JUSHI®

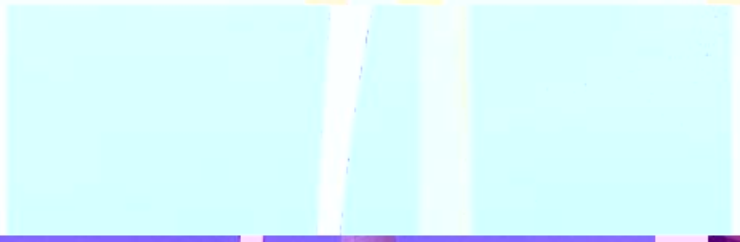
E7 Glass Fiber

Optimal Cost-Performance Solution for
High Performance Composite Materials







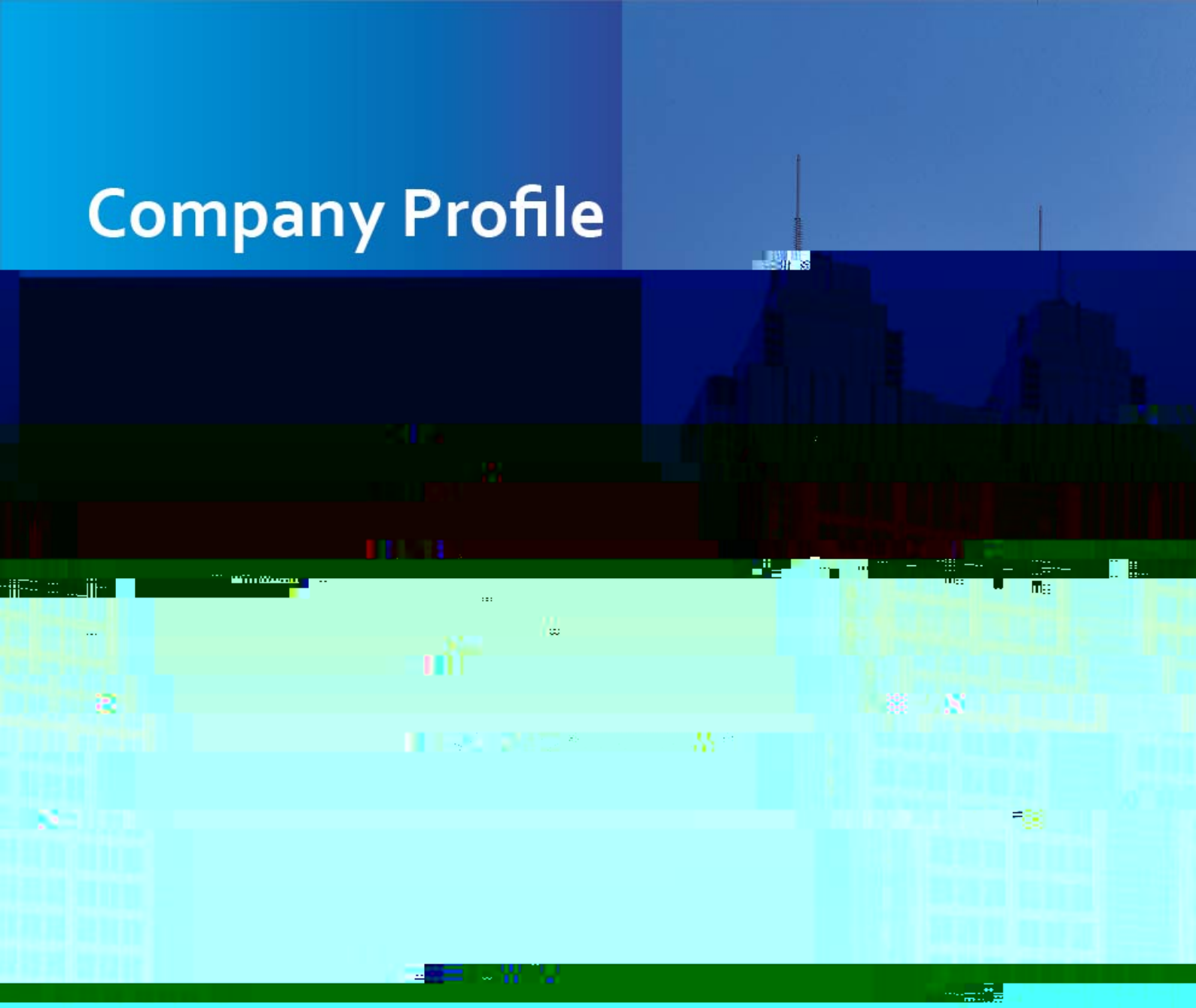



New High Performance

Glass Fiber

中国巨石股份有限公司

Company Profile



Jushi Group produces E-glass and C-glass glass fiber products including rovings, chopped strands, chopped

E7 New High Performance Glass Fiber

GOALS

Provide Optimal Cost-Performance Solution for High Performance Composite Materials

