



strength in materials

401 S-2 Glass® Chopped Strands

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

401 S-2 Glass chopped strands are designed to be for high-performance polymer composites as well as ceramic and metal matrix composites in construction, appliance and recreation applications such as:

- Bathroom fixtures
- Stove element insulation

Product Solutions

S-2 Glass fibers offer a unique combination of properties: strength, impact resistance, stiffness, temperature and 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 fibers. In addition, these fibers meet stringent military requirements.

Product Description

401 S-2 Glass chopped strands consist of numerous E to K-filament (7-13 microns) continuous glass fibers, cut into short pieces of consistent length. Standard length is 6.4mm (0.25in.)

Resin Compatibility

- Epoxy
- Phenolic
- Urethane
- Polyamide

Processes

- Compound molding
- Injection molding
- Ceramic casting



Stovetop Heater Surface



S-2 Chopped Glass

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
High purity	Greater consistency in physical properties and and product performance
Uniform chop length, filament diameter and quality controlled production	Predictable, high-quality lot-to-lot performance
Long shelf life, good machinability and excellent durability	Consistent performance and reliability

PRODUCT INFORMATION

Average Properties of a Bare Single Filament of S-2 Glass Fiber

Physical

Specific Gravity	2.46-2.49 gm/cm ³ (154-155 lb/ft ³)
Mohs Hardness	6.5
Coefficient of Thermal Expansion	1.6 x 10 ⁻⁶ /°C (0.9 X 10 ⁻⁶ /°F)
Moisture Absorbency (surface)	up to 0.3%
Moisture Regain	none

Mechanical

Tensile Strength	
@22°C (72°F)	4890 MPa (700 ksi)
@371°C (700°F)	3760 MPa (545 ksi)
@538°C (1000°F)	2451 MPa (350 ksi)
Tensile Modulus of Elasticity	
@22°C (72°F)	89 GPa (13 msi)
Creep	none
Elongation at Break	5.5%
Elastic Recovery	100%

Optical

Refractive Index	
550 nm @32°C (90°F)	1520
Clarity	transparent
Ultraviolet Transmission	opaque

Packaging

Small carton packaging (27/pallet)

Carton Dimensions

	Metric (cm)	English (in)
Length	38	15
Width	38	15
Weight	22.7 kg	50 lbs

Pallet Dimensions (including pallet)

	Metric (cm)	English (in)
Height	173	68
Length	113	45
Width	113	45
Pallet Weight	614 kg	1350 lbs

Additional References

Customer acceptance standard: TP-679

S-2 Glass is a registered trademark of AGY.

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