

## E7 Glass Fiber

Optimal Cost-Performance Solution for High Performance Composite Materials



# E7

# New High Performance Glass Fiber



中国巨石股份有限公司  
CHINA JUSHI CO., LTD



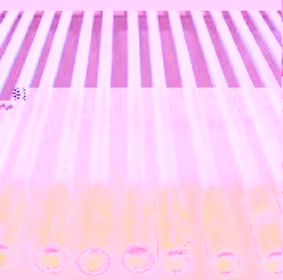
# F7 New High Performance



## GOALS

Provide Optimal Cost-Performance Solution  
for High Performance Geocomposites Materials

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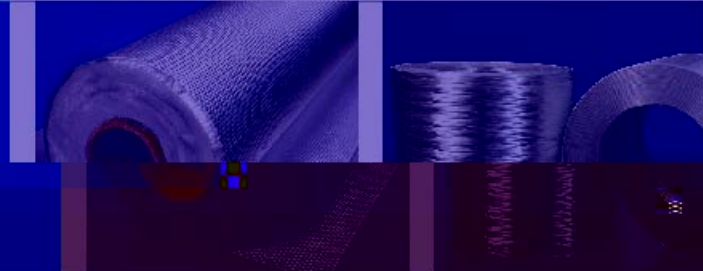


needs of the high end markets. E7 provides a brand-new technological platform for Jushi Group products. The product lines developed on the basis of this new platform have various applications and offer brand new solutions to the various needs of demanding customers.



# E7 GLASS FIBER

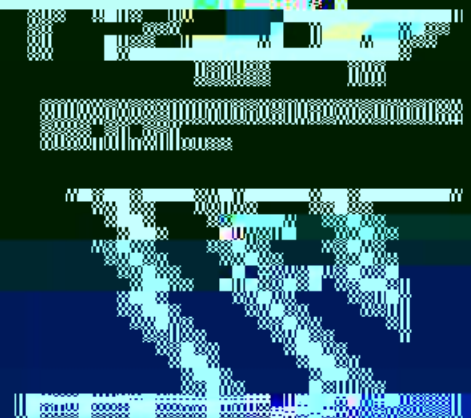
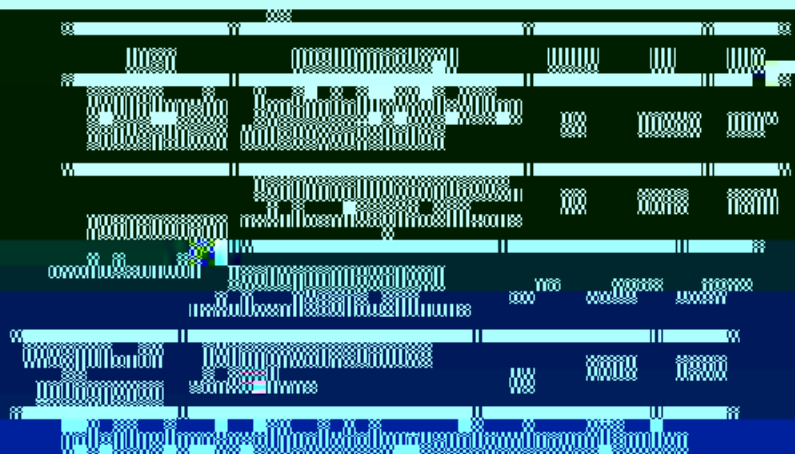
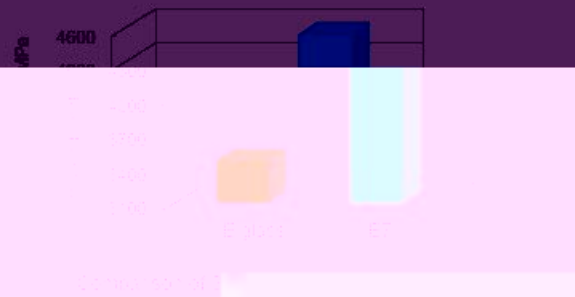
Boost the High Performance of Composite Materials



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

- Higher strength, 30% higher than traditional E glass;
- Higher modulus, 23% higher than traditional E glass;
- Higher softening point

Comparison of Tensile Strength between E7 and E glass Fiber:





