

PRODUCT DATA SHEET

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 1 mm and 2 mm thickness, and 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 mm and 2 mm ± 10% as standard
Colour	Charcoal gray
Tack	Medium
Flexibility	Pliable at room temperature
Surface weight	600 g/m ² nom. for 1 mm thickness 1200 g/m ² nom. for 2 mm thickness

TYPICAL CURED PROPERTIES

Density	0.60 g/cm ³ ± 10% depending upon curing conditions
T _g	Onset: 106°C (222°F) by DMTA Peak tan δ: 116°C (240°F) by DMTA



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MicroPly™

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MATRIX PROPERTIES

Property	Condition	Method	Results	
Flexural Strength	RTD	CRAG 200	56 MPa	8.1 ksi
Flexural Modulus	RTD	CRAG 200	2.8 GPa	0.4 Msi

TYPICAL CURE PROPERTIES

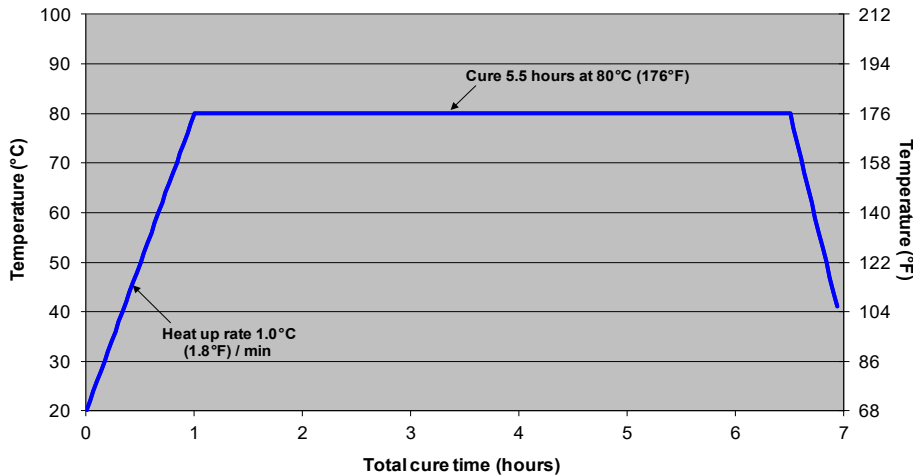
80°C (176°F) cure temperature

Total time: 6 ½ hours

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° CURE SCHEDULE



120°C (248°F) cure temperature

Total time: 2 hr 20 min

1.0°C (1.8°F)/minute ramp to 80°C (176°F)

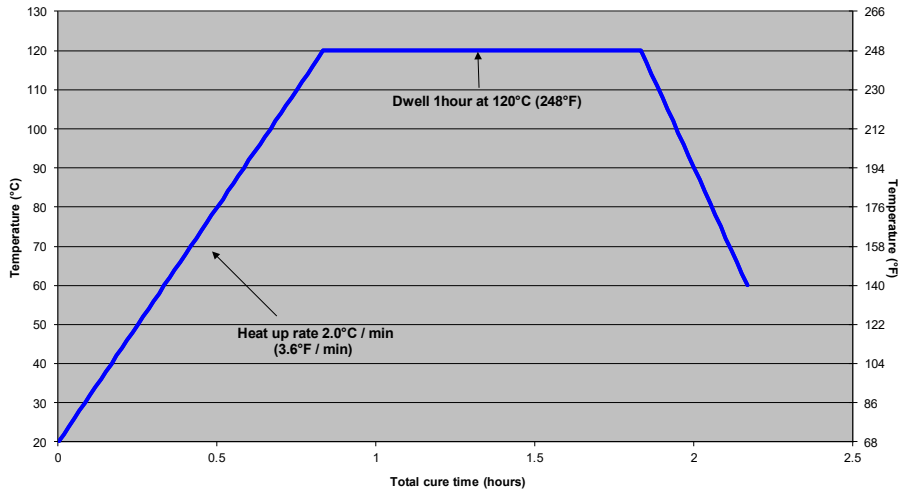
30 minute dwell at 80°C (176°F)

2.0°C (3.6°F)/minute ramp to 120°C (248°F)

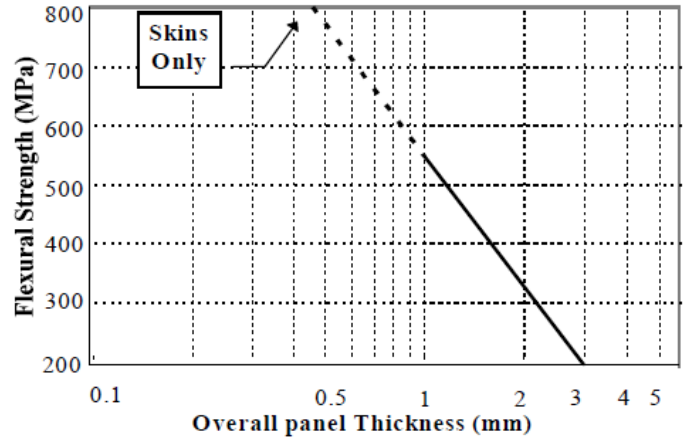
30 minute dwell at 120°C (248°F)

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INITIAL MINIMUM 120°C CURE SCHEDULE



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)

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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.