

TORAYCA® T700S DATA SHEET

Highest strength, standard modulus fiber available with excellent processing characteristics for filament winding and prepreg. This never twisted fiber is used in high tensile applications like pressure vessels, recreational, and industrial.

FIBER PROPERTIES

		<i>English</i>	<i>Metric</i>	<i>Test Method</i>
Tensile Strength		711 ksi	4,900 MPa	TY-030B-01
Tensile Modulus		33.4 Msi	230 GPa	TY-030B-01
Strain		2.1 %	2.1 %	TY-030B-01
Density		0.065 lbs/in ³	1.80 g/cm ³	TY-030B-02
Filament Diameter		2.8E-04 in.	7 μm	
Yield	6K	3,724 ft/lbs	400 g/1000m	TY-030B-03
	12K	1,862 ft/lbs	800 g/1000m	TY-030B-03
	24K	903 ft/lbs	1,650 g/1000m	TY-030B-03
Sizing Type	50C		1.0 %	TY-030B-05
& Amount	60E		0.3 %	TY-030B-05
	F0E		0.7 %	TY-030B-05
	Twist	Never twisted		

FUNCTIONAL PROPERTIES

CTE	-0.38 $\alpha \cdot 10^{-6}/^{\circ}\text{C}$
Specific Heat	0.18 Cal/g·°C
Thermal Conductivity	0.0224 Cal/cm·s·°C
Electric Resistivity	$1.6 \times 10^{-3} \Omega \cdot \text{cm}$
Chemical Composition: Carbon	93 %
Na + K	<50 ppm

COMPOSITE PROPERTIES *

Tensile Strength	370 ksi	2,550 MPa	ASTM D-3039
Tensile Modulus	20.0 Msi	135 GPa	ASTM D-3039
Tensile Strain	1.7 %	1.7 %	ASTM D-3039
Compressive Strength	215 ksi	1,470 MPa	ASTM D-695
Flexural Strength	245 ksi	1,670 MPa	ASTM D-790
Flexural Modulus	17.5 Msi	120 GPa	ASTM D-790
ILSS	13 ksi	9 kgf/mm ²	ASTM D-2344
90° Tensile Strength	10.0 ksi	69 MPa	ASTM D-3039

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

T700S

COMPOSITE PROPERTIES **

Tensile Strength	355 ksi	2,450 MPa	ASTM D-3039
Tensile Modulus	18.0 Msi	125 GPa	ASTM D-3039
Tensile Strain	1.7 %	1.7 %	ASTM D-3039
Compressive Strength	230 ksi	1,570 MPa	ASTM D-695
Compressive Modulus	--- Msi	--- GPa	ASTM D-695
In-Plane Shear Strength	14 ksi	98 MPa	ASTM D-3518
ILSS	15.5 ksi	11 kgf/mm ²	ASTM D-2344
90° Tensile Strength	10.0 ksi	70 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.

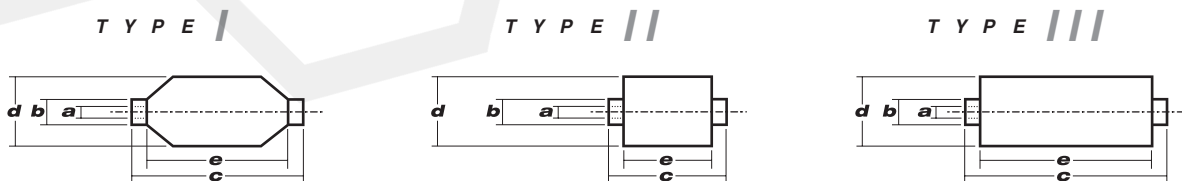
PACKAGING

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	C	50C	2.0	III	76.5	82.5	280	140	252	12	24
	C	50C	6.0	III	76.5	82.5	280	200	252	4	24
12K	C	60E	6.0	III	76.5	82.5	280	200	252	4	24
	C	F0E	6.0	III	76.5	82.5	280	200	252	4	24
24K	C	50C	6.0	III	76.5	82.5	280	200	252	4	24
	C	60E	6.0	III	76.5	82.5	280	200	252	4	24
	C	F0E	6.0	III	76.5	82.5	280	200	252	4	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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