DESCRIPTION
Toray PMC CFRT® (XTS 3L & 4L) are reinforced thermoplastic composite laminates. They blend the benefits of a thermoplastic polymer matrix with uni-directional glass fibers for enhanced performance. The XTS style laminate is offered in 3-layer (0°/90°/0° fiber orientations) and 4-layer (0°/90°/90°/0° fiber orientations) construction that is ultra-thin, lightweight, and resilient for improved energy return.

FEATURES
- Uni-directional glass (330) fibers
- Lightest weight, thin, multiple layers
- Available in black

PRODUCT TYPE AND COMPOSITION
Uni-directional glass fiber content:
42% (3 layer) and 42% (4 layer)
Resin: ABS polymer blend, polymer or resin: 58%
(Note: Percentages are by volume and are nominal values)

MATERIAL PARAMETERS
- Specific Gravity: 1.40 ± 0.15 (calculated based upon material volume)
- Thickness:
  - 3 layer: 0.95 mm (± 0.25 mm)
  - 4 layer: 1.25 mm (± 0.25 mm)
- Size: Cut to customer specifications from sheet of 91 x 122 cm (36 x 48 inches)
- Standard Color: Black
- Forming Temperature: 195° to 200°C (383°F–392°F)
- Bonding Temperature: 55°C to 60°C (131°F–140°F)

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.

MECHANICAL PROPERTIES

<table>
<thead>
<tr>
<th>Properties</th>
<th>Condition</th>
<th>Method</th>
<th>Results 3 Layer</th>
<th>Results 4 Layer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexural Rigidity</td>
<td>RTL</td>
<td>ASTM D790-10</td>
<td>&gt; 7.6 N·cm²</td>
<td>&gt; 13.4 N·cm²</td>
</tr>
<tr>
<td>Flexural Strength</td>
<td>RTL</td>
<td>ASTM D790-10</td>
<td>&gt; 615 MPa</td>
<td>&gt; 512 MPa</td>
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<tr>
<td>Flexural Modulus</td>
<td>RTL</td>
<td>ASTM D790-10</td>
<td>&gt; 18 GPa</td>
<td>&gt; 16 GPa</td>
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</tbody>
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