# Toray CFRT® TWAG

## **TORAY**

### **Toray Performance Materials Corporation**

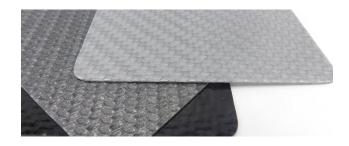
#### PRODUCT DATA SHEET

#### **DESCRIPTION**

Toray PMC CFRT® (TWAG) is a reinforced thermoplastic composite laminate. It blends the benefits of a thermoplastic polymer matrix with woven glass fibers in a twill weave for enhanced shapes and performance. The TWAG style laminate is available in a single-layer product. The TWAG laminate is ultra-thin, lightweight, and resilient for improved energy return.

#### **FEATURES**

- > Twill weave glass fibers
- > Bi-directional reinforcement
- › Lightest weight, thin, single layer
- Available in various colors



#### PRODUCT TYPE AND COMPOSITION

Glass fiber content: 60%

Modified PMMA thermoplastic resin: 40%

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

#### **TYPICAL APPLICATIONS**

- Footwear
- > Recreational equipment
- Skates

#### **SHELF LIFE**

Stable indefinitely at 25°C (77°F)

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

#### **MATERIAL PARAMETERS**

Specific Gravity	1.9 $\pm$ 0.15 (calculated based upon material volume)	
Thickness	0.95 mm (± 0.2 mm)	
Size	Cut to customer specifications from sheet of 91 x 122 cm (36 x 48 inches)	
Standard Colors	Silver, Charcoal, and Black	
Forming Temperature	195° to 200°C (383°F–392°F)	
Bonding Temperature	55°C to 60°C (131°F–140°F)	

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Cost (Rated on a scale of 100)

#### **MECHANICAL PROPERTIES**

Properties	Method	Results
Flexural Rigidity	ASTM D790-10	> 40 N-cm
Flexural Strength	ASTM D790-10	> 250 MPa
Flexural Modulus	ASTM D790-10	> 6000 MPa

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