

# AGY Advanced Materials

For Demanding Composite Applications Selecting  
Your High Performance Material Solution  
Is As Easy As **1..2..3**



## S-Series™ High Performance Materials

- **S-1 Glass™ – Industrial Grade Product**

High Volume Applications where E-Glass performance does not deliver

S-1 Glass™ Benefits vs E-Glass

- Higher Tensile Strength
- Higher Tensile Modulus
- Higher Temperature
- Lower Weight

- **S-2 Glass® – High Performance Grade Product**

Higher performance grade product than S-1 Glass™ with a broad range of properties for specification driven applications

- **S-3 Glass™ – Special Grade Product**

Special grade product with properties tailored for high performance niche applications

## S-Series™ Added Benefits

- Sizing chemistries that are tailored to a range of thermoplastic and thermosets composite applications
- AGY multi-site manufacturing capabilities based in the USA
- Global sales and application development support
- Wide range of product forms sizes, and filament diameters available
- Boron Free - Environmentally Friendly

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

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## S-Series™ High Performance Materials

	Product Form	Market	Applications	Fiber Diameter	TEX	Resin Compatibility
S-1 Glass™	Single End	Wind Energy	Blade Spar	18	2400	Epoxy Polyester
	Assembled	Defense	Spall Liner, EFP	7, 9	1980	Epoxy
	Single End	Industrial	CNG Pressure Vessel	14 Plus	735	Epoxy
	Single End	Industrial	Long Fiber Thermoplastic	14 Plus	735	Thermoplastic
	Chop	Industrial	Compounds	14 Plus	NA	Thermoplastic
S-2 Glass®	Assembled	Aerospace	Flooring, Cargo Liners	7, 9	1800/660/400	Epoxy Thermoplastic
	Single End	Automotive	Muffler Fill	26	2400	Epoxy
	Yarn	Aerospace	Fabrics	7, 9	33/66	Epoxy Thermoplastic
	Chop	Industrial	Thermal Insulation	9	NA	Epoxy
	Cake	Automotive	Timing Belts	7	22/66	Epoxy
	Assembled	Defense	Spall Liner, EFP, Structural Parts	7, 9	1980	Epoxy
S-3 Glass™	Assembled	Aerospace	Metal Matrix Composites	9	660	Epoxy

Physical Properties	Test Method	Units	S-2 Glass® Fiber	S-1 Glass™ Fiber	Hi Per-Tex	E-Glass
Strand Tensile Strength	ASTM D2343	MPa (Kpsi)	3,569 - 3,677 (518 - 533)	3,228 - 3,337 (468 - 484)	2,038 - 2,821 (296 - 409)	2,070 - 2,235 (300 - 324)
Strand Tensile Modulus	ASTM D2343	GPa (Mpsi)	87 - 90 (12,618 - 13,053)	84 - 87 (12,183 - 12,618)	83 - 86 (12,038 - 12,473)	69 - 76 (10,008 - 11,023)
Bulk Glass Density	ASTM D1505	g/cc (lb/cu.in.)	2.49 (0.090)	2.55 (0.092)	2.57 (0.093)	2.63 (0.095)
Glass Fiber Density	ASTM D792	g/cc (lb/cu.in.)	2.46 (0.089)	2.52 (0.091)	2.54 (0.092)	2.58 (0.093)
Softening Point	ASTM C338	°C (°F)	1056 (1933)	996 (1825)	963 (1765)	846 (1555)
Coefficient of Thermal Expansion	ASTM D696	x10 <sup>-7</sup> /°C x10 <sup>-7</sup> /°F	29 16	43 24	41 23	54 30



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