

M55J 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		583 ksi	4,020 MPa	TY-030B-01
Tensile Modulus		78.2 Msi	540 GPa	TY-030B-01
Strain		0.8 %	0.8 %	TY-030B-01
Density		0.069 lbs/in ³	1.91 g/cm ³	TY-030B-02
Filament Diameter		2.0E-04 in.	5 μm	
Yield	6K	6,833 ft/lbs	218 g/1000m	TY-030B-03
Sizing Type & Amount	50B		1.0 %	TY-030B-05
	Twist	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	0.372 Cal/cm $\cdot\text{s}\cdot^{\circ}\text{C}$
Electric Resistivity	0.8 $\times 10^{-3} \Omega\cdot\text{cm}$
Chemical Composition: Carbon	>99 %
Na + K	<50 ppm

COMPOSITE PROPERTIES *

Tensile Strength	290 ksi	2,010 MPa	ASTM D-3039
Tensile Modulus	49.0 Msi	340 GPa	ASTM D-3039
Tensile Strain	0.6 %	0.6 %	ASTM D-3039
Compressive Strength	130 ksi	880 MPa	ASTM D-695
Flexural Strength	180 ksi	1,230 MPa	ASTM D-790
Flexural Modulus	40.5 Msi	280 GPa	ASTM D-790
ILSS	10.0 ksi	7 kgf/mm ²	ASTM D-2344
90° Tensile Strength	5.0 ksi	34 MPa	ASTM D-3039

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

M55J

COMPOSITE PROPERTIES * *

Tensile Strength	270 ksi	1,860 MPa	ASTM D-3039
Tensile Modulus	43.5 Msi	300 GPa	ASTM D-3039
Tensile Strain	0.6 %	0.6 %	ASTM D-3039
Compressive Strength	120 ksi	835 MPa	ASTM D-695
Compressive Modulus	41.5 Msi	285 GPa	ASTM D-695
In-Plane Shear Strength	6.5 ksi	44 MPa	ASTM D-3518
ILSS	10.5 ksi	7.5 kgf/mm ²	ASTM D-2344
90° Tensile Strength	5.0 ksi	35 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.

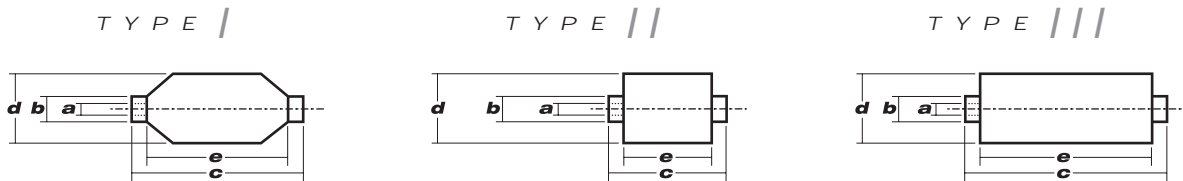
PACKAGING

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		
6K	B	50B	0.5	//	76	82	192	107	156	24	12

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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