

# TORAYCA™ T800S Intermediate Modulus Carbon Fiber Data Sheet



Toray Composite Materials America, Inc.

## PRODUCT NOTES

Intermediate modulus, high tensile strength fiber, developed as a cost effective alternative to T800H. This never twisted fiber has excellent tensile composite properties and is specifically designed to meet the weight saving demand of aircraft and high performance recreational products. Excellent processability in traditional manufacturing methods (weaving, braiding, filament winding, prepreg, etc). Manufacturing locations include Japan, US, and France.

## PRODUCT DESIGNATION

FIBER TYPE	TWIST	FILAMENT COUNT	SIZING TYPE	SUFACE TREATMENT	SIZING AMOUNT
T800S	C*	24,000	1	0	E

\* C: Never twisted

## FIBER PROPERTIES

PROPERTY	ENGLISH	METRIC	METHOD
Tensile Strength	853 Ksi	5,880 MPa	TY-030B-01
Tensile Modulus	42.7 Msi	294 GPa	TY-030B-01
Strain at Failure		2.0%	TY-030B-01
Density		1.80 g/cm <sup>3</sup>	TY-030B-02
Filament Diameter		5 μm	
Yield	12K	515 g/1000m	TY-030B-03
	24K	1,030 g/1000m	TY-030B-03

## FUNCTIONAL PROPERTIES

PROPERTY	VALUE
CTE	-0.4 α · 10 <sup>-6</sup> /°C
Specific Heat	0.740 J/g · °C
Thermal Conductivity	0.113 J/cm · s·°C
Electric Resistivity	1.3 x 10 <sup>-3</sup> Ω·cm
Chemical Composition: Carbon	>96%
Na + K	<50 ppm

## RESIN SYSTEM COMPATIBILITY

SIZING TYPE & AMOUNT	RESIN SYSTEM COMPATIBILITY	METHOD
10E (0.5%)	Epoxy	TY-030B-05
50C (1.0%)	Epoxy, phenolic, polyester, vinyl ester	TY-030B-05

## COMPOSITE PROPERTIES

PROPERTY	ENGLISH	METRIC	METHOD
Tensile Strength*	477 Ksi	3,290 MPa	ASTM D3039
Tensile Modulus*	24 Msi	163 GPa	ASTM D3039
Tensile Strain		1.94%	ASTM D3039
Compressive Strength*	216 Ksi	1,490 MPa	SACMASRM1R-94
Flexural Strength*	247 Ksi	1,700 MPa	ASTM D790
Flexural Modulus*	21 Msi	145 GPa	ASTM D790
ILSS	13 Ksi	87.9 MPa	SACMASRM8R-94
In Plain Shear Strength	20 Ksi	135 MPa	ASTM D3518
90° Tensile Strength	11 Ksi	79 MPa	ASTM D3039

\* Normalized to 60% fiber volume. Cured with #2592 epoxy at 130 °C.

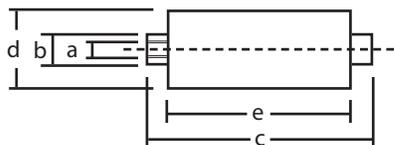
## PACKAGING

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		
12K	50C	4.0	III	76.5	82.5	280	160	252	6	24
24K	10E	7.8	III	76.5	82.5	280	198	252	4	31.2

### 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.

TORAYCA™ T800S\_Rev.04/13/2018