



HexTow[®] AS7

Carbon Fiber



Product Data Sheet

HexTow[®] AS7 carbon fiber is a continuous, high strength, high strain, PAN based fiber available in 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.

AS7-GS 12k (0.5%) carbon fiber has been qualified to NMS 818 Carbon Fiber Specification (NCAMP). This allows customers to call out an industry standard, aerospace grade carbon fiber without the need to write and maintain their own specification.

Typical Fiber Properties	U.S. Units	SI Units
Tensile Strength	715 ksi	4930 MPa
Tensile Modulus (Chord 6000-1000)	35.3 Msi	243 GPa
Ultimate Elongation at Failure	1.8%	1.8%
Density	0.0647 lb/in ³	1.79 g/cm ³
Weight/Length (12K)	44.8 x 10 ⁻⁶ lb/in	0.800 g/m
Approximate Yield (12K)	1,860 ft/lb	1.25 m/g
Tow Cross-Sectional Area (12K)	6.93 x 10 ⁻⁴ in ²	0.45 mm ²
Filament Diameter	0.271 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	19.2 Msi	133 GPa	
0° Tensile Strain	1.6%	1.6%	
0° Short Beam Shear Strength	18.4 ksi	127 MPa	ASTM D2344
0° Compressive Strength	260 ksi	1790 MPa	ASTM Mod. D695
Open Hole Tensile Strength	52.9 ksi	364 MPa	ASTM D5766
Open Hole Compressive Strength	46.0 ksi	317 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
GS	Epoxy, Vinyl Ester, Polyurethane	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® AS7 is as follows:

Filament Count	Sizing	Nominal Weight		Nominal Length	
		(lb)	(kg)	(ft)	(m)
12K	GP (0.9%)	8.0	3.6	14,880	4,540
	GS (0.5%)				
	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>

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