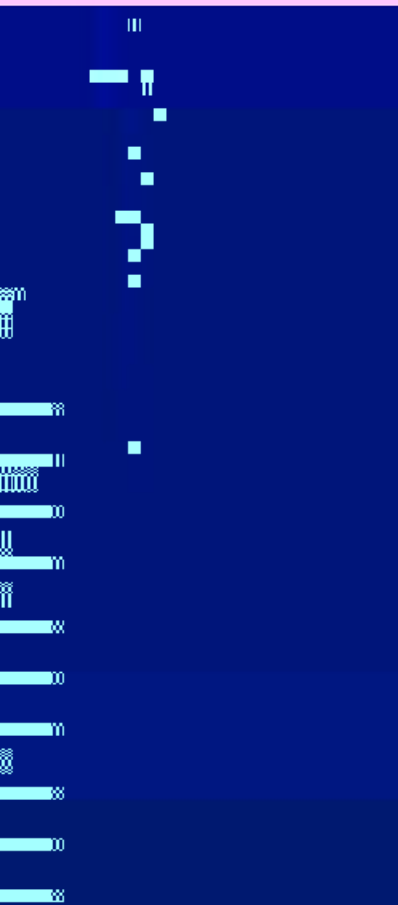
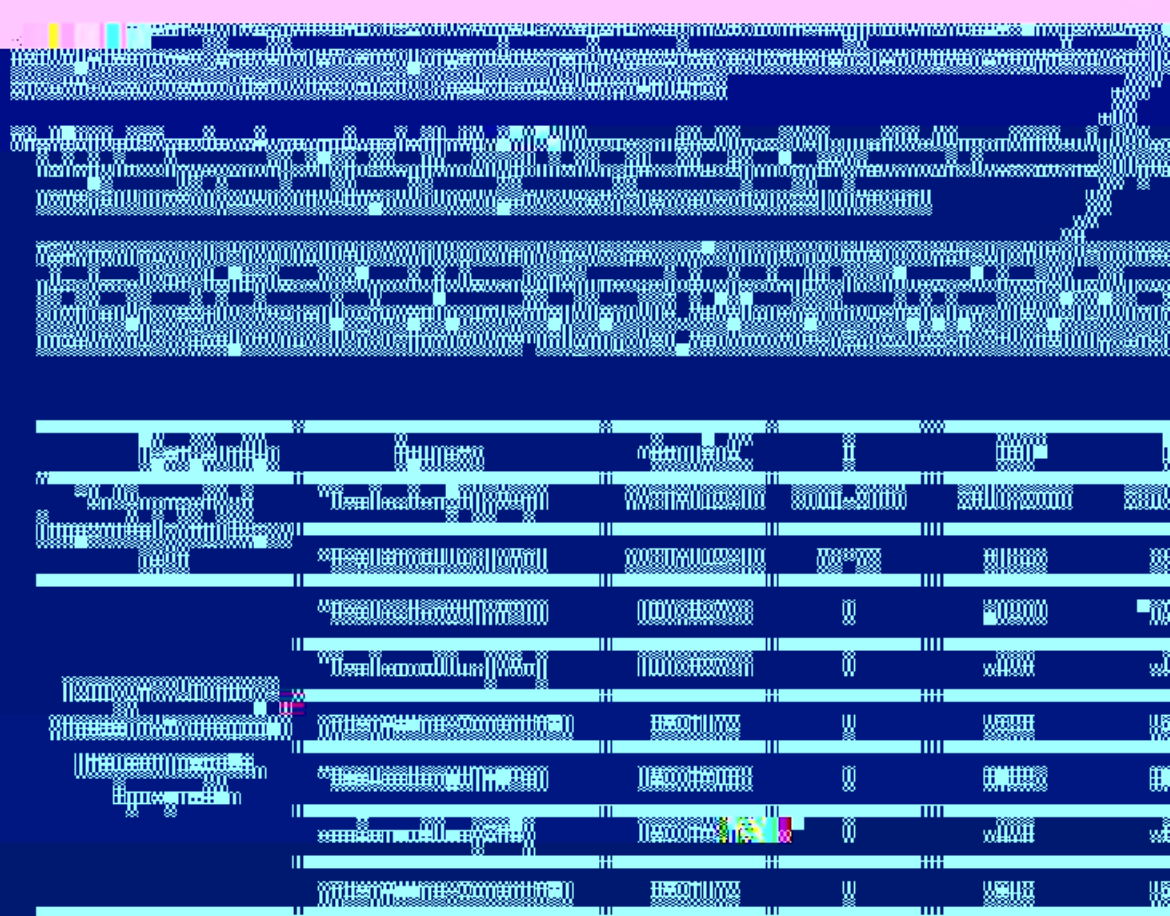
# E7 REINFORCEMENTS

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 existing production technology with large refractory furnaces can be used to manufacture E7 of lower cost. The volume production of E7 glass fiber with large refractory furnaces makes it possible to meet the increasing demand for high performance glass fiber from high end industries such as the wind energy industry. The excellent mechanical properties and low cost production of E7 reinforcement provides a good solution for the composites industry.

**E7** - Reinforced wind blades are longer and more efficient, and reduce power generation cost



# E7

## New High Performance Glass Fiber



Fatigue test result based on UD1200 laminate:

Test result



### E7 - Reinforced pultrusion materials have higher strength, stiffness and performance.

Pultrusion is a common production technology for producing glass fiber reinforced composites and features high production efficiency, high strength of finished products, low processing cost and consistent quality. It now has more and more applications including, for instance, pultruded gutter roofs, FRP bridges and other construction profiles, which have longer service life, lower manufacturing cost and good corrosion resistance.

With the expansion of the applications of FRP products, customers are getting more demanding and require lighter and thinner pultruded FRP products which have higher strength, stiffness and fatigue resistance as well as good weatherability and corrosion resistance.

E7 glass fiber for pultrusion inherits the advantages of E7 glass and offers higher strength, stiffness and fatigue resistance, thus making it suitable in manufacturing various FRP products, which are lighter and thinner with the same strength, and have longer fatigue life and longer service life under the same stress condition. E7 glass fiber has corrosion resistance equivalent with that of ECR glass fiber in various environments, ensuring long-term stability in use of the pultruded FRP products.

Take for instance the new generation 3121 for pultrusion. Compared with the brown fiber E-glass based 3121, the E7 based version has 15% higher tensile strength and 10% higher tensile modulus.

Real Performance Comparison between brown fiber E-glass 3121 and E7 3121 (Glass content: E7 50.0 wt%, brown fiber)



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# 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 81.7% 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.

E7 Glass Fiber is produced by more scientific production technology and process which not only improve the product performances, but also significantly reduces air pollutants. The development of E7 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.

# CUSTOMER AND TECHNICAL SUPPORT ORGANIZATION

*Jushi Group possesses world class core technologies and advanced testing and analysis capabilities for glass, organic chemistry, glass fiber and composites. We have established a global network 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 E7 glass fiber 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](http://www.jushi.com) E-mail: [info@jushi.com](mailto:info@jushi.com)