

TORAYCA™ T700G Standard Modulus Carbon Fiber Data Sheet



Toray Composite Materials America, Inc.

PRODUCT NOTES

Enhanced tensile modulus with excellent processability in traditional manufacturing methods (weaving, braiding, filament winding, prepreg, etc). Manufacturing locations include Japan, U.S., and France.

PRODUCT DESIGNATION

FIBER TYPE	TWIST	FILAMENT COUNT	SIZING TYPE	SUFACE TREATMENT	SIZING AMOUNT
T700G	C*	12,000	3	1	E

* C: Never Twisted

FIBER PROPERTIES

PROPERTY	ENGLISH	METRIC	METHOD
Tensile Strength	711 Ksi	4,900 MPa	TY-030B-01
Tensile Modulus	34.8 Msi	240 GPa	TY-030B-01
Strain at Failure		2.0%	TY-030B-01
Density		1.80 g/cm ³	TY-030B-02
Filament Diameter		7 μm	
Yield	12K	800 g/1000m	TY-030B-03

FUNCTIONAL PROPERTIES

PROPERTY	VALUE
CTE	-0.3 α · 10 ⁻⁶ /°C
Specific Heat	0.752 J/g · °C
Thermal Conductivity	0.096 J/cm · s · °C
Electric Resistivity	1.5 x 10 ⁻³ Ω · cm
Chemical Composition: Carbon	>95%
Na + K	<50 ppm

RESIN SYSTEM COMPATIBILITY

SIZING TYPE & AMOUNT	RESIN SYSTEM COMPATIBILITY	METHOD
31E (0.5%)	Epoxy	TY-030B-05
41E (0.5%)	Epoxy	TY-030B-05
51C (1.0%)	Epoxy, phenolic, polyester, vinyl ester	TY-030B-05

COMPOSITE PROPERTIES

PROPERTY	ENGLISH	METRIC	METHOD
Tensile Strength*	296 Ksi	2,040 MPa	ASTM D3039
Tensile Modulus*	20 Msi	141 GPa	ASTM D3039
Tensile Strain		1.40%	ASTM D3039
Compressive Strength*	239 Ksi	1,645 MPa	SACMASRM1R-94
Flexural Strength*	286 Ksi	1,970 MPa	ASTM D790
Flexural Modulus*	18 Msi	125 GPa	ASTM D790
ILSS	15 Ksi	102.1 MPa	SACMASRM8R-94
In Plain Shear Strength	19 Ksi	128 MPa	ASTM D3518
90° Tensile Strength	11 Ksi	75 MPa	ASTM D3039

* Normalized to 60% fiber volume. Cured with #2500 epoxy at 130 °C.

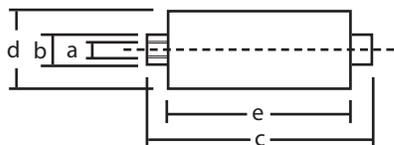
PACKAGING

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	BOBBIN NET WEIGHT (kg)	BOBBIN TYPE	BOBBIN SIZE (mm)					SPOOL PER CASE	CASE NET WEIGHT (kg)
			a	b	c	d	e		
12K	6.0	III	76.5	82.5	280	200	252	4	24

Bobbin Type:

Type III



Please refer to SDS for handling and disposal.

The data listed herein are lot averages, for reference purposes only, and are offered AS-IS without warranty. The results are not intended for specification purposes. WARNING: This document may contain technical data whose export is restricted by the Export Administration Act of 1979, as amended, Title 50, U.S.C., App.2401 et seq. Violations of these export laws are subject to severe criminal penalties.

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