



# HexTow® PV40

## Carbon Fiber



### Product Data Sheet

HexTow® PV40 carbon fiber is a continuous, high strength, high strain, PAN based fiber available in 12,000 (12K) and 24,000 (24K)\* 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 prepegging, filament winding, braiding, pultrusion, and injection/infusion processes including all reinforcements (HiTape®, braids, fabrics, multiaxials etc.).

Typical Fiber Properties		U.S. Units	SI Units
Tensile Strength		740 ksi	5100 MPa
Tensile Modulus (Chord 6000-1000)		40.5 Msi	279 GPa
Ultimate Elongation at Failure		1.7%	1.7%
Density		0.0647 lb/in <sup>3</sup>	1.79 g/cm <sup>3</sup>
Weight/Length			
12K		41.1 x 10 <sup>-6</sup> lb/in	0.735 g/m
24K		82.2 x 10 <sup>-6</sup> lb/in	1.470 g/m
Approximate Yield			
12K		2025 ft/lb	1.36 m/g
24K		1012 ft/lb	0.68 m/g
Tow Cross-Sectional Area			
12K		6.36 x 10 <sup>-4</sup> in <sup>2</sup>	0.41 mm <sup>2</sup>
24K		12.70 x 10 <sup>-4</sup> in <sup>2</sup>	0.82 mm <sup>2</sup>
Filament Diameter		0.260 mil	6.6 microns
Twist		Never Twisted	Never Twisted

\* 24K data is provisional

Typical HexPly 8552 Composite Properties (at Room Temperature)		U.S. Units	SI Units	Test Method
0° Tensile Strength	374 ksi	2579 MPa	ASTM D3039	
0° Tensile Modulus	24.3 Msi	168 GPa		
0° Tensile Strain	1.6%	1.6%		
0° Flexural Strength	199 ksi	1372 MPa	ASTM D790	
0° Flexural Modulus	20.3 Msi	140 GPa		
0° Short Beam Shear Strength	17.3 ksi	119 MPa	ASTM D2344	
0° Compressive Strength	236 ksi	1627 MPa	ASTM Mod. D695	
Open Hole Tensile Strength	57 ksi	392 MPa	ASTM D5766	
Open Hole Compressive Strength	45 Msi	310 GPa	ASTM D6484	
90° Tensile Strength	10.5 ksi	72 MPa	ASTM D3039	
Fiber Volume	60%	60%		

### 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 of HS-CP-3000 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
Unsized	All Resins	Prepreg Tape

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

## Packaging

Standard packaging of HexTow® PV40 is as follows:

Filament Count	Sizing	Nominal Weight		Nominal Length	
		(lb)	(kg)	(ft)	(m)
12K	Unsized, GP, GS	4.0	1.8	8100	2470
24K*	Unsized, GP, GS	8.0	3.6	8100	2470

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.

\* 24K data is provisional

## 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® preprints
- 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:

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

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