



HexTow[®] IM10

Carbon Fiber



Product Data Sheet

HexTow[®] IM10 carbon fiber is a continuous, high performance, intermediate modulus, 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. It is suggested for use in weaving, prepregging, filament winding, braiding, and pultrusion.

The unique properties of HexTow[®] IM10 fiber, such as the highest commercially available tensile strength, intermediate modulus, and good shear strength allow structural designers to achieve higher safety margins for both stiffness and strength critical applications.

Typical Fiber Properties	U.S. Units	SI Units
Tensile Strength	990 ksi	6826 MPa
Tensile Modulus (Chord 6000-1000)	45.4 Msi	313 GPa
Ultimate Elongation at Failure	2.0%	2.0%
Density	0.0647 lb/in ³	1.79 g/cm ³
Weight/Length (12K)	18.1 x 10 ⁻⁶ lb/in	0.324 g/m
Approximate Yield (12K)	4,594 ft/lb	3.09 m/g
Tow Cross-Sectional Area (12K)	2.81 x 10 ⁻⁴ in ²	0.18 mm ²
Filament Diameter	0.173 mil	4.4 microns
Carbon Content	95%	95%
Twist	Never Twisted	Never Twisted

Typical HexPly 8552 Composite Properties (at Room Temperature)	U.S. Units	SI Units	Test Method
0° Tensile Strength	480 ksi	3310 MPa	ASTM D3039
0° Tensile Modulus	27.5 Msi	190 GPa	
0° Tensile Strain	1.6%	1.6%	
90° Tensile Strength	11.6 ksi	80 MPa	ASTM D3039
0° Short Beam Shear Strength	18.1 ksi	125 MPa	ASTM D2344
0° Compressive Strength	260 ksi	1793 MPa	ASTM Mod. D695
0° Compressive Modulus	23.8 Msi	164 GPa	
Open Hole Tensile Strength	86 ksi	593 MPa	ASTM D5766
Open Hole Compressive Strength	53.0 ksi	365 MPa	ASTM D6484
Fiber Volume	60%	60%	

Yarn/Tow Characteristics	U.S. Units	SI Units
Specific Heat	0.21 Btu/lb-°F	0.21 Cal/g-°C
Electrical Resistivity	4.3 x 10 ⁻⁵ ohm-ft	1.3 x 10 ⁻³ ohm-cm
Coefficient of Thermal Expansion	-0.39 ppm/°F	-0.70 ppm/°C
Thermal Conductivity	3.55 Btu/hr-ft-°F	6.14 W/m-°K

**Carbon Fiber Certification**

This carbon fiber is manufactured to Hexcel industrial grade specification HS-CP-3000. A copy of this specification is available upon request. A Certification of Conformance will be provided with each shipment.

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

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

Packaging

Standard packaging of HexTow® IM10 is as follows:

Filament Count	Sizing	Nominal Weight		Nominal Length	
		(lb)	(kg)	(ft)	(m)
12K	GP (0.9%)	4.0	1.8	18,380	5,600
	GS (0.5%)	2.0	0.9	9,190	2,800

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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