



# HexTow® AS4C

## Carbon Fiber



### Product Data Sheet

HexTow® AS4C carbon fiber is a continuous, high strength, high strain, PAN based fiber available in 3,000 (3K), 6,000 (6K) and 12,000 (12K) filament count tows. This fiber has been surface treated and can be sized to improve its interlaminar shear properties, handling characteristics, and structural properties, and is suggested for use in weaving, prepregging, filament winding, braiding, and pultrusion.

Typical Fiber Properties	U.S. Units	SI Units
Tensile Strength	675 ksi	4646 MPa
Tensile Modulus (Chord 6000-1000)	33.5 Msi	231 GPa
Ultimate Elongation at Failure	1.8%	1.8%
Density	0.0643 lb/in <sup>3</sup>	1.78 g/cm <sup>3</sup>
Weight/Length		
1K	$5.6 \times 10^{-6}$ lb/in	0.067 g/m
3K	$11.2 \times 10^{-6}$ lb/in	0.200 g/m
6K	$22.4 \times 10^{-6}$ lb/in	0.400 g/m
12K	$44.8 \times 10^{-6}$ lb/in	0.800 g/m
Approximate Yield		
1K	22,209 ft/lb	10.00 m/g
3K	7,441 ft/lb	5.00 m/g
6K	3,721 ft/lb	2.50 m/g
12K	1,861 ft/lb	1.25 m/g
Tow Cross-Sectional Area		
1K	$0.87 \times 10^{-4}$ in <sup>2</sup>	0.06 mm <sup>2</sup>
3K	$1.74 \times 10^{-4}$ in <sup>2</sup>	0.11 mm <sup>2</sup>
6K	$3.48 \times 10^{-4}$ in <sup>2</sup>	0.22 mm <sup>2</sup>
12K	$6.97 \times 10^{-4}$ in <sup>2</sup>	0.45 mm <sup>2</sup>
Filament Diameter	0.272 mil	6.9 microns
Carbon Content	94.0%	94.0%
Twist	Never Twisted	Never Twisted

Typical HexPly 8552 Composite Properties (at Room Temperature)	U.S. Units	SI Units	Test Method
0° Tensile Strength	340 ksi	2344 MPa	ASTM D3039
0° Tensile Modulus	19.5 Msi	134 GPa	
0° Tensile Strain	1.6%	1.6%	
0° Short Beam Shear Strength	18.1 ksi	125 MPa	ASTM D2344
0° Compressive Strength	256 ksi	1765 MPa	ASTM Mod. D695
Open Hole Tensile Strength	50.6 ksi	349 MPa	ASTM D5766
Open Hole Compressive Strength	48 ksi	330 MPa	ASTM D6484
Fiber Volume	60%	60%	

### Carbon Fiber Certification

This carbon fiber is manufactured to Hexcel aerospace grade specification HS-CP-4000. A copy of this specification is available upon request. A Certification of Analysis will be provided with each shipment of HS-CP-4000 fiber.

### Available Sizing

Sizing compatible with various resin systems, based on application are available to improve handling characteristics and structural properties. Please see additional information on available sizes on our website or contact our technical team for additional information.



## Sizing

Size	Compatibility	Recommended Uses
GP	Epoxy, Phenolic, Vinyl Ester, Polyurethane, Cyanate Ester, BMI	Weaving, Filament Winding, Prepreg Tape
Unsize	All Resins	Prepreg Tape

\*Compatibility with these Matrices is considered theoretically compatible. Hexcel cannot guarantee their results.

## Packaging

Standard packaging of HexTow® AS4C is as follows:

Filament Count	Sizing	Nominal Weight		Nominal Length	
		(lb)	(kg)	(ft)	(m)
1K	GP (1%)	1.3	0.6	29,760	9,070
3K	GP (1%)	4.0	1.8	29,760	9,070
6K	GP (1%)	4.0	1.8	14,880	4,540
12K	GP (0.2%)	8.0	3.6	14,880	4,540
	GP (0.9%)				
	Unsize				

Other package sizes may be available on request. The fiber is wound on a 3-inch ID by 11-inch long cardboard tube and overwrapped with plastic film.

## Safety Information

Obtain, read, and understand the Safety Data Sheet (SDS) before use of this product.

## For more information

Hexcel is a leading worldwide supplier of composite materials to aerospace and industrial markets. Our comprehensive range includes:

- HexTow® carbon fibers
- HexForce® reinforcements
- HiMax® multiaxial reinforcements
- HexPly® prepregs
- HexAM® additive manufacturing
- HexMC® molding compounds
- HiFlow® RTM resins
- HexBond® adhesives
- HexTool® tooling materials
- HexWeb® honeycomb
- Acousti-Cap® sound attenuating honeycomb
- Engineered core
- Engineered products
- Polyspeed® laminates & pultruded profiles

For U.S. quotes, orders and product information call toll-free 1-800-688-7734. For other worldwide sales office telephone numbers and a full address list, please go to:

<http://www.hexcel.com/contact>

©2023 Hexcel Corporation – All rights reserved. Hexcel Corporation and its subsidiaries ("Hexcel") believe that the technical data and other information provided herein was materially accurate as of the date this document was issued. Hexcel reserves the right to update, revise or modify such technical data and information at any time. Any performance values provided are considered representative but do not and should not constitute a substitute for your own testing of the suitability of our products for your particular purpose. Hexcel makes no warranty or representation, express or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, and disclaims any liability arising out of or related to, the use of or reliance upon any of the technical data or information contained in this document.