

PRODUCT DATA SHEET

DESCRIPTION

Toray Cetex® TC915 is a thermoplastic composite using a high performance polyamide matrix resin. This product provides exceptional mechanical properties higher than typical polyamide-based composites and Nylon materials. It is ideal for structural components under high stress conditions and performs well at elevated temperatures. Toray Cetex® TC915 also exhibits excellent resistance to water absorption with better solvent resistance than common polyamides. Toray Cetex® TC915 is available as carbon reinforced uni-directional tapes.

FEATURES

- ▶ Exceptional mechanical properties
- ▶ Excellent shear strength and stiffness
- ▶ Excellent resistance to water absorption
- ▶ Good high temperature stability
- ▶ Excellent producibility and formability
- ▶ Good chemical resistance



PRODUCT TYPE

High-Performance Polyamide (Nylon) Thermoplastic Composite
Carbon Fiber Reinforced Uni-Directional Tapes

TYPICAL APPLICATIONS

- ▶ High performance applications in general industry
- ▶ Sporting equipment
- ▶ Automotive structure e.g. under the hood applications
- ▶ Energy e.g. oil/gas & hydrogen
- ▶ Urban Air Mobility (UAM) & Unmanned Aircraft Systems (UAS)

SHELF LIFE

Indefinite at Room Temperature

TYPICAL NEAT RESIN PROPERTIES

Density (Specific Gravity)	1.21 g/cm ³
Tensile Strength	83 MPa (12 ksi)
Tensile Modulus	4.5 GPa (0.65 Msi)
Water Absorption (Saturation in water)	5.8%
Humidity Absorption (60% RH equilibrium)	3%
T _g (Glass transition temp.)	75°C (167°F)
T _m (Melt temp.)	243°C (469°F)
T _p (Processing temp.)	260 - 300°C (500-572°F)

PHYSICAL PROPERTIES - EXAMPLE

Fiber Areal Weight (FAW)	131gsm
Weight Per Ply (PAW)	215gsm
Fiber Content by Volume (FV)	50%
Tape Width	166 mm (6.5 in.)
Consolidated Ply Thickness	0.14 mm (0.006 in.)



Contact us for more information:

North America/Asia/Pacific

e explore@toraytac-usa.com

t +1 408 465 8500

Europe/Middle East/Africa

e explore@toraytac-europe.com

t +44 (0)1773 530899

Cetex®

TORAY_CETEX_TC915_PDS_v1.0_2024-02-01

Page 1/2

PRODUCT DATA SHEET

MECHANICAL PROPERTIES

TC915 Carbon Fiber UD Tape 50% FV				
Property	Condition	Method	Typical Results	
Tensile Strength 0°	RTD	ASTM D 3039	2179 MPa	316 ksi
Tensile Modulus 0°	RTD	ASTM D 3039	124 GPa	18 Msi
Flexural Strength 0°	RTD	ASTM D 7264	1510 MPa	219 ksi
Flexural Modulus	RTD	ASTM D 7264	103 GPa	15 Msi
Compressive Strength 0°	RTD	ASTM D 6641	1055 MPa	153 ksi
Compressive Modulus 0°	RTD	ASTM D 6641	122 GPa	17.7 ksi
In-Plane Shear Strength (ult)	RTD	ASTM D 3518	177 MPa	25.7 ksi
In-Plane Shear Strength (5% strain)	RTD	ASTM D 3518	79 MPa	11.4 ksi
In-Plane Shear Modulus	RTD	ASTM D 3518	4.2 GPa	0.61 ksi
Short Beam Shear ILSS	RTD	ASTM D 2344	76 MPa	11 ksi

Toray Cetex® TC915 Polyamide-based Carbon Fiber Uni-directional Tapes (typical example)
 Fiber content by volume at 50%
 Composite density 1.56 g/cm³
 Room Temperature Dry (RTD)

Revised 02/2024

TORAY_CETEX_TC915_PDS_v1.0_2024-02-01 Page 2/2

© 2024. 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.