DESCRIPTION
Toray MicroPly™ SC8020A is a low-density unsupported epoxy syntactic core. The material has been developed to offer a long out life and flexible cure schedules at 70°C to 130°C (158°F–266°F). Toray MicroPly™ SC8020A 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 SC8020A 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™ SC8020A is available in a variety of thicknesses down to 1 mm, is easily contoured and shaped. SC8020A is supplied on a roll (15 m x 400 mm) or in sheets (625 mm x 400 mm). Toray MicroPly™ SC8020A is compatible for co-cure with Toray’s E720, E722, and 8020 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

PRODUCT TYPE
- 70°C to 130°C (158°F to 266°F) Cure
- Low Temperature Curing Syntactic Core

TYPICAL APPLICATIONS
- Honeycomb edge filling and splicing
- Honeycomb core stabilization
- Use as a filling core in closed mold operations

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

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

TYPICAL UNCURED PROPERTIES
- Thickness: 1, 1.5, and 2 mm ± 10% as standard
- Colour: Charcoal gray
- Tack: Medium
- Flexibility: Pliable at room temperature
- Surface weight: 600 g/m² nom. for 1 mm thickness, 1200 g/m² nom. for 2 mm thickness

TYPICAL CURED PROPERTIES
- Density: 0.60 g/cm³ ± 10% depending upon curing conditions
- T_g: Onset: 106°C (222°F) by DMTA, Peak tan δ: 116°C (240°F) by DMTA
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>56 MPa</td>
</tr>
<tr>
<td>Flexural Modulus</td>
<td>RTD</td>
<td>CRAG 200</td>
<td>2.8 GPa</td>
</tr>
</tbody>
</table>

TYPICAL CURE PROPERTIES

80°C (176°F) cure temperature
1.0°C (1.8°F)/minute ramp to 80°C (176°F)
5 ½ hours dwell at 80°C (176°F)

INITIAL MINIMUM 80°C CURE SCHEDULE

120°C (248°F) cure temperature
1.0°C (1.8°F)/minute ramp to 80°C (176°F)
30 minute dwell at 80°C (176°F)
2.0°C (3.6°F)/minute ramp to 120°C (176°F)
30 minute dwell at 120°C (176°F)
INITIAL MINIMUM 120°C CURE SCHEDULE

Heat up rate 2.0°C / min (3.6°F / min)
Dwell 1 hour at 120°C (248°F)

TYPICAL SANDWICH PROPERTIES

Construction
Skins 200 gsm Carbon 2/2/8020
Core SC8020A 1 - 3 mm
Cure Vac-Bag/1 bar
Ramp 2.5°C/min
5.5 hours at 80°C

Test
3 point bend flexural
Span: 50 mm
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: SC8020A syntactic core contains a reactive resin system and care must be taken to avoid exothermic heating during the initial 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.