



**strength** in materials

# 493 S-2 Glass<sup>®</sup> Yarn

High-Strength Solutions for Your Toughest Reinforcement Challenges

AGY's S-2 Glass<sup>®</sup> 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

493 S-2 Glass yarn is designed to be used for producing composite hybrids and structural laminates in the woven and braided markets. Common applications include:

- Wire insulation
- High performance sails
- Snowboards and skis

### 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

493 S-2 Glass direct sized yarns consist of numerous G-filament (9 micron) continuous glass strands, twisted and treated with a sizing compatible with epoxies or polyesters.

### Resin Compatibility

- Epoxy
- Polyester

### Processes

- Weaving
- Braiding



K-2 Skis



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

## PRODUCT INFORMATION

### Available Products

Yarn Type	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	Z40	1.0Z	493	0.191	0.0076	66	7,500	594	"G" or 9 microns
SCG150 (SC9 33)	1/0	Z40	1.0Z	493	0.136	0.0054	33	15,000	297	"G" or 9 microns

#### Glass Composition

"S Glass" - reference AMS 3832A, ASTM C 162-90, ISO 2078

#### Solids (% LOI\*)

0.20 minimum  
0.45 nominal  
1.29 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
Maximum package weight	2.31kg	5.1lbs
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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