

Hexcel® HexTow™ IM7 (5000) Carbon Fiber

Category : Carbon , Carbon Fiber

Material Notes:

HexTow™ IM7 (HS-CP-5000) carbon fiber is a continuous, high performance, intermediate modulus, PAN based fiber available in 6,000 (6K) and 12,000 (12K) filament count tows. The fiber has been surface treated and can be sized to improve its interlaminar shear properties, handling characteristics, and structural properties. HexTow™ IM7 (HS-CP-5000) fiber has shear properties equivalent to those of standard AS type fibers. It is suggested for use in prepregging and filament winding. The unique properties of HexTow™ IM7 (HS-CP-5000) fiber, such as higher tensile strength and modulus, as well as good shear strength, allow structural designers to achieve both higher safety margins for both stiffness and strength critical applications. Information provided by Hexcel

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hexcel-HexTow-IM7-5000-Carbon-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.78 g/cc	0.0643 lb/in ³	
Filament Diameter	5.2 μm	5.2 μm	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	2760 MPa	400000 psi	Typical epoxy composite property
	5480 MPa	795000 psi	Typical fiber property
Elongation at Break	1.8 %	1.8 %	6K; Calculated from tow test data
	1.9 %	1.9 %	12K; Calculated from tow test data
Tensile Modulus	168 GPa	24400 ksi	Typical epoxy composite property
	276 GPa	40000 ksi	Typical fiber property; Chord 6000-1000
Flexural Modulus	148 GPa	21500 ksi	Typical epoxy composite property
Shear Strength	128 MPa	18600 psi	Typical epoxy composite property; short-beam

Component Elements Properties	Metric	English	Comments
Carbon, C	94 %	94 %	

Descriptive Properties	Value	Comments
Approximate Yield (m/g)	2.24	12K
	4.48	6K

Fiber Volume (%) Descriptive Properties	Value	Comments
Tow Cross-Sectional Area (mm2)	0.13	6K
	0.25	12K
Weight/Length (g/m)	0.223	6K
	0.446	12K

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