

# TORAYCA®

## T300 DATA SHEET

Baseline carbon fiber used in aerospace applications. Has 30 year production history and is known for its balanced composite properties, high quality, consistency, reliability and supplyability.

### FIBER PROPERTIES

		English	Metric	Test Method
Tensile Strength		512 ksi	3,530 MPa	TY-030B-01
Tensile Modulus		33.4 Msi	230 GPa	TY-030B-01
Strain		1.5 %	1.5 %	TY-030B-01
Density		0.064 lbs/in <sup>3</sup>	1.76 g/cm <sup>3</sup>	TY-030B-02
Filament Diameter		2.8E-04 in.	7 μm	
Yield	1K	22,568 ft/lbs	66 g/1000m	TY-030B-03
	3K	7,523 ft/lbs	198 g/1000m	TY-030B-03
	6K	3,761 ft/lbs	396 g/1000m	TY-030B-03
	12K	1,862 ft/lbs	800 g/1000m	TY-030B-03
Sizing Type	40A, 40B		1.0 %	TY-030B-05
& Amount	40D		0.7 %	TY-030B-05
	50A, 50B		1.0 %	TY-030B-05
	Twist	Twisted, Untwisted, or Never twisted		

### FUNCTIONAL PROPERTIES

CTE	-0.41 $\alpha \cdot 10^{-6}/^{\circ}\text{C}$
Specific Heat	0.19 Cal/g $\cdot^{\circ}\text{C}$
Thermal Conductivity	0.025 Cal/cm $\cdot\text{s}\cdot^{\circ}\text{C}$
Electric Resistivity	$1.7 \times 10^{-3} \Omega\text{-cm}$
Chemical Composition: Carbon	93 %
Na + K	<50 ppm

### COMPOSITE PROPERTIES \*

Tensile Strength	270 ksi	1,860 MPa	ASTM D-3039
Tensile Modulus	20.0 Msi	135 GPa	ASTM D-3039
Tensile Strain	1.3 %	1.3 %	ASTM D-3039
Compressive Strength	215 ksi	1,470 MPa	ASTM D-695
Flexural Strength	260 ksi	1,810 MPa	ASTM D-790
Flexural Modulus	18.0 Msi	125 GPa	ASTM D-790
ILSS	14 ksi	10 kgf/mm <sup>2</sup>	ASTM D-2344
90° Tensile Strength	11.0 ksi	76 MPa	ASTM D-3039

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

# T300

## COMPOSITE PROPERTIES \*\*

Tensile Strength	255 ksi	1,760 MPa	ASTM D-3039
Tensile Modulus	19.5 Msi	130 GPa	ASTM D-3039
Tensile Strain	1.3 %	1.3 %	ASTM D-3039
Compressive Strength	230 ksi	1,570 MPa	ASTM D-695
Compressive Modulus	18.5 Msi	125 GPa	ASTM D-695
In-Plane Shear Strength	14 ksi	98 MPa	ASTM D-3518
ILSS	15.5 ksi	11 kgf/mm <sup>2</sup>	ASTM D-2344
90° Tensile Strength	11.5 ksi	80 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.

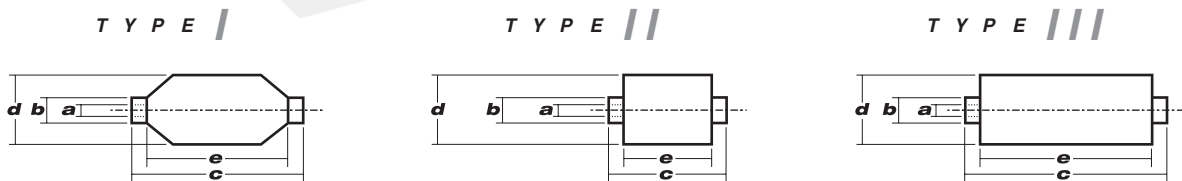
## PACKAGING

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 <sup>1</sup>	Sizing	Bobbin Net Weight (kg)	Bobbin Type <sup>2</sup>	Bobbin Size (mm)					Spools per Case	Case Net Weight (kg)
					a	b	c	d	e		
1K	A	40A, 50A	1.0	I	94	99	320	135	260	15	15
	A	40A, 50A	1.0	II	76	82	192	132	156	16	16
	B	50B	1.0	II	76	82	192	132	156	16	16
3K	A	40A, 50A	2.0	II	76	82	192	157	156	12	24
	B	40B, 50B	2.0	II	76	82	192	157	156	12	24
6K	A	40D, 50A	2.0	II	76	82	192	157	156	12	24
	B	40D, 50B	2.0	II	76	82	192	157	156	12	24
12K	A	50A	4.0	II	76	82	192	204	156	6	24
	B	50B	4.0	II	76	82	192	204	156	6	24

<sup>1</sup> Twist A: Twisted yarn B: Untwisted yarn made from a twisted yarn through an untwisting process

<sup>2</sup> Bobbin Type See Diagram below



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