

Torayca™ M40 fiber is ideally suited for applications requiring a high modulus, but when tensile strength is of lesser importance. It is mainly used for articulated arms in the robotics and electronics industries, where the rigidity of the mechanical arm ensures accuracy and precision. Manufactured in France and Japan.

PRODUCT DESIGNATION

M40	B	6 000	4	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
40A / 40B (1%)	Epoxy, phenolic, BMI	TY-QA-005
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)		2740 (280)	TY-QA-002
Tensile Modulus	GPa (10 ³ kgf/mm ²)		392 (40.0)	TY-QA-002
Elongation	%		0.7	TY-QA-002
Density	g/cm ³		1.81	TY-QA-003
Yield	g/1000m	6 000	364	TY-QA-004
		12 000	728	

* 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		-
Electric Resistivity	x 10 ⁻³ Ω.cm		0.8
CTE	α10 ⁻⁶ /°C		-
Thermal Conductivity	Cal/cm.S.°C		-
Filament Diameter	μm		7
Cross Sectional Area	mm ²	6 000	0.20
		12 000	0.40

COMPOSITE PROPERTIES*

PROPERTY	UNIT	NOMINAL VALUE
Tensile Strength	MPa (kgf/mm ²)	1470 (150)
Tensile Modulus	GPa (10 ³ kgf/mm ²)	240 (24.5)
Tensile Strain	%	0.6
Compressive Strength	MPa (kgf/mm ²)	1030 (105)
Flexural Modulus	GPa (10 ³ kgf/mm ²)	200 (20.5)
ILSS	MPa (kgf/mm ²)	78 (8)

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

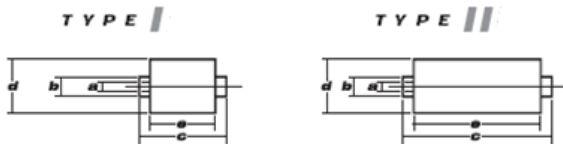
PACKAGING

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		
1K	0.15	I	76	82	192	91	156	24	3.6
3K	1.0	I	76	82	192	126	156	16	16
6K	1.5	I	76	82	192	143	156	12	18
12K	4.0	II	76.5	82.5	280	173	252	6	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.

SALES AND MARKETING DIVISION
18 – 20 Avenue de la Porte d'Italie
75013 PARIS, FRANCE

HEAD OFFICE
Route Départementale 817
64170 LACQ, FRANCE

PLANT
Route de Lagor
64150 ABIDOS, FRANCE