

TORAYCA™ T700S Standard Modulus Carbon Fiber Data Sheet



Toray Composite Materials America, Inc.

PRODUCT NOTES

Excellent processability in traditional manufacturing methods (weaving, braiding, filament winding, prepreg, etc). Manufacturing locations include Japan, U.S., Korea, and France.

PRODUCT DESIGNATION

FIBER TYPE	TWIST	FILAMENT COUNT	SIZING TYPE	SURFACE TREATMENT	SIZING AMOUNT
T700S	C*	12,000	5	0	C

* C: Never Twisted

FIBER PROPERTIES

PROPERTY	ENGLISH	METRIC	METHOD
Tensile Strength	711 Ksi	4,900 MPa	TY-030B-01
Tensile Modulus	33.4 Msi	230 GPa	TY-030B-01
Strain at Failure		2.1%	TY-030B-01
Density		1.80 g/cm ³	TY-030B-02
Filament Diameter		7 μm	
Yield	6K	400 g/1000m	TY-030B-03
	12K	800 g/1000m	TY-030B-03
	24K	1,650 g/1000m	TY-030B-03

FUNCTIONAL PROPERTIES

PROPERTY	VALUE
CTE	-0.38 α · 10 ⁻⁶ /°C
Specific Heat	0.752 J/g · °C
Thermal Conductivity	0.096 J/cm · s · °C
Electric Resistivity	1.6 x 10 ⁻³ Ω·cm
Chemical Composition: Carbon	>93%
Na + K	<50 ppm

RESIN SYSTEM COMPATIBILITY

SIZING TYPE & AMOUNT	RESIN SYSTEM COMPATIBILITY	METHOD
50C (1.0 %)	Epoxy, phenolic, polyester, vinyl ester	TY-030B-05
60E (0.2 %)	Epoxy	TY-030B-05
F0E (0.6 %)	Vinyl ester, compatible with epoxy	TY-030B-05

COMPOSITE PROPERTIES

PROPERTY	ENGLISH	METRIC	METHOD
Tensile Strength*	415 Ksi	2,860 MPa	ASTM D3039
Tensile Modulus*	19 Msi	134 GPa	ASTM D3039
Tensile Strain		2.02%	ASTM D3039
Compressive Strength*	210 Ksi	1,450 MPa	SACMASRM1R-94
Flexural Strength*	245 Ksi	1,690 MPa	ASTM D790
Flexural Modulus*	17 Msi	120 GPa	ASTM D790
ILSS	13 Ksi	86.9 MPa	SACMASRM1R-94
In Plain Shear Strength	20 Ksi	136 MPa	ASTM D3518
90° Tensile Strength	12 Ksi	81 MPa	ASTM D3039

* Normalized to 60% fiber volume. Cured with epoxy at 130 °C.

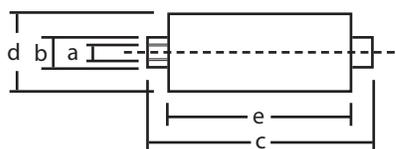
PACKAGING

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	SIZING	BOBBIN NET WEIGHT (kg)	BOBBIN TYPE	BOBBIN SIZE (mm)					SPOOL PER CASE	CASE NET WEIGHT (kg)
				a	b	c	d	e		
6K	50C	2.0	III	76.5	82.5	280	140	252	12	24
12K/24K	50C/60E/F0E	6.0	III	76.5	82.5	280	200	252	4	24
24K	50C	8.0	III	76.5	82.5	280	218	252	4	32

Bobbin Type:

Type III



Please refer to SDS for handling and disposal.

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