

PRODUCT DATA SHEET

DESCRIPTION

Toray Cetex® TC910 is a thermoplastic composite using a polyamide 6 (PA6) matrix resin. This product provides excellent mechanical performance at a good performance-to-weight ratio. It features high strength and wear resistance and performs well at elevated temperatures. As a result of these attributes, Toray Cetex® TC910 is commonly used in a variety of sporting goods, automotive, and transportation and general industrial applications. Secondary details in the final part may be injection overmolded using injection-grade polyamides. Toray Cetex® TC910 is available in glass or carbon reinforced UD tapes.

FEATURES

- ▶ **Excellent balance of strength and impact resistance**
- ▶ **Moldable and formable**
- ▶ **Excellent temperature resistance and strength makes it ideal for housings and under the hood applications**
- ▶ **Excellent impact and good solvent resistance**
- ▶ **Good elevated temperature resistance**



PRODUCT TYPE

Nylon 6-based Thermoplastic Composite

TYPICAL APPLICATIONS

- ▶ General Industry
- ▶ Sporting Goods
- ▶ Urban Air Mobility & Unmanned Aircraft Systems
- ▶ Automotive structure e.g. under the hood applications
- ▶ Replacement for highly loaded injection molded parts

SHELF LIFE

Indefinite at 25°C (77°F)

TYPICAL NEAT RESIN PROPERTIES

Heat Deflection Temperature	200°C (392°F)
-----------------------------	---------------



Contact us for more information:

North America/Asia/Pacific **Europe/Middle East/Africa**
e explore@toraytac-usa.com e explore@toraytac-europe.com
t +1 408 465 8500 t +44 (0)1773 530899

PRODUCT DATA SHEET

MECHANICAL PROPERTIES

Property	Condition	Method	Typical Results	
Tensile Strength 0°	RTD	ASTM D 3039	2068 MPa	300 ksi
Tensile Modulus 0°	RTD	ASTM D 3039	99.9 GPa	14.5 Msi
Compressive Strength 0°	RTD	ASTM D 6641	992 MPa	144 ksi
In-Plane Shear Modulus	RTD	ASTM D 3518	2.8 GPa	0.41 Msi
In-Plane Shear Strength (ult)	RTD	ASTM D 3518	145 MPa	21.1 ksi
In-Plane Shear Strength (5% strain)	RTD	ASTM D 3518	50 MPa	7.2 ksi
Mode I Interlaminar Fracture Toughness (G _{IC} Strain Energy Release Rate)	RTD	ASTM D 5528	81 MPa	11.8 ksi
Mode II Interlaminar Fracture Toughness (G _{IIc} Strain Energy Release Rate)	RTD	ASTM D 7905	149 MPa	21.6 ksi
CAI (1500 in-lb/in)	RTD	ASTM 7136/7137	252 MPa	36.6 ksi

Toray Cetex® TC910 Nylon 6 Carbon Fiber Uni-directional Tape

Resin content by weight at 40%. Composite density 1.45 g/cm³.
Tape width 166 mm (6.5"). Tape thickness 0.16 mm (0.007").
Recommended processing temperature is 249–271°C (480–520°F)

MECHANICAL PROPERTIES

Property	Condition	Method	Typical Results	
Tensile Strength 0°	RTD	ASTM D 3039	900 MPa	131 ksi
Tensile Modulus 0°	RTD	ASTM D 3039	30 GPa	4.4 Msi
Flexural Modulus 0°	RTD	ASTM D 790	29 GPa	4.2 Msi
Short Beam Shear ILSS	RTD	ASTM D 2344	42 MPa	6.1 ksi

Toray Cetex® TC910 Nylon 6 Fiberglass Uni-directional Tape

Resin content by weight at 40%. Composite density 1.73 g/cm³.
Tape width 166 mm (6.5"). Tape thickness 0.25 mm (0.010").
Recommended processing temperature is 249–271°C (480–520°F)

© 2023. All data given is based on representative samples of the materials in question. Since the method and circumstances under which these materials are processed and tested are key to their performance, and Toray Advanced Composites has no assurance of how its customers will use the material, the corporation cannot guarantee these properties. Toray®, (Toray) AmberTool®, (Toray) Cetex®, (Toray) MicroPly®, and all other related characters, logos, and trade names are claims and/or registered trademarks of Toray Industries Inc. and/or its subsidiary companies in one or more countries. Use of trademarks, trade names, and other IP rights of Toray Industries Inc. without prior written approval by such is strictly prohibited.