**DESCRIPTION**
Toray MicroPly™ SC72A is a 120°C (248°F) curing low-density unsupported epoxy syntactic core. Toray MicroPly™ SC72A offers reduced processing, a one-shot cure, the ability to anchor inserts or fastenings, and increases the opportunity to consider lightweight, thin-walled composite sandwich structures.

Considerable cost reductions can be realized when SC72A replaces prepreg as the core material, and where sandwich cores below 3 mm are difficult to achieve in honeycomb core, Toray MicroPly™ is a superior alternative.

Toray MicroPly™ SC72A is available in a variety of thicknesses down to 1 mm and is easily contoured and shaped. SC72A is supplied on a roll (15 m x 400 mm) or in sheets (625 mm x 400 mm). Toray MicroPly™ SC72A is compatible for co-cure with Toray E720 and E722 mid temperature curing prepregs.

**FEATURES**
- Low cost
- Easily contoured and shaped
- Available in a variety of thicknesses
- Reduced processing
- Allows for the opportunity to achieve lightweight, thin walled composite sandwich structures
- One-shot cure
- Ability to anchor inserts or fastenings
- Long out life at ambient temperature

**PRODUCT TYPE**
- 120°C (248°F) Cure
- Syntactic Epoxy Resin Film

**TYPICAL APPLICATIONS**
- Core material in sandwich structures

**SHELF LIFE**
| Out Life | 1 month at 20°C (68°F) |
| Storage Life | 12 months at -18°C (< 0°F) when stored in sealed polythene bags |

Out life is the maximum time allowed at room temperature before cure.

**TYPICAL UNCURED PROPERTIES**
| Thickness | 1 mm and 2 mm ± 10% as standard, other thicknesses available on request |
| Color | Charcoal gray |
| Tack | Medium |
| Flexibility | Pliable at room temperature |
| Surface weight | 570 g/m² nom. for 1 mm thickness, 1140 g/m² nom. for 2 mm thickness |
| Volatiles | 1% by wt. max. |
| Gel time | 12 minutes |
| Curing temperature | 120°C (248°F) |

**TYPICAL CURED PROPERTIES**
| Density | 0.57 g/cm³ ± 10% depending upon curing conditions |
| $T_g$ after 1 hr at 120°C (DMTA) | Onset: 106°C (222°F), Peak tan δ: 116°C (240°F) |
MATRIX PROPERTIES

<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>50 MPa  7.3 ksi</td>
</tr>
<tr>
<td>Flexural Modulus</td>
<td>RTD</td>
<td>CRAG 200</td>
<td>2.6 GPa  0.6 Msi</td>
</tr>
</tbody>
</table>

These properties were achieved with a 1 hour at 120°C (248°F) cure of a 2 mm thick sample of SC72A.

INITIAL MINIMUM CURE SCHEDULE

- Increase air temperature at 2.5°C (4.5°F)/min to 120°C (248°F) and hold for 1 hour
- Allow to cool to 60°C (140°F) prior to releasing vacuum and removal from mold

TYPICAL SANDWICH PROPERTIES

- Skins Only
- Skins: 200gsm Carbon 2/2/E722
- Core: SC72A 1 - 3mm
- Cure: Vac-Bag/1 bar
- Ramp: 2.5°C/min
- 1 hour @ 120°C

Test:
- 3 point bend flexural
- Span: 50mm
- Sample: 60 x 10 x t(mm)
APPLICATION
Remove from cold storage and allow to reach room temperature before removing from polythene bag. Trim to required shape, and remove release paper from one side. Place in position and remove remaining release paper.

Caution: SC72A syntactic core contains a reactive resin system and care must be taken to avoid exothermic heating during the cure.

HANDLING SAFETY
This product may cause skin irritation. Avoid skin contact. If contact occurs, wash with soap and water at first opportunity.

For further information, refer to the Safety Data Sheet.