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High Temperature 933 S-2 Glass® Yarn

High-Strength Solutions to Your Toughest Reinforcement Challenges

AGY's *S-2 Glass* high-strength fibers are specifically designed to meet your most demanding performance, processing and cost requirements. AGY's global network of people and facilities stands ready to help you develop innovative solutions to your most difficult reinforcement challenges.

Resin Compatibility

- Polyamide
- Phenolic
- Polyimide
- PEI, PEEK, PAI, LCP, PEEK
- BMI
- Cyanate ester
- Epoxy

Processes

- Weaving
- Braiding

Product Application

AGY's 933 *S-2 Glass* yarn is designed to be used in recreation, aerospace and defense applications such as:

- Leading edge of aircraft wings
- Radomes

Product Solutions

High-performance *S-2 Glass* fibers offer a unique combination of properties: strength, impact resistance, stiffness, temperature resistance, fatigue resistance and radar transparency. Compared with other reinforcing materials, *S-2 Glass* fibers weigh less than conventional glass fiber and deliver better cost performance than aramid and carbon. In addition, these yarns meet the requirements of MIL-Y-1140H specifications.

Product Description

933 *S-2 Glass* direct sized yarn consists of numerous G-filament (9 micron) continuous glass strands, twisted to form yarns and treated with a thermally stable inorganic sizing for high-temperature matrices.

Leading and trailing edges of fighter aircraft wings

Features	*Benefits*
S-2 Glass fiber offers significantly more strength than conventional glass fiber: 85% more tensile strength in resin-impregnated strands.	Consistent high performance for reliable and durable finished parts.
Better fiber toughness, modulus of resilience and impact deformation than conventional glass fiber.	Improved impact capabilities to finished parts and higher composite durability and damage tolerance.
Softening point: 1056°C (1932°F) Annealing point: 816°C (1500°F) Strain point: 766°C (1410°F)	Greater fiber tensile strength and stability at elevated temperatures in thermoset and thermoplastic applications.
Enhanced stiffness.	Delivers 25% more linear-elastic stiffness than conventional glass fiber.
Excellent tolerance to damage accumulation.	The ability of composite parts to withstand high levels of tension and flexural fatigue without catastrophic failure.
S-2 Glass fibers deliver 20% reduction in dielectric constant over E-glass fibers.	Radar transparency.
Long shelf-life, good machinability and excellent durability.	Consistent performance and reliability.
Quick wet-out (penetration of resin into the strand).	Faster, more efficient processing.
Performs well in certain modified epoxy resin systems where high strength and improved hot/wet tensile strength retention are important.	Improved epoxy performance.
S-2 Glass fibers facilitate co-mingling and hybridization with other reinforcement or thermoplastic fibers, including carbon fibers.	Improvements in impact resistance and damage tolerance, as well as material cost reduction.
The 933 sizing is stable at processing temperatures of 670°F and above.	Facilitates molding with high temperature thermoplastic matrices, yielding exceptional laminate mechanical properties.