

# M46J

## HIGH MODULUS CARBON FIBER

M46J carbon fiber is an MJ-type high modulus fiber with enhanced tensile and compressive strength as compared to M series fibers. Manufactured in Japan and France.

### PRODUCT DESIGNATION

M46J	B	12,000	5	0	B
Fiber Type	Twist*	Filament Count	Sizing Type	Surface Treatment	Sizing Amount

\* B: Untwisted

### FIBER PROPERTIES

PROPERTY	ENGLISH	METRIC	METHOD
Tensile Strength 6K	609 ksi	4,200 MPa	TY-030B-01
Tensile Strength 12K	583 ksi	4,020 MPa	TY-030B-01
Tensile Modulus	63.3 Msi	436 GPa	TY-030B-01
Strain at Failure 6K		1.0%	TY-030B-01
Strain at Failure 12K		0.9%	TY-030B-01
Density		1.84 g/cm <sup>3</sup>	TY-030B-02
Filament Diameter		5 μm	
Yield	6K	223 g/1000m	TY-030B-03
	12K	445 g/1000m	TY-030B-03

### FUNCTIONAL PROPERTIES

PROPERTY	VALUE
CTE	-0.9 α · 10 <sup>-6</sup> /°C
Specific Heat	0.719 J/g · °C
Thermal Conductivity	0.836 J/cm · s · °C
Electric Resistivity	0.9 x 10 <sup>-3</sup> Ω · cm
Chemical Composition: Carbon	>99%
Na + K	<50 ppm

### RESIN SYSTEM COMPATIBILITY

SIZING TYPE & AMOUNT	RESIN SYSTEM COMPATIBILITY	METHOD
50B (1.0%)	Epoxy, phenolic, polyester, vinyl ester	TY-030B-05

### COMPOSITE PROPERTIES\*

PROPERTY	ENGLISH	METRIC	METHOD
Tensile Strength*	318 Ksi	2,190 MPa	ASTM D-3039
Tensile Modulus*	39 Msi	267 GPa	ASTM D-3039
Tensile Strain		0.83%	ASTM D-3039
Compressive Strength*	158 ksi	1,090 MPa	SACMASRM1R-94
Flexural Strength*	206 ksi	1,420 MPa	ASTM D-790
Flexural Modulus*	32 Msi	222 GPa	ASTM D-790
ILSS	12 ksi	82.8 MPa	SACMASRM1R-94
In Plain Shear Strength	11 ksi	77 MPa	ASTM D-3518
90° Tensile Strength	7 ksi	48 MPa	ASTM D-3039

\*Normalized to 60% fiber volume. Cured with #2500 epoxy at 130 °C.



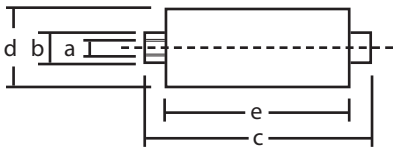
**PACKAGING**

The table below summarizes the tow sizes, twists, sizing types, and packaging available for standard material. Other bobbin sizes may be available on a limited basis.

TOW SIZES	BOBBIN NET WEIGHT (kg)	BOBBIN TYPE	BOBBIN SIZE (mm)					SPOOL PER CASE	CASE NET WEIGHT (kg)
			a	b	c	d	e		
6K	1.0	II	76	82	192	126	156	12	12
12K	2.0	II	76	82	192	157	156	12	24

**Bobbin Type:**

Type II



Please refer to SDS for handling and disposal.

**For more information or purchasing inquiries:**  
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