

# PRODUCT DATA SHEET



TENCATE ADVANCED COMPOSITES

## TenCate Cetex® TC951 (TL6000)

### PRODUCT TYPE

CFRT® (Continuous Fiber Reinforced Thermoplastic) composite with carbon fiber and modified Polymethylmethacrylate (acrylic) resin

### TYPICAL APPLICATIONS

Lower limb orthoses

- Knee bracing
- Ankle bracing

### SHELF LIFE

Stable indefinitely at 77°F (25°C)

Revised 08/2015

*TenCate Cetex® and CFRT® are registered trademarks of Royal TenCate. 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 TenCate Advanced Composites has no assurance of how its customers will use the material, the corporation cannot guarantee these properties.*

Page 1 of 1

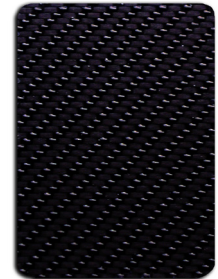
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### PRODUCT DESCRIPTION

TenCate Cetex® TC951 (TL6000) is continuous fiber reinforced thermoplastic (CFRT®) composite that blends the benefits of a thermoplastic acrylic polymer with woven carbon fibers for enhanced performance (multi-layer ultra-thin, lightweight and resilient). Within the product range 2 layer (MOD1, 2L), 3 layer (3L) or 4 layer (4L) products are available, all ultra-thin, lightweight and resilient. Material can be drilled, ground, and polished and adjusted after forming with a heated gun. TenCate Cetex® TC951 (TL6000) has a smooth high gloss finish and transparent surface to show woven carbon fiber.

### PRODUCT BENEFITS/FEATURES

- High strength and stiffness
- High mechanical properties of "Thin & Light" (TL) laminates
- Choice of 2, 3 or 4 multi-layers available.
- Core option available as MOD1 or with 4L
- All products have a 0.007" acrylic film on the outside providing abrasion resistance and a high gloss finish



### Composition:

Fibers..... Intermediate Modulus 12k carbon 3x1 twill weave

Resin ..... PMMA/acrylic impact modified proprietary thermoplastic resin

### Physical Attributes:

	Thickness
MOD1	0.115" nominal (2.92 mm)
2-layer	0.087" nominal (2.20 mm)
3-layer	0.118" nominal (3.00 mm)
4-layer	0.135" nominal (3.43 mm)
4-layer with 0.05" core	0.198" nominal (5.03 mm)

Color..... Natural (carbon)

Size..... Cut to customer specifications from sheet of 36 x 48 inches (910 x 1220 mm)

### TYPICAL LAMINATE PROPERTIES\*

Property	Condition	Method	MOD 1	2 Layer	3 Layer	4 Layer
Specific Gravity (g/cc)	RTD	ASTM D790-10	1.37	1.4	1.42	1.42
Flexural Rigidity (lbs/in <sup>2</sup> ) / (N/cm <sup>2</sup> )	RTD	ASTM D790-10	545/1600	125/365	490/1435	850/2490
Flexural Rigidity with 0.05" core (lbs/in <sup>2</sup> ) / (N/cm <sup>2</sup> )	RTD	ASTM D790-10	---	---	---	2835/8300
Flexural Modulus (Msi/GPa)	RTD	ASTM D790-10	4.2/29.0	2.5/17.2	4.1/28.6	4.1/28.3
Flexural Modulus with 0.05" core (Msi/GPa)	RTD	ASTM D790-10	---	---	---	4.2/29.0
Flexural Strength (ksi/MPa)	RTD	ASTM D790-10	48/329	55/376	49/335	66/454
Flexural Strength with 0.05" core (ksi/MPa)	RTD	ASTM D790-10	---	---	---	460/3175

\* All have 0.007" films on the panels except MOD1.

### Material must be maintained dry prior to heating/forming

Forming Temperature..... 390° to 420°F / 193°- 199°C

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