# Toray Cetex® TC940 PET



#### PRODUCT DATA SHEET

#### DESCRIPTION

Toray Cetex® TC940 is a thermoplastic composite using a semi-crystalline polyethylene terephthalate (PET) matrix resin. This product offers good impact resistance and stiffness, at a relatively low cost. It is typically used in recreational and sporting goods applications because of its exceptional durability and high interlaminar short beam shear results.

#### **FEATURES**

- Good toughness
- Good chemical and solvent resistance
- Lightweight
- Excellent clarity and toughness
- Good overall strength





### **PRODUCT TYPE**

Engineered Polyethylene Terephthalate Composite

#### **TYPICAL APPLICATIONS**

- Industrial applications
- Recreational applications
- Sporting goods

#### SHELF LIFE

Indefinite at 25°C (77°F)

#### **TYPICAL NEAT RESIN PROPERTIES**

Density	1.3 g/cc		
Tensile Strength	79 MPa (11.5 ksi)		
Tensile Modulus	0.7 GPa (0.1 Msi)		
Elongation at Break	70%		
Strain at Yield	15%		
UL94 Flammability	HB		
Melt Temperature	215°C (419°F)		
Heat Deflection Temperature	70°C (158°F) at 0.46 MPa (66 psi)		



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#### **MECHANICAL PROPERTIES**

Properties	Condition	Method	Typical Results	
Tensile Strength 0°	RTD	ASTM D 3039	960 MPa	139 ksi
Tensile Modulus 0°	RTD	ASTM D 3039	32.0 GPa	4.6 Msi
Flexural Strength 0°	RTD	ASTM D 790	1215 MPa	176 ksi
Flexural Modulus 0°	RTD	ASTM D 790	32.2 GPa	4.7 Msi
Compressive Strength 0°	RTD	ASTM D 3410	329 MPa	48 ksi
Short Beam Shear ILSS	RTD	ASTM D 2344	41 MPa	6.0 ksi

Toray Cetex® TC940 Fiberglass Fiber PET Unitape

Resin content by weight at 40%. Composite density 1.89 g/cm<sup>3</sup>.

Tape width 166 mm (6.5"). Tape thickness 0.26 mm (0.010").

#### **MECHANICAL PROPERTIES**

Properties	Condition	Method	Typical Results	
Tensile Strength 0°	RTD	ASTM D 3039	1272 MPa	184 ksi
Tensile Modulus 0°	RTD	ASTM D 3039	94.2 GPa	13.7 Msi
Flexural Strength 0°	RTD	ASTM D 790	825 MPa	120 ksi
Flexural Modulus 0°	RTD	ASTM D 790	80.2 GPa	11.6 Msi
Compressive Strength 0°	RTD	ASTM D 3410	271 MPa	39 ksi
Short Beam Shear ILSS	RTD	ASTM D 2344	35.8 MPa	5.2 ksi

#### Toray Cetex® TC940 Carbon Fiber PET Unitape

Resin content by weight at 40%. Composite density 1.53 g/cm<sup>3</sup>. Tape width 166 mm (6.5").Tape thickness 0.25 mm (0.010"). Recommended processing temperature is 254–277°C (490–530°F)

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TORAY\_TC940\_PDS\_v4.1\_2022-04-04 Page 2/2

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