composite Applications

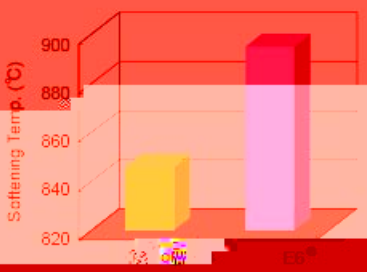
Compared with typical E-glass fiber, Jushi E6® offers the following unique benefits:

- **Higher tensile strength,** up to 20% higher than E-glass fiber
- **Higher softening temperature,** about 60℃ higher than E-glass fiber
- **Raw materials containing no boron and no fluorine,** to ensure clean production

E6® is especially suitable for high pressure and high temperature applications. In addition, E6® maintains excellent electrical properties, including **dielectric constant and volume resistivity of E-glass.**

Property Comparison between E-glass and E6® Fibers





Physical and Electrical Properties of E-glass and E6® Fibers:

Property	Testing method	Unit	E	E6®
Density	ASTM C693	g/cm^3	2.60	2.62-2.63
Refractive Index	ASTM C1648	/	1.566	1.566
Expansion Coefficient	ASTM D696	10^{-6} K^{-1}	6.1	6.0
Softening Point	ASTM C338	℃	838	898
Elastic Modulus	ASTM E1876	GPa	72	81
Dielectric Constant (23℃,1MHz)	ASTM D150	/	6.7	7.1

Weight loss comparison of E-glass and E6® fibers soaking in

E6® glass fiber is produced

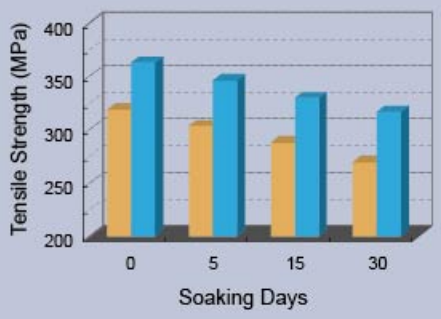
E6® REINFORCEMENTS

Open A New Era for Composites

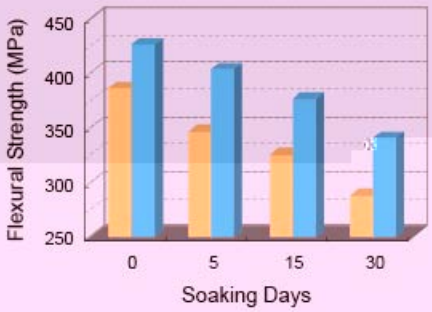
Performance Comparison of Laminates Soaked in Acid Solution

E-glass E6®

Comparison of longitudinal tensile strength of laminates soaked in 5% H_2SO_4



Comparison of longitudinal flexural strength of laminates soaked in 5% H_2SO_4



Superior mechanical properties

The use of E-glass reinforcements allows customers to design high performance composites beyond the limits of the polymer material itself. Jushi E6® glass fiber enables even higher composite performance. Compared with E-glass, composites based on E6® reinforcements have better mechanical properties including: tensile strength, elastic modulus, flexural strength, flexural modulus, shear strength and compressive strength. E6® Enhanced Glass Fiber has wide application fields in high performance composites, including: wind energy, high pressure vessels, geo-grids and sucker rods.

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

ENVIRONMENTAL PROTECTION

Become a Model for Clean Production

Jushi Group is committed to improving our environmental footprint. We have invested heavily in the most modern technologies available to reduce pollutants in our air and water, and reduce waste.