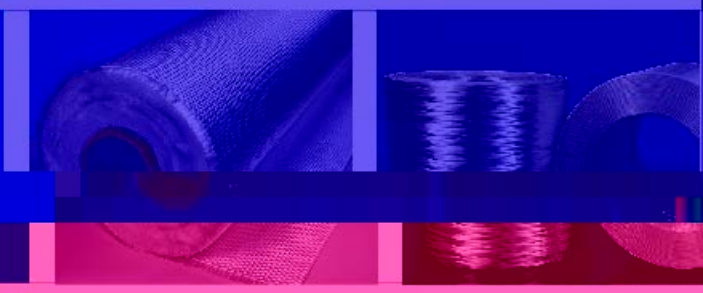
With scientific and technological progress, the 21st Century has seen the rapid development of glass fiber-reinforced composite industry. Due to limitations in mechanical properties, it has become more and more obvious that E glass fiber, including boron-free E glass fiber, cannot meet the requir

hing E6 glass
Glass Fiber with
large refractory
ss fiber from the

production, after successfully launc
fiber in 2009, Jushi Group has developed E7 High Strength and High Modulus
even better performance in 2010. The volume production of E7 glass fiber with
furnaces makes it possible to meet the large demand for high performance glas
manufacturers of large wind b *essure vessels and pultruded pr*

E7 GLASS FIBER

Boost the High Performance of Composite Materials

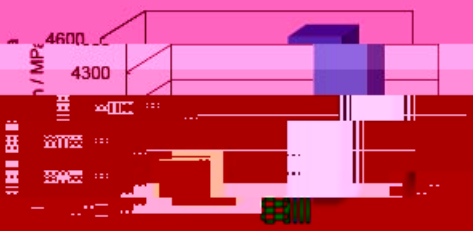


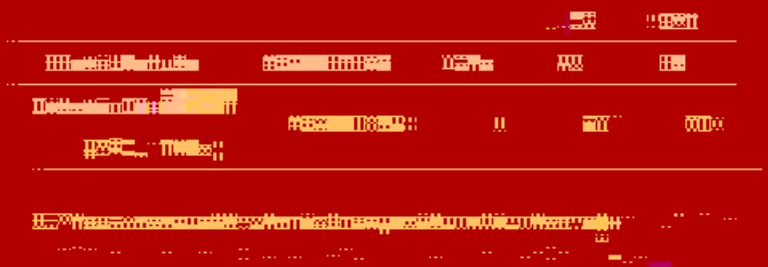
Compared with traditional E glass, E7 delivers the following unique advantages:

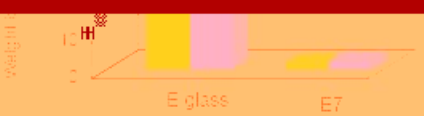
- *Higher strength, 30% higher than traditional E glass;*
- *Higher modulus, 23% higher than traditonal E glass;*
- *Higher softening point, about 80% higher than traditional E glass.*

Therefore, E7 is suitable for use in composite mat[illegible]

Comparison of Tensile Strength between E7 and E glass Fiber:







SEM picture of E7 in 10% H_2SO_4 solution at 96 C after 24 hours

alkaline solution	Soaking in 0.5M NaOH solution at 23℃ for 24 hours	%	0.46	0.22
Weight loss in boiling water	Boiling in water at 100℃ for 24 hours	%	0.53	0.23

Note:The above [illegible]sted products have a uni[illegible]

E7 REINFORCEMENTS

Open New Space for High End Applications of Composites

The use of glass fiber reinforcements allows customers to design high performance composites beyond the limits of the polymer material itself. Jushi E7 glass fiber enables even higher composite performance. Compared with E-glass, composites based on E7 reinforcements have better mechanical properties including higher strength, modulus and fatigue resistance. E7 reinforcement will expand the use of high performance composites in large wind blades, high pressure vessels, pultrusion profiles and many other applications.

The exiting production technology with large refractory furnaces can be used to manufacture E7 at lower cost. The volume production of E7 glass fiber with large refractory furnaces makes it possible to meet the large demand for high performance glass fiber from high end industries such as the wind energy industry. The excellent mechanical properties and volume production with refractory furnaces make an optimal cost performance solution for composites industry.

E7 - Reinforced wind blades are lighter and more durable and reduce power generation cost

As a clean and inexhaustible energy source, the wind power can be generated at relatively low cost with mature te
Due to environment issues related to thermal power and nuclear power more and more countries are setting up wi
proc aggressively. The generation cost of wind power depends very much on the length of wind blades - lo
lead to higher power generation efficiency. Longer blades requir

nology.
energy
er blade

industry for a large quantity of high strength and high s fiber. By using E7, the
nufacturers can make lighter, longer and more durable wi

