



strength in materials

933 S-2 Glass® Yarn

High-Strength Solutions for 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 are ready to help you develop innovative solutions to your most difficult reinforcement challenges.

Product Application

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

- Radomes
- Leading and trailing edges of aircraft wings

Product Solutions

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

Product Description

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

Resin Compatibility

- Polyamide • Phenolic • Polyimide
- Bis-Maleimides • Epoxy
- Polyetherimide • Polyetheretherketone
- Liquid Crystal Polymers
- Cyanate Ester

Processes

- Weaving • Braiding



Aircraft Radome



S-2 Glass Fiber Yarn

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 composites durability and damaged 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
The 933 sizing is stable at processing temperatures of 354°C (670°F)	Facilitates molding with high temperature thermoplastic matrices, yielding exceptional laminate mechanical properties

PRODUCT INFORMATION

Available Products

Yarn Type (metric)	Construction	Nominal Twist		Sizing	Approximate Yarn Diameter		Nominal Bareglass Yield		Denier	Nominal Filament Diameter
		TPM	TPI		mm	inch	TEX	Yard/Pound		
SCG75 (SC9 66)	1/0	Z28	0.7Z	933	0.192	0.0076	66	7500	594	"G" or 9 microns

Glass Composition

"S Glass" - reference ASTM C 162-99,
ISO 2078, MIL-S-13949H

Solids (% LOI*)

0.10 minimum
0.30 nominal
0.40 maximum

* Loss on ignition after drying

Additional References

Customer acceptance standard: TP-378

Packaging

Package #	7636	
Type Build	Double Taper	
Descriptions	Metric (cm)	English (in)
Inside diameter	6.05	2.38
Tube length	35.6	14.0
Traverse	30.9	12.18
Flange diameter	10.1	3.96
Maximum full package diameter	11.4	4.5
Minimum package weight	0.23kg	0.50lbs
Packages/carton	54 (18x3 layers)	
Cartons/pallet	4	
Packages/pallet	216	
Approximate net weight/pallet	500kg	1100lbs
Pallets/typical truckload	40	

S-2 Glass is a registered trademark of AGY.

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