



F8 HIGH MODULUS



中国石化
SINOPEC
SINOPEC CO., LTD

China Jushi Co.Ltd specializes in the production of glass fiber. The company has attained the leadership position in the global glass fiber industry in terms of Capacity, Technology, R&D, Quality and Marketing.

Jushi people adhere to our core values of "Behavior, Innovation, Responsibility, Learning, Enthusiasm" to build the company into an international corporation with the largest scale, leading technology, excellent team, lean management, powerful execution, outstanding operating results and high quality growth. China Jushi strives to lead the modernization of China's glass fiber industry and maintain the leadership position in the global glass fiber industry through endless pursuit of innovation and excellence.

COMPANY PROFILE



GOALS

CREATION OF A NEW SOLUTION FOR HIGH-END COMPOSITES

China Jushi has developed E8 High Modulus Glass Fiber in 2016, achieving a revolutionary breakthrough in the glass fiber industry. E8 glass fiber offers higher modulus and better fatigue resistance than E7 high performance glass fiber and S-glass fiber, and now can be manufactured with tank furnaces in a stable and efficient way. E8 has much better cost performance than S-glass fiber, making it more competitive than the latter. E8 is designed mainly for use in the wind blades and will create tremendous value for the wind energy market. It will be able to further promote the production and application of large-size wind blades. For example, the wind blades of the same design to have higher modulus, less deformation under the same wind load and reduced blade weight. In the meantime, wind



Compared with E6 and E7 glass, E8 offers the following unique benefits:

- Higher modulus, 17% higher than E6 glass, 7% higher than E7 glass;
- Higher softening point, 32°C higher than E6 glass, 9°C higher than E7 glass;
- The use of boron-free and iron-free raw materials enables lean production.

E8 is therefore more suitable for wind energy, high pressure and high temperature applications. In addition, E8 retains the excellent electrical properties of E6 glass fiber.

