



HexTow[®] HM63

carbon fiber

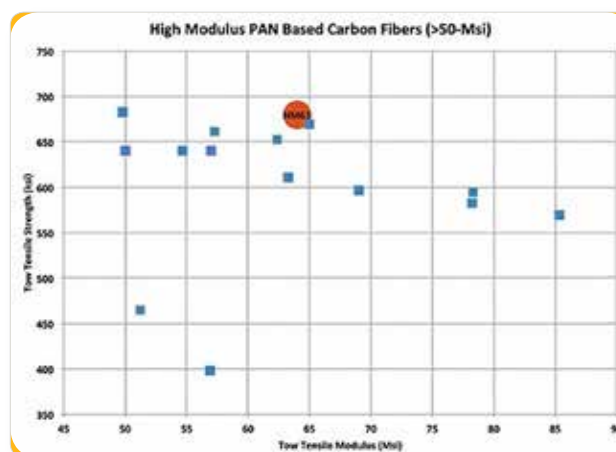


HexTow[®] HM63 carbon fiber is the highest tensile strength, high modulus carbon fiber on the market, delivering superior composite properties into all market segments.

Building on our 35 year legacy of supplying the industry standard IM carbon fibers, Hexcel is now supplying a high modulus fiber: HexTow[®] HM63 that represents a marked improvement to current offerings. Made in the USA, HexTow[®] HM63 carbon fiber is an ideal candidate for high stiffness and high strength applications such as space, satellite, UAV, commercial aerospace, helicopters as well as premium sports and recreation applications such as Formula 1, marine, bikes, and fishing rods.

Typical HexTow[®] HM63 tow data

Tensile Strength	680-ksi (4688-Mpa)
Tensile Modulus	64.0-Msi (441-GPa)
Tensile Strain	1.00%
Weight/Length	0.418-g/m
Density	1.83-g/cm ³



HexTow[®] Continuous Carbon Fiber Products

Fiber Type	Number of Filaments	Tensile Strength		Tensile Modulus		Strain ** (%)	Weight/Length (g/m)	Density (g/cm ³)	Standard Spool Size (lb)
		(ksi)	(MPa)	(Msi)	(GPa)				
AS4	3000	670	4619	33.5	231	1.8	0.210	1.79	4
	6000	640	4413	33.5	231	1.7	0.427	1.79	4
	12000	640	4413	33.5	231	1.7	0.858	1.79	8
AS4C	3000	675	4654	33.5	231	1.8	0.200	1.78	4
	6000	645	4447	33.5	231	1.7	0.400	1.78	4
	12000	650	4482	33.5	231	1.8	0.800	1.78	8
AS4D	12000	700	4826	35.0	241	1.8	0.765	1.79	8
AS7	12000	710	4895	36.0	248	1.7	0.800	1.79	8
IM2A	12000	770	5309	40.0	276	1.7	0.446	1.78	4
IM2C	12000	830	5723	43.0	296	1.8	0.446	1.78	7.5
IM6	12000	830	5723	40.5	279	1.9	0.446	1.76	4
IM7	6000	800	5516	40.0	276	1.9	0.223	1.78	4
	12000	820	5654	40.0	276	1.9	0.446	1.78	4
IMA	12000	880	6067	43.1	297	1.8	0.445	1.79	7.5
IM8	12000	880	6067	45.0	310	1.8	0.446	1.78	4
IM9	12000	890	6136	44.0	303	1.9	0.335	1.80	2
IM10	12000	1010	6964	45.0	310	2.0	0.324	1.79	2
HM63	12000	680	4688	64.0	441	1.0	0.418	1.83	3

* Tensile Modulus Calculated as Chord (6000 - 1000) ** Strain at Failure



HexTow® HM63 carbon fiber



Typical Epoxy Composite Properties With HexTow® HM63 High Modulus Carbon Fiber

HexPly® 8552 Resin System			HexTow® HM63 Carbon Fiber	
145-gsm UD tape, 33% RC	Condition	Test Method	US Units	SI Units
0° Tensile Strength	RTA	ASTM D3039	361-ksi	2491-MPa
0° Tensile Modulus	RTA		35.7-Msi	246-GPa
0° Tensile Strain	RTA		1.0%	1.0%
0° Compressive Strength	RTA	ASTM D695 mod	196-ksi	1350-MPa
0° Compressive Modulus	RTA		31.4-Msi	216-GPa
0° Compressive Strength	160°F Wet		165-ksi	1134-MPa
0° Short Beam Shear Strength	RTA	ASTM D2344	14.5-ksi	100-MPa
Open Hole Compressive Strength	RTA	ASTM D6484	36.0-ksi	248-MPa
Open Hole Compressive Strength	160°F Wet		29.4-ksi	202-MPa
Open Hole Tensile Strength	RTA	ASTM D5766	66.4-ksi	458-MPa
Open Hole Tensile Strength	-75°F		62.9-ksi	434-MPa
90° Tensile Strength	RTA	ASTM D3039	6.5-ksi	45-MPa
90° Tensile Modulus	RTA		1.1-Msi	7.5-GPa
90° Tensile Strain	RTA		0.6%	0.6%
90° Flexure Strength	RTA	ASTM D790	11.0-ksi	76-MPa
90° Flexure Modulus	RTA		1.1-Msi	7.6-GPa
Fiber Volume Normalization	60% FV			

HexPly® 913 Resin System			HexTow® HM63 Carbon Fiber	
145-gsm UD tape, 33% RC	Condition	Test Method	US Units	SI Units
0° Tensile Strength	RTA	ASTM D3039	407-ksi	2806-MPa
0° Tensile Modulus	RTA		33.7-Msi	232-GPa
0° Tensile Strain	RTA		1.1%	1.1%
0° Compressive Strength	RTA	ASTM D695 mod	185-ksi	1276-MPa
0° Compressive Modulus	RTA		29.9-Msi	206-GPa
0° Compressive Strength	160°F Wet		151-ksi	1041-MPa
Open Hole Compressive Strength	RTA	ASTM D6484	32.8-ksi	226-MPa
Open Hole Compressive Strength	160°F Wet		26.1-ksi	180-MPa
Open Hole Tensile Strength	RTA	ASTM D5766	71.0-ksi	490-MPa
Open Hole Tensile Strength	-75°F		71.1-ksi	490-MPa
Fiber Volume Normalization	60% FV			