

AGY Advanced Materials

High Performance S-1 Glass™ for Demanding Wind Energy Turbine Blade Applications



AGY as a leading supplier of high performance glass fibers has designed a new fiber to meet the demanding requirements for the wind energy marketplace. AGY's S-1 Glass™ has been shown to bring performance levels to allow longer blades for a fixed weight or alternatively to produce a lighter blade for a fixed length.

S-1 Glass™ High Performance Rovings

S-1 Glass™ – High Performance Rovings

- S-1 Glass brings a value driven performance boost to products where E-Glass no longer delivers the required performance.
- S-1 Glass™ Benefits vs. E-Glass
 - Higher tensile strength – Up to 100% improvement
 - Higher tensile modulus – Up to 30% improvement
 - Higher compressive strength
 - Higher compressive modulus
 - Reduced resin content
- S-1 Glass™ high performance rovings are approved for wind energy applications with a GL certificate.

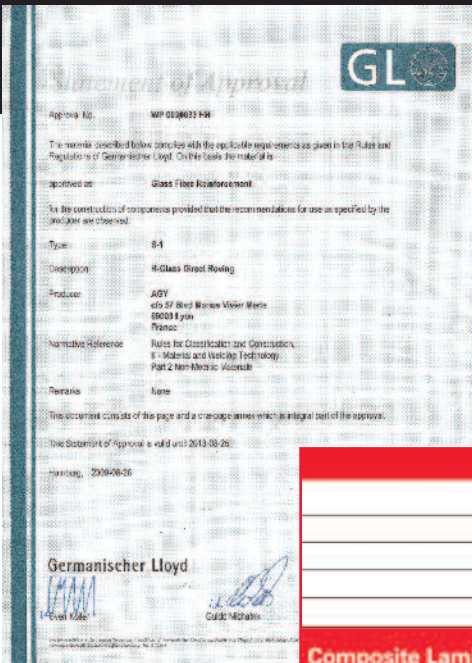
S-1 Glass™ Additional Benefits

- Sizing chemistries suitable for use in epoxy or polyester resins
- Selection of roving weights and fiber diameters
- Boron-free – environmentally friendly
- AGY multi-site manufacturing capabilities based in the USA
- Global sales and application development support

For product samples please call 1.888.434.0945 (Toll Free US) or (+33) 4727 81775 (France)

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For Your Demanding Wind Energy Turbine Blade Applications — High Performance S-1 Glass™



AGY has certified the S-1 Glass rovings with Germanischer Lloyd for use in wind energy turbine blade applications and has been working with a selection of converters to produce a range of non-crimp fabrics based around 1000 - 1250 gsm, with sample quantities readily available.

		S-1 Glass™		Typical E-Glass	
Product Description		758-CA-XXX		2400	
Sizing		758			
TEX		735	1210		
Yield	yd/lb	675	410		
Fiber Diameter	Micron	14	18	17	
Composite Laminates (normalized data)		HEXION RESIN			
Fiber Volume Fraction	%	60	60	60	
Fiber Diameter	Micron	14	18	17	
Tensile Strength (0)	ASTM D3039	ksi	240	208	118
		Mpa	1,655	1,434	814
Tensile Modulus (0)	ASTM D3039	msi	8.8	7.4	6.7
		GPa	60.6	51.0	46.2
Compressive Strength	ASTM D3410	ksi	121	112	78
		MPa	834	772	538
Compressive Modulus	ASTM D3410	msi	8.4	8.5	TBD
		GPa	57.9	58.6	TBD
Flexural Strength	ASTM D790	ksi	208	205	182
		MPa	1,434	1,413	1,255



strength in materials

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