

# PRODUCT DATA SHEET



TENCATE ADVANCED COMPOSITES

## TenCate Cetex® TC950 BW1000-PEB

### PRODUCT TYPE

Carbon (12K) fiber content: 17%

Glass (330) fiber content: 17%

TPU/Pebax/Modified PMMA  
thermoplastic resin (66%)

(Noted: Percentages are by volume and are nominal values)

### TYPICAL APPLICATIONS

- Footwear
- Skates
- Recreational equipment

### SHELF LIFE

Stable indefinitely at 77°F (25°C)

Materials must be dried prior to heating and thermoforming.  
Please refer to the TCPC Processing Instructions.

### PRODUCT DESCRIPTION

TenCate Cetex® (BW1000-PEB) is a continuous fiber reinforced thermoplastic (CFRT®) composite laminate. It blends the benefits of a thermoplastic polymer alloy with woven carbon and glass fibers in a basket weave for enhanced shapes and performance. The BW1000-PEB style laminate is available in a single layer product; carbon in one direction and glass fibers at a 90° orientation to the carbon that is ultra thin, lightweight, and resilient for improved energy return.

ENVIR-Bond® (EB) is TCPC's material innovation to improve the ease of processing at the factory level and help reduce the amount of harmful solvents used in the footwear manufacturing process. EB "tie-layers" are added for injection over molding.

### PRODUCT BENEFITS/FEATURES

- Basket weave of 12K carbon fibers and glass (330) fibers
- Bi-directional reinforcement
- Lightest weight, thin single layer
- Available in various colors



### Composition:

Fibers..... Woven 12K carbon fibers and glass fibers - basket weave, reinforcement at 0° and 90° orientations.

Resin ..... TPU/Pebax/PMMA impact modified proprietary thermoplastic resin.

### Physical Attributes:

Thickness..... 0.043 inches (1.08 mm)

Color ..... Various

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

### TENCATE CETEX® TC950 (BW1000-PEB)

#### MATERIAL PROPERTIES; METHOD ASTM D790-10

Property	Results	
Specific Gravity	1.37 g/cc	
Flexural Rigidity	8.6 lbs-in <sup>2</sup>	25.2 N/cm <sup>2</sup>
Flexural Strength	25 Msi	167.9 MPa
Flexural Modulus	1.5 ksi	10.3 GPa

### TYPICAL CONSOLIDATION PARAMETERS OR PROCESSING INFO

Recommended Processing Temperatures.....Forming 195°C to 200°C (383°F - 392°F)

Bonding 55°C to 60°C (131°F - 140°F)

### TENCATE PERFORMANCE COMPOSITES

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## TenCate Cetex® TC950 BW1000-PEB

### BW1000 ENVIR-BOND®

#### ENVIR-BOND® PRODUCT IDENTIFICATION

Chemical Family:..... Aromatic thermoplastic polyurethane  
Chemical Name:..... Polyurethane elastomer  
Hazardous Components:..... This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200

#### ENVIR-BOND® PHYSICAL AND CHEMICAL PROPERTIES

Form ..... Solid  
Appearance ..... Plastic Film  
Color ..... Natural  
Odor ..... Odorless  
pH ..... Not Applicable  
Melting Point ..... 150 - 200°C (302 - 392°F)  
Boiling Point / Range ..... Not Applicable  
Flash Point ..... > 210°C (> 410°F)  
Lower Explosion Limit ..... Not Established  
Upper Explosion Limit ..... Not Established  
Vapor Pressure ..... Not Applicable  
Density ..... Not Applicable  
Specific Gravity ..... 1.1 - 1.3  
Solubility in Water ..... Insoluble  
Autoignition Temperature ..... Not Applicable  
Decomposition Temperature ..... Begins at 250°C (482°F)  
Hazardous Reactions ..... Hazardous polymerization does not occur  
Stability ..... Stable

#### MASSACHUSETTS, NEW JERSEY OR PENNSYLVANIA RIGHT TO KNOW SUBSTANCE LISTS:

Weight %	Components	CAS - No.
>=1%	Polyurethane polyester elastomer	CAS# is a trade secret
>=1%	Thermoplastic Polyurethane	-

Note: Remove protective film from surface prior to processing

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*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.*

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