

M40J 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		640 ksi	4,410 MPa	TY-030B-01
Tensile Modulus		54.7 Msi	377 GPa	TY-030B-01
Strain		1.2 %	1.2 %	TY-030B-01
Density		0.064 lbs/in ³	1.77 g/cm ³	TY-030B-02
Filament Diameter		2.0E-04 in.	5 μm	
Yield	3K	13,181 ft/lbs	113 g/1000m	TY-030B-03
	6K	6,620 ft/lbs	225 g/1000m	TY-030B-03
	12K	3,310 ft/lbs	450 g/1000m	TY-030B-03
Sizing Type & Amount	50A, 50B		1.0 %	TY-030B-05
	Twist	Twisted, Untwisted		

FUNCTIONAL PROPERTIES

CTE	-0.83 $\alpha \cdot 10^{-6}/^{\circ}\text{C}$
Specific Heat	0.17 Cal/g $\cdot^{\circ}\text{C}$
Thermal Conductivity	0.164 Cal/cm $\cdot\text{s}\cdot^{\circ}\text{C}$
Electric Resistivity	$1.0 \times 10^{-3} \Omega\cdot\text{cm}$
Chemical Composition: Carbon	>99 %
Na + K	<50 ppm

COMPOSITE PROPERTIES *

Tensile Strength	360 ksi	2,450 MPa	ASTM D-3039
Tensile Modulus	33.5 Msi	230 GPa	ASTM D-3039
Tensile Strain	1.1 %	1.1 %	ASTM D-3039
Compressive Strength	185 ksi	1,270 MPa	ASTM D-695
Flexural Strength	220 ksi	1,520 MPa	ASTM D-790
Flexural Modulus	28.5 Msi	195 GPa	ASTM D-790
ILSS	13.0 ksi	9 kgf/mm ²	ASTM D-2344
90° Tensile Strength	7.5 ksi	53 MPa	ASTM D-3039

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

M40J

COMPOSITE PROPERTIES * *

Tensile Strength	330 ksi	2,250 MPa	ASTM D-3039
Tensile Modulus	31.5 Msi	215 GPa	ASTM D-3039
Tensile Strain	1.0 %	1.0 %	ASTM D-3039
Compressive Strength	155 ksi	1,080 MPa	ASTM D-695
Compressive Modulus	30.0 Msi	205 GPa	ASTM D-695
In-Plane Shear Strength	8.5 ksi	59 MPa	ASTM D-3518
ILSS	13.0 ksi	9 kgf/mm ²	ASTM D-2344
90° Tensile Strength	7.0 ksi	50 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.

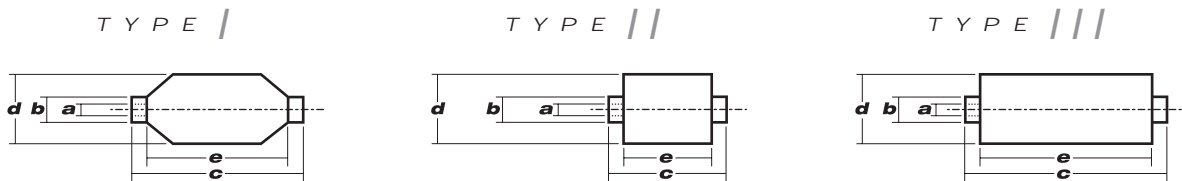
PACKAGING

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 ¹	Sizing	Bobbin Net Weight (kg)	Bobbin Type ²	Bobbin Size (mm)					Spools per Case	Case Net Weight (kg)
					a	b	c	d	e		
3K	B	50B	0.5	//	76	82	192	107	156	20	10
6K	A	50A	1.0	//	76	82	192	126	156	16	16
	B	50B	1.0	//	76	82	192	126	156	16	16
12K	A	50A	2.0	//	76	82	192	157	156	12	24
	B	50B	2.0	//	76	82	192	157	156	12	24

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

² **Bobbin Type** See Diagram below



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