

# M60J DATA SHEET

MJ type high modulus fiber with enhanced tensile and compressive strength over M series fibers. Mainly used for premium sporting goods, aerospace, and industrial applications.

## FIBER PROPERTIES

		English	Metric	Test Method
Tensile Strength		569 ksi	3,920 MPa	TY-030B-01
Tensile Modulus		85.3 Msi	588 GPa	TY-030B-01
Strain		0.7 %	0.7 %	TY-030B-01
Density		0.070 lbs/in <sup>3</sup>	1.93 g/cm <sup>3</sup>	TY-030B-02
Filament Diameter		2.0E-04 in.	5 µm	
Yield	3K	14,461 ft/lbs	103 g/1000m	TY-030B-03
	6K	7,231 ft/lbs	206 g/1000m	TY-030B-03
Sizing Type & Amount	50A, 50B		1.5 %	TY-030B-05
	Twist	Twisted, Untwisted		

## FUNCTIONAL PROPERTIES

CTE		-1.1 $\alpha \cdot 10^{-6}/^{\circ}\text{C}$
Specific Heat		0.17 Cal/g $\cdot^{\circ}\text{C}$
Thermal Conductivity		0.363 Cal/cm $\cdot\text{s}\cdot^{\circ}\text{C}$
Electric Resistivity		0.7 x 10 <sup>-3</sup> $\Omega\cdot\text{cm}$
Chemical Composition: Carbon		>99 %
	Na + K	<50 ppm

## COMPOSITE PROPERTIES \*

Tensile Strength	290 ksi	2,010 MPa	ASTM D-3039
Tensile Modulus	52.5 Msi	365 GPa	ASTM D-3039
Tensile Strain	0.6 %	0.6 %	ASTM D-3039
Compressive Strength	115 ksi	785 MPa	ASTM D-695
Flexural Strength	150 ksi	1,080 MPa	ASTM D-790
Flexural Modulus	44.0 Msi	305 GPa	ASTM D-790
ILSS	10.0 ksi	7 kgf/mm <sup>2</sup>	ASTM D-2344
90° Tensile Strength	4.5 ksi	32 MPa	ASTM D-3039

\* Toray 250°F Epoxy Resin. Normalized to 60% fiber volume.

# M60J

## COMPOSITE PROPERTIES \* \*

Tensile Strength	255 ksi	1,760 MPa	ASTM D-3039
Tensile Modulus	48.0 Msi	330 GPa	ASTM D-3039
Tensile Strain	0.5 %	0.5 %	ASTM D-3039
Compressive Strength	115 ksi	780 MPa	ASTM D-695
Compressive Modulus	46.5 Msi	320 GPa	ASTM D-695
In-Plane Shear Strength	5.5 ksi	39 MPa	ASTM D-3518
ILSS	10.0 ksi	7.0 kgf/mm <sup>2</sup>	ASTM D-2344
90° Tensile Strength	4.5 ksi	30 MPa	ASTM D-3039

\*\* Toray Semi-Toughened 350°F Epoxy Resin. Normalized to 60% fiber volume.

See Section 4 for Safety & Handling information. The above properties do not constitute any warranty or guarantee of values.

These values are for material selection purposes only. For applications requiring guaranteed values, contact our sales and technical team to establish a material specification document.

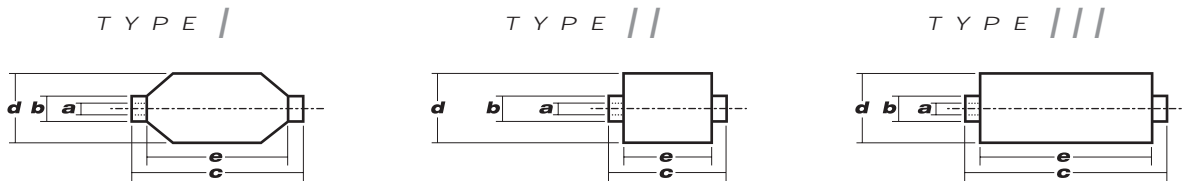
## PACKAGING

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	Twist <sup>1</sup>	Sizing	Bobbin Net Weight (kg)	Bobbin Type <sup>2</sup>	Bobbin Size (mm)					Spools per Case	Case Net Weight (kg)
					a	b	c	d	e		
3K	B	50B	0.2	//	76	82	192	94	156	24	4.8
6K	A	50A	0.4	//	76	82	192	103	156	24	9.6
	B	50B	0.4	//	76	82	192	103	156	24	9.6

<sup>1</sup> **Twist** A: Twisted yarn B: Untwisted yarn made from a twisted yarn through an untwisting process C: Never twisted yarn

<sup>2</sup> **Bobbin Type** See Diagram below



TORAY CARBON FIBERS AMERICA, INC.

6 Hutton Centre Drive, Suite #1270, Santa Ana, CA 92707 TEL: (714) 431-2320 FAX: (714) 424-0750

Sales@Toraycfa.com Technical@Toraycfa.com www.torayusa.com