ELASTIC MODULUS COMPARISON

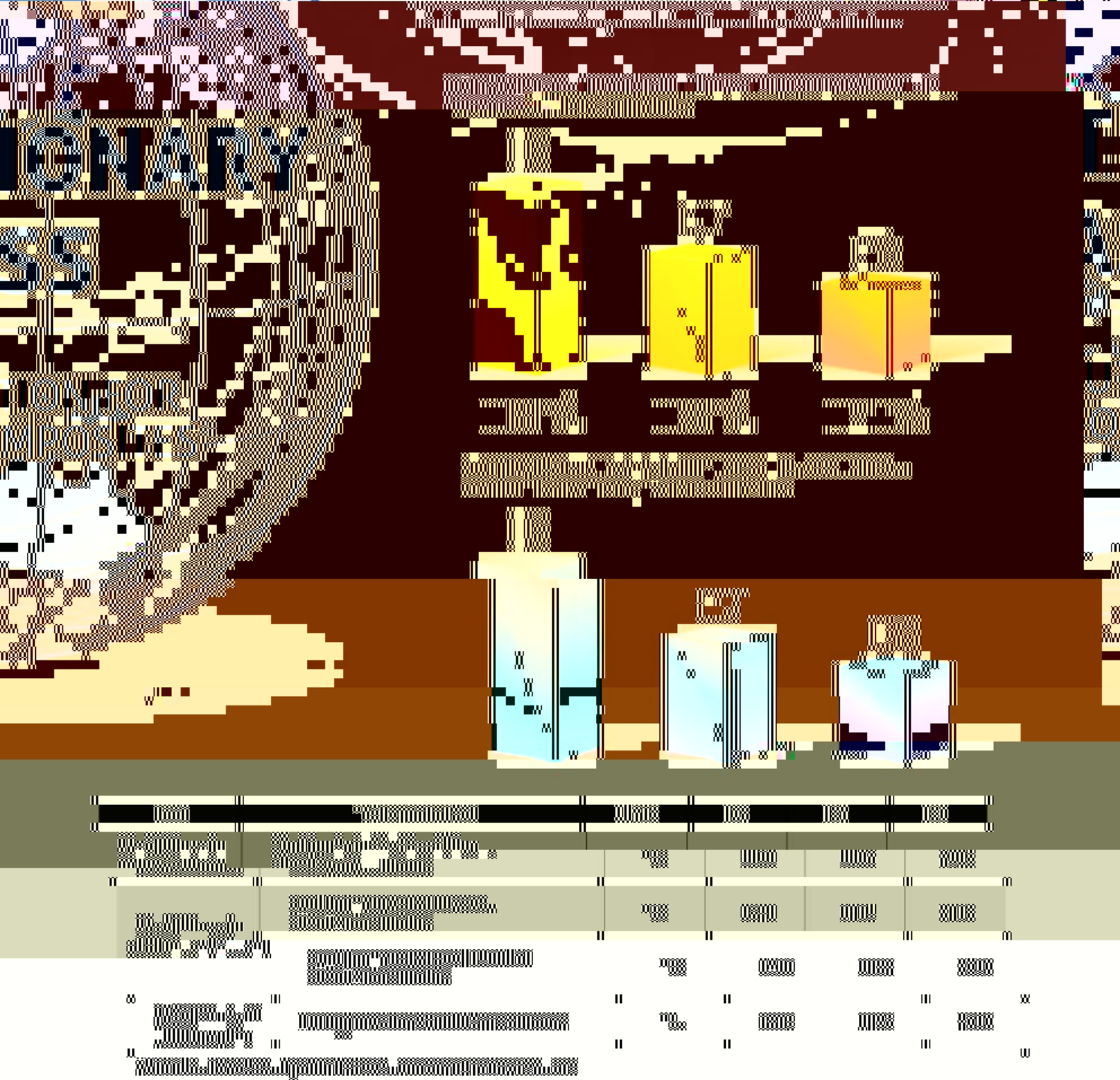


REVOLUTIONARY GLASS

A NEW SOLUTION
FOR HIGH-END



E8 glass fiber is made from a unique glass composition which improves the corrosion resistance in a variety of circumstances. Compared with E6 and E7 glass fiber, E8 shows significant improvement in chemical corrosion resistance in neutral, acidic or alkaline solutions with especially superior corrosion resistance in acidic environments. E8 is therefore particularly suitable for applications which have special requirements on environmental life, corrosion resistance and fire resistance.



EXCELLENT MECHANICAL PROPERTIES

EB is a high-performance glass fiber with higher modulus and higher strength. EB glass fiber will offer more superior mechanical properties, dimensional stability and fatigue resistance, and can meet higher design requirements of composite materials to be used more demanding environments. EB glass fiber will be widely used in the fields of large wind blades, military equipment, high performance sports equipment, aerospace.

Test Sample	Property	Standard	E6	E7	E8
E-glass fiber E-glass fiber impregnated roving, Epoxy resin	Tensile strength (MPa)	ASTM D2343	2500-2700	2800-3000	3100-3500
	Tensile modulus (GPa)	ASTM D2343	81-83	89-91	95-98
1250 g/m ² UD fabric, (tested in 0° direction), Infusion process, Epoxy resin	Tensile strength (MPa)	ISO 527-5	/	1321.7	1332.3
	Tensile modulus (GPa)	ISO 527-5	/	48.5	51.6
	Fiber volume content (%)	ISO 1172	/	53.6	53.8
	Compressive strength (MPa)	ISO 14126	/	972.8	1043.9
	Compressive modulus (GPa)	ISO 14126	/	49.1	52.1
	Fiber volume content (%)	ISO 1172	/	54.4	54.2





CERTIFICATIONS

CHINA JUSHI ALWAYS ADHERES TO ITS FUNDAMENTAL MANAGEMENT PRINCIPLES:

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

China Jushi owns proprietary, world-class core technologies for large E-glass fiber furnaces, C-glass fiber furnaces and high-performance glass fiber. China Jushi has achieved management system certifications to ISO9001, ISO14001, OHSAS18001, ISO10012 and ISO17025. Its testing center has been certified by both China National Accreditation Board for Laboratories (CNAS) and Germanischer Lloyd (GL). The fiberglass rovings and chopped strand mats under the



Classification Society (CCS), Germanischer Lloyd (GL) and Attestation De Conformité Sanitaire (ACS).

TECHNICAL COLLABORATION AND SUPPORT

China Jushi possesses world class core technologies and advanced testing and analysis capabilities for glass, organic chemistry, fiberglass and composites. Jushi has established a global network of marketing and technical service professionals to help customers solve problems in materials development and process optimization. Jushi collaborates closely with customers to address market challenges and promote the growth of the composites industry.

China Jushi will share our information on E8 glass fiber and our knowledge of compounding technologies and processes.



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★ All the data given in this brochure is preliminary and China Jushi reserves the right to update or modify the data without notice.



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