

Torayca™ M46J carbon fiber is a high modulus fiber with enhanced tensile and compressive strength. Its high tensile strength and modulus makes Torayca™ M46J the fiber of choice for space applications such as satellites, motorsports and marine applications. Manufactured in France and Japan.

PRODUCT DESIGNATION

M46J	B	6 000	5	0	A
Fiber Type	Twist*	Filament Count	Sizing Type	Surface Treatment	Sizing Amount

*Blank: Twisted
B: Untwisted

RESIN SYSTEM COMPATIBILITY

SIZING TYPE & AMOUNT	RESIN SYSTEM COMPATIBILITY	METHOD
50A / 50B (1%)	Epoxy, phenolic, polyester, vinyl ester	TY-QA-005

FIBER PROPERTIES

PROPERTY	UNIT	FILAMENT COUNT	NOMINAL VALUE*	METHOD
Tensile Strength	MPa (kgf/mm ²)		4200 (430)	TY-QA-002
Tensile Modulus	GPa (10 ³ kgf/mm ²)		436 (44.5)	TY-QA-002
Elongation	%		1.0	TY-QA-002
Density	g/cm ³		1.84	TY-QA-003
Yield	g/1000m	6 000	223	TY-QA-004
		12 000	445	

* Lot properties are reported as average values of a test set per bobbin sampled. The stated values are typical values. For design purposes, please contact us.

FUNCTIONAL PROPERTIES

PROPERTY	UNIT	FILAMENT COUNT	NOMINAL VALUE
Specific Heat	Cal/g.°C		0.17
Electric Resistivity	x 10 ⁻³ Ω.cm		0.9
CTE	α10 ⁻⁶ /°C		-0.9
Thermal Conductivity	Cal/cm.S.°C		0.202
Filament Diameter	μm		5
Cross Sectional Area	mm ²	6 000	0.12
		12 000	0.24

COMPOSITE PROPERTIES*

PROPERTY	UNIT	NOMINAL VALUE
Tensile Strength	MPa (kgf/mm ²)	2210 (225)
Tensile Modulus	GPa (10 ³ kgf/mm ²)	265 (27.0)
Tensile Strain	%	0.8
Compressive Strength	MPa (kgf/mm ²)	1080 (110)
Flexural Modulus	GPa (10 ³ kgf/mm ²)	220 (22.5)
ILSS	MPa (kgf/mm ²)	80 (8)

* Toray 2500 – 120°C resin system. Measured temperature: RT. Normalized to 60% fiber volume.

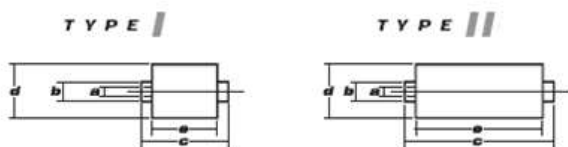
PACKAGING

Each bobbin of TORAYCA carbon fibre is protected against dust and packed in container to prevent damage during transportation

The table below summarizes the tow sizes 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	I	76	82	192	126	156	16	16
12K	2.0	I	76	82	192	157	156	12	24

BOBBIN TYPE:



Please refer to SDS for handling and disposal.

REQUIREMENTS

Shelf Life: 24 months from month of manufacture, if stored under ambient condition

TORAY CARBON FIBERS EUROPE S.A.

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