TenCate E721-FR
Mid temperature, fire retardant modified epoxy component prepreg

PRODUCT TYPE
120°C (248°F) cure
Mid temperature, fire retardant modified epoxy resin system

TYPICAL APPLICATIONS
• Motor racing
• Marine industries
• Wide range of engineering applications

SHELF LIFE
Out life
60 days at @ 20°C (68°F)

Storage life
12 months @ -18°C (0°F)

T300 TYPE CARBON 0/90 °C WOVEN LAMINATES

<table>
<thead>
<tr>
<th>Property</th>
<th>Condition</th>
<th>Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexural Strength</td>
<td>RTD</td>
<td>CRAG 200</td>
<td>1041 MPa</td>
</tr>
<tr>
<td>Flexural Modulus</td>
<td>RTD</td>
<td>CRAG 200</td>
<td>60 GPa</td>
</tr>
<tr>
<td>ILSS</td>
<td>RTD</td>
<td>CRAG 100</td>
<td>56 MPa</td>
</tr>
</tbody>
</table>

* Results normalized to 55% Vf.

To avoid moisture condensation:
Following removal from refrigerated storage, allow the prepreg to reach room temperature before opening the polythene bag, to avoid moisture condensation. Typically this thaw time for a full roll of material will be 4 to 6 hours.

TYPICAL ADHESIVE PROPERTIES
Climbing drum peel strength at 20°C (68°F) according to DTD 5577 using 2 plies of 200g/m² T300 carbon 2x2 twill 46% resin content E721-FR on aluminium honeycomb 5.2-¼-25-3003.
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![Viscosity profiles](chart1)

**Ramp rate vs viscosity plot**

![Ramp rate vs viscosity plot](chart2)

**2.0°C/min ramp**

![2.0°C/min ramp](chart3)
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![Graph showing cure schedule](image)

**CURING CYCLES**
- Cure for 60 minutes at 120°C (248°F). It is recommended that heat up rates of 2 to 5°C/min (3.6 to 9°F/min), are employed.
- Allow to cool to 60°C (140°F) prior to releasing vacuum and removal from mould.

**CURE PROPERTIES: VISCOSITY PROFILE (30°C TO 130°C OR 86°F TO 266°F)**

<table>
<thead>
<tr>
<th>Ramp rate [°C (°F) /min]</th>
<th>Min viscosity (Pa.s)</th>
<th>Temp @ min viscosity °C (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5 (1)</td>
<td>2.84</td>
<td>92 (198)</td>
</tr>
<tr>
<td>1 (1.8)</td>
<td>1.73</td>
<td>100 (212)</td>
</tr>
<tr>
<td>2 (3.6)</td>
<td>1.1</td>
<td>109 (228)</td>
</tr>
<tr>
<td>5 (9.0)</td>
<td>0.97</td>
<td>116 (241)</td>
</tr>
</tbody>
</table>

**PROCESSING**
TenCate E721-FR can be successfully moulded by vacuum bag, autoclave, or matched die moulding techniques. In autoclave moulding, pressures up to 6.2 Bar (90 PSI) may be applied.

**EXOTHERM**
In certain circumstances, such as the production of thick section laminates, rapid heat up rates or highly insulating masters, TenCate E721-FR can undergo exothermic heating leading to rapid temperature rise and component degradation in extreme cases.

Where this is likely, a cure incorporating an intermediate dwell is recommended in order to minimise the risk.