BEAUTY IS ON THE INSIDE
THE TORY A C E T X ® brand of differentiated reinforced thermoplastic laminates (RTL) and uni-directional (UD) tapes are used in a wide variety of aircraft interior applications, ranging from flooring and cabin seating, to stowage bins and galleys. Thermoplastic composites, reinforced with glass or carbon fibers provide:

- Extremely low FST and OSU properties (OSU < 25/25)
- High-quality surface finishes, substantially reducing the need for filing and sanding before application of decorative trims or sublimation printing
- Excellent moisture resistance leading to improved durability
- Very tough surfaces for improved impact and wear performance, enabling long-term durability
- Fast manufacturing cycles, providing press forming in minutes
- Part count reduction: Overmolding thermoplastics enables consolidation of parts and integration of mechanical fixtures
- Component coloring: An option to deliver “base color” for applications

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Toray Cetex® TC925 FST – Polycarbonate (PC) resins provide a cost-effective solution that combines strong FST and OSU results with excellent impact performance.

Toray Cetex® TC1000 – Polyetherimide (PEI) resins provide optimum FST and OSU performance, coupled with superior chemical resistance and ideal secondary operation compatibility (welding, jointing, and painting).

Toray Cetex® TC1100 – Polyphenylene Sulfide (PPS) provides outstanding solvent resistance for structural applications and ideal FST performance.

Toray Cetex® TC1225 – Polyaryletherketone (PAEK) resin, (part of PEEK family) offers outstanding structural and thermal performance and compatibility to PEEK for injection overmolding and welding.

Materials can be provided as prepreg rolls or consolidated laminates (RTL) with a format of 3.66 m x 1.22 m (12’ x 4’).

For more product information such as product data sheets, case studies, or technical papers, please use the following resources:

Search for the Toray TAC Product Selector
www.toraytac.com/interiors
Go to our online resource center for product data sheets and technical resources.

Tailored to your application needs, Toray Cetex® laminates are consolidated as a single or multi-ply construction to maximize functionality. The RTL semi-finished product incorporates tailored fiber lay-ups, color, and a surface finish ready for service.

“...it’s an important seat – because you’re in it.”

Donald Burr
AIRCRAFT INTERIORS
Product Applications

**STORAGE BINS** In an industry where weight and impact performance is paramount, Toray Cetex® is the ultimate solution. Exceptionally durable and lightweight for hardwearing bin surfaces and linings, we also offer an embedded color, eliminating secondary painting and finishing requirements.

**CABIN LININGS** Offering high impact resistance and exceptional durability, Toray Cetex® offers near perfect demold performance, maximizing efficiency for trim by minimizing post-processing (sand/sweep) operations.

**CARGO LININGS** With excellent FST performance and exceptional durability, Toray Cetex® thermoplastics offer near-perfect demold performance, maximizing efficiency for large surfaces by minimizing post-processing (sand/sweep) operations.

**SERVICE CARTS** Toray Cetex® thermoplastics are the ultimate solution in an industry where weight and impact performance are paramount. Exceptionally durable and lightweight for hard-wearing cart surfaces, graphics can also be sublimated into the surface, eliminating secondary painting and finishing requirements.

**DUCTING** For ultimate flow rate performance, Toray Cetex® thermoplastics offer the lowest porosity levels in the lightest materials available. Used in low-pressure systems across the world, our laminates are rolled and seam welded for maximum efficiency.

**CEILING LININGS** Lightweight and stiff, Toray Cetex® thermoplastics offer near-perfect demold performance, maximizing efficiency for large surfaces by minimizing post-processing (sand/sweep) operations.

**GALLEYS** High-volume and wear applications such as galleys and dividers demand resilient low-maintenance performance. With Toray Cetex® thermoplastics in-color and high moisture barrier technology, your workspace now has new possibilities.

**FLOORING** Manufactured in high volumes and prone to abuse, aircraft flooring demands exceptional resilience. Our hybrid system combines the best of lightweight thermoplastic and thermoset technology to deliver exceptional durability and longer service life, withstanding carpet changes without surface degradation.

**DURABLE COLORFAST**

**SMOOTH SURFACE IMPACT RESISTANT**

**LOW FST VALUE IMPACT RESISTANT**

**IMPACT RESISTANT COLOR DECORATION**

**LIGHTWEIGHT WELDABLE**

**LIGHTWEIGHT STIFF**

**LOW FST VALUE COLORFAST**

**THERMOFORMING**

**CHEMICAL RESISTANT**

**IMPACT RESISTANT**
**THERMOSET**

<table>
<thead>
<tr>
<th>RESIN MATRIX</th>
<th>PEAK Tg</th>
<th>PROCESSING TEMPERATURE</th>
<th>KEY PRODUCT CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>E721-FR</td>
<td>Epoxy</td>
<td>120°C (248°F)</td>
<td>60 minutes at 120°C (248°F)</td>
</tr>
<tr>
<td>TC264-1</td>
<td>Epoxy</td>
<td>124°C (255°F)</td>
<td>90 minutes at 118-123°C (245-260°F)</td>
</tr>
<tr>
<td>BT250E-1FR</td>
<td>Epoxy</td>
<td>125°C (257°F)</td>
<td>60 minutes at 121°C (250°F)</td>
</tr>
</tbody>
</table>