New High Performance
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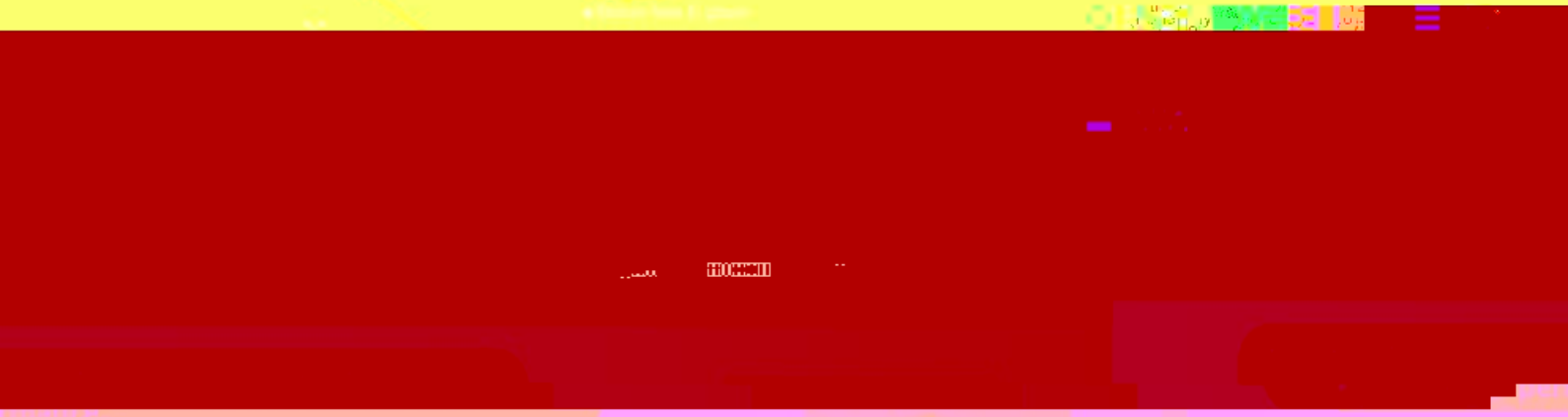
Fatigue test result based on UD1200 laminate:

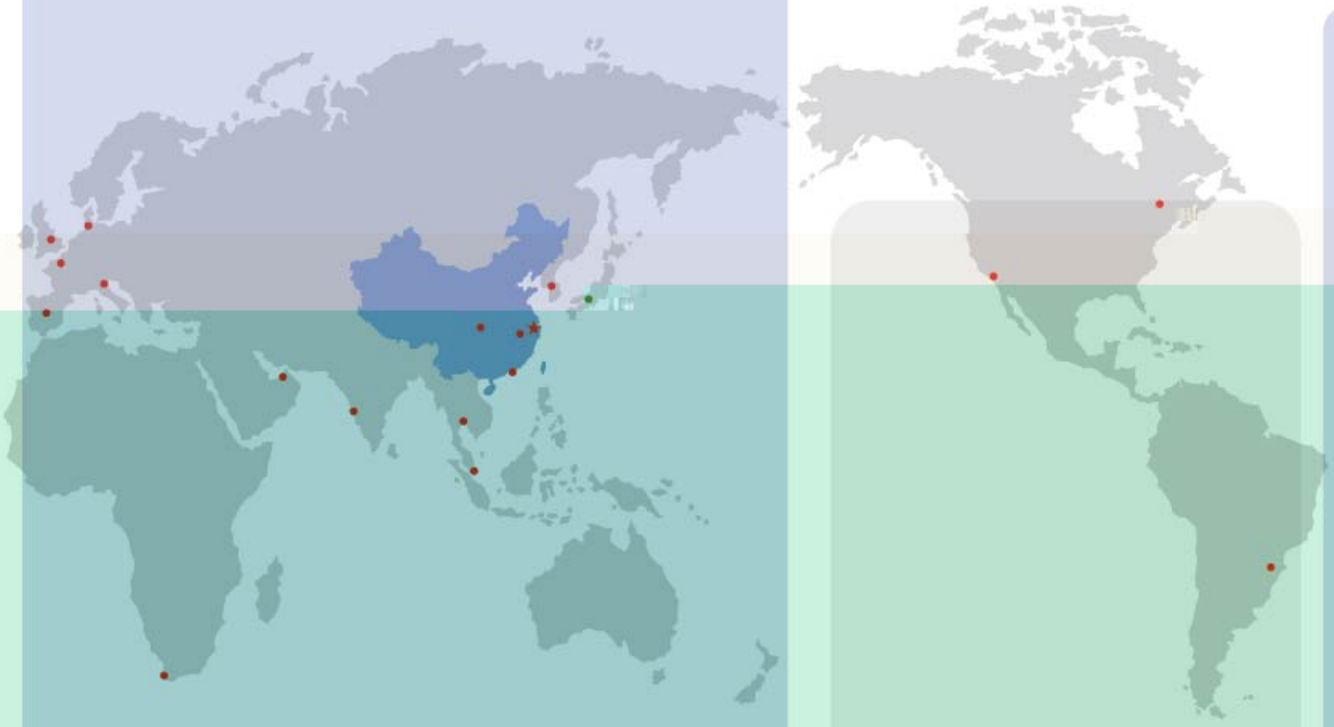


ENVIRONMENTAL PROTECTION

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 pollutant emissions into our environment. Improved oxygen firing technology reduced total waste gas emissions from the furnace by [illegible]% and the nitrogen oxide emissions by over 90%. State of the art glass recycling technology ensures zero discharge of process [illegible]

CUSTOMER AND TECHNICAL SUPPORT ORGANIZATION



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