



CUSTOMER  
ACCEPTANCE  
STANDARD

No.: TP-679  
Date: 17-Nov-09  
Supersedes: 14-Aug-06  
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**S-2 GLASS® HIGH TENSILE STRENGTH 401 SIZED CHOP FIBER  
REINFORCEMENT FOR CERAMIC AND EPOXY REINFORCED  
COMPOSITES**

**I. DESCRIPTION**

This is an S-2 Glass® High Tensile Strength Fiberglass “G” (9 micron) filament diameter chop fiber reinforcement. The sizing contains an epoxy-silane coupling system designed for compatibility with amine or anhydride cured epoxy systems, though may be compatible with other resin systems subject to trial use in the application. *S-2 Glass* roving is a high silica glass fiber with superior mechanical strength, impact strength, stiffness, fatigue resistance, radar transparency, and thermal resistance for demanding applications. The 401 family of *S-2 Glass* chop is produced in an ISO 9001:2008 certified production facility.

**II. USE**

*S-2 Glass* chopped strands are used in bulk and injection molding compounds for the reinforcement of epoxy systems and for the reinforcement of ceramics in slip casting operations.

**III. PRODUCT NOMENCLATURE**

*S-2 Glass* 401 ¼” Chop 50 lb. Carton

**IV. GENERAL INFORMATION**

Reference Textile Fibers For Industry for more information

Filament Designation			Range for Filament Diameter Average		
US Units (letter)	SI Units (microns)	Minimum (inches)	Maximum (inches)	Minimum (microns)	Maximum (microns)
G	9.0	0.00035	0.000399	8.89	10.15

Filament diameter is for reference purposes.

**V. AVAILABLE PRODUCTS**

Nomenclature	Nominal Filament Diameter	Chemical Sizing	Nominal	Length
S-2 401	“G” Filament (9 Microns)	401*	mm	Inches
			6.35	0.25

\*401 Sizing is epoxy compatible

For alternative chop lengths, please contact the product engineer or your sales representative.

**VI. PHYSICAL PROPERTIES**

- A. Chopped Length Tolerances
  - ±1 mm (±0.04”), based on average chop length.
- B. Test Method for Physical Properties
  - Physical properties shall be tested by the manufacturing facility to assure compliance with this specification.



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**VII. VISUAL PROPERTIES**

Visual characteristics are defined as those characteristics that are visible to the unaided eye. Individual cartons shall be free of the following:

- Contamination caused by foreign substances.
- Clumps of fuzz.
- Out of spec chop length
- Damaged Material\*

\*AGY does not accept responsibility for any damaged material that shows any evidence of physical abuse. Any carton showing evidence of having been opened from the bottom will be considered mishandled by the customer. Such damage or question of damage is the responsibility of the carrier as per AGY terms of sale. AGY accepts no responsibility for any damage occurring in a customer's plant.

**VIII. PACKAGING INFORMATION AND PREPARATION FOR SHIPMENT**

Chopped strands shall be packed in corrugated cartons of sufficient strength to insure adequate protection during transit and storage.

A. Carton Data

Carton: T-360  
Width: 15" (38 cm)  
Length: 15" (38 cm)  
Height: 21" (53 cm)  
Net Weight: 50± 1 lb. (22.7 ± 0.45 kg)

B. Pallet Data

Size: 45" x 45" x 68" (114 x 114 x 173 cm)  
No. Cartons/Pallet 27  
Net Weight/Pallet (approx.): 1350 lb. (612 kg)

C. A content label shall adequately identify the product.

D. AGY is not responsible for any damage resulting from stacking of pallets higher than two levels.

**IX. STORAGE AND SHELF LIFE**

A. S-2 Glass Fiber Properties

Roving tensile strength, modulus of elasticity, coefficient of expansion, dielectric constant and yield are inherent properties of the S-2 Glass fiber and have indefinite shelf life.

B. S-2 Glass Fiber Processing

The original processing characteristics of S-2 Glass chop will essentially remain constant for a minimum of 1 year from date to shipment. If storage conditions are less than 100 degrees F, and less than 50 percent RH, the processing characteristics may be retained longer. If the chop is stored in high temperatures and high humidity conditions, the chop may increase in bundle integrity, becoming stiff and difficult to process. Chop that stiffens during storage may still be useable; however, a thorough evaluation of the processing characteristics (e.g., matrix impregnation, requisite fiber bandwidth, proper mechanical performance, etc) relative to the customer's operation is strongly recommended. It is the responsibility of the customer to determine if the product will work for their application beyond the 1-year from date of shipment shelf life. For best process characteristics, it is recommended that the product be allowed to surge in the climate with which it will be processed for a period of at least 24 hours before it is used to allow the material to become acclimated to the process area conditions of temperature and relative humidity.



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Document History

Date	Description of Change	Author
11/17/09	Section I. Replaced reference to the Huntingdon, PA production facility with a certified production facility. The ISO revision was updated from 9001:2000. Section VIII. B. Corrected the number of cartons per pallet from 37 to 27.	Thomson

This specification is subject to change without notice. S-2 Glass® is a registered trademark of AGY.