**THERMOSET**

<table>
<thead>
<tr>
<th>RESIN MATRIX</th>
<th>PEAK Tg</th>
<th>PROCESSING TEMPERATURE</th>
<th>KEY PRODUCT CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>E721-FR</td>
<td>Epoxy</td>
<td>120°C (248°F)</td>
<td>Fire retardant under FAR 25.853 Appendix F</td>
</tr>
<tr>
<td>TC264-1</td>
<td>Epoxy</td>
<td>124°C (255°F)</td>
<td>Flame retardancy applications e.g., ducting, decorative enclosures, and composite panel assemblies</td>
</tr>
<tr>
<td>BT250E-1FR</td>
<td>Epoxy</td>
<td>125°C (257°F)</td>
<td>Self-adhesive to honeycomb and foam core</td>
</tr>
</tbody>
</table>

**TORAY CETEX® THERMOPLASTIC**

<table>
<thead>
<tr>
<th>RESIN MATRIX</th>
<th>PEAK Tg</th>
<th>PROCESSING TEMPERATURE</th>
<th>KEY PRODUCT CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC925 FST</td>
<td>PC</td>
<td>153°C (307°F)</td>
<td>260°C (500°F)</td>
</tr>
<tr>
<td>TC1000 Premium</td>
<td>PEI</td>
<td>215°C (419°F)</td>
<td>315°C (600°F)</td>
</tr>
<tr>
<td>TC1000 Design</td>
<td>PEI</td>
<td>215°C (419°F)</td>
<td>315°C (600°F)</td>
</tr>
<tr>
<td>TC1100 PPS</td>
<td>90°C (194°F)</td>
<td>280°C (536°F)</td>
<td></td>
</tr>
<tr>
<td>TC1225 PAEK</td>
<td>147°C (297°F)</td>
<td>305°C (581°F)</td>
<td></td>
</tr>
</tbody>
</table>

**TORAY MICROPLY™ FILM ADHESIVES**

<table>
<thead>
<tr>
<th>RESIN MATRIX</th>
<th>PEAK Tg</th>
<th>PROCESSING TEMPERATURE</th>
<th>KEY PRODUCT CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC283</td>
<td>Epoxy</td>
<td>110°C (230°F)</td>
<td>2 hours at 120°C (250°F)</td>
</tr>
</tbody>
</table>

**NOMEX® HONEYCOMB® AEROSPACE GRADE**

<table>
<thead>
<tr>
<th>CONFIGURATIONS</th>
<th>CELL SIZE &amp; DENSITY</th>
<th>SHEET SIZE</th>
<th>KEY PRODUCT CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANA-3.2-29</td>
<td>3.2 mm 29 kg/m³</td>
<td>1250 x 2500 mm</td>
<td>Fire resistant and self-extinguishing to FAR 25.853</td>
</tr>
<tr>
<td>ANA-3.2-48</td>
<td>3.2 mm 48 kg/m³</td>
<td>1250 x 2500 mm</td>
<td>High-temperature strength up to 180°C (356°F)</td>
</tr>
<tr>
<td>ANA-3.2-64</td>
<td>3.2 mm 64 kg/m³</td>
<td>1220 x 2440 mm</td>
<td>High strength-to-weight ratio and easily formable to shape</td>
</tr>
<tr>
<td>ANA-4.8-48(DX)</td>
<td>4.8 mm 48 kg/m³</td>
<td>1250 x 2500 mm</td>
<td>Nomex® paper sheets are coated and bonded together with a high-modulus phenolic resin</td>
</tr>
</tbody>
</table>

**HYBRID PANEL SOLUTION**

Toray Cetex® TC1000 can also be supplied as part of a hybrid panel solution (patent pending), benefiting from the surface properties of the Reinforced Thermoplastic Laminate (RTL) capping a traditional Toray thermoset epoxy prepreg/Nomex® honeycomb core structure.

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[Go to our online resource center for case studies and technical papers](www.toraytac.com/interiors)
LOCATIONS AND CAPABILITIES

SOLUTIONS
- Thermoplastic composites
- Thermoplactic laminates
- Thermoset composites
- Carbon-free manufacturing
- Parts manufacture
- Sales office

CERTIFICATIONS
- ISO 9001:2015
- AS9100D

For more product information such as product data sheets, case studies, or technical papers, please use the following resources:

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