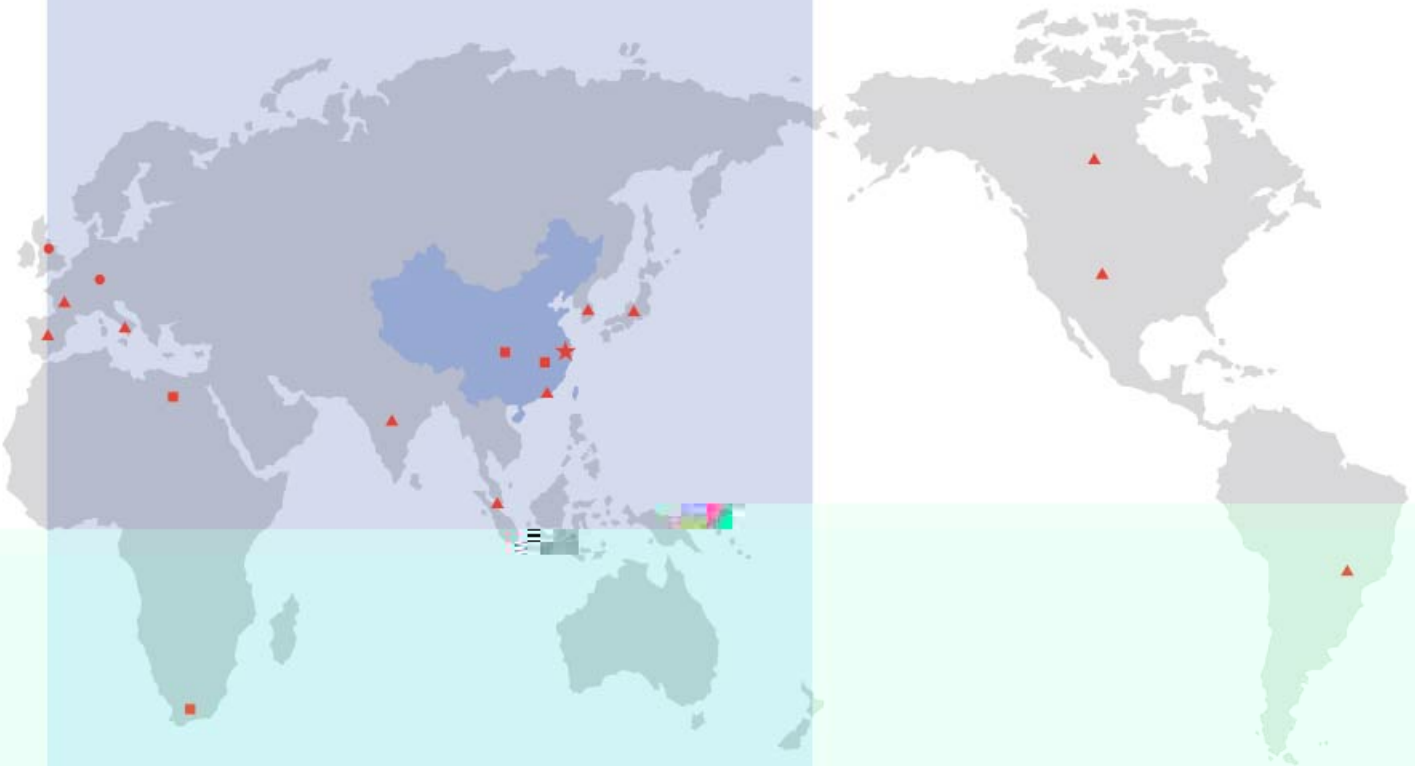
E6® Enhanced Glass Fiber, is made with a glass formulation which significantly reduces air pollutants during manufacturing. Improved oxygen firing technology reduces total waste gas emissions from the furnace by 80% and the nitrogen oxide emissions by over 90%. State of the art glass recycling technology ensures zero discharge of process waste glass fiber. Modern waste water purification technology enables zero discharge of industrial waste water from our

CUSTOMER AND TECHNICAL SUPPORT ORGANIZATION

Offer Best Technical Support

Jushi Group 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 service professionals to help customers solve problems in materials development and process optimization. We collaborate closely with customers to address market challenges and promote the growth of the composites industry.

We will share with you all the information on E6® yarns for reinforcements as well as our considerable knowledge of compounding and molding technology and processes.



中国巨石股份有限公司
CHINA JUSHI CO., LTD

Add: Tongxiang Economic Development Zone, Zhejiang 314500, China
International Sales: Tel: +86-573-88136318 Fax: +86-573-88181058
Domestic Sales: Tel: +86-573-88181016 Fax: +86-573-88136319
Customer Service: Tel: +86-573-88136325 Fax: +86-573-88136248
Http://www.jushi.com E-mail: info@jushi.com