Toray MicroPly™ SC72A



Toray Advanced Composites

PRODUCT DATA SHEET

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/cm ³ ± 10% depending upon curing conditions
T _g	Onset: 106°C (222°F)
after 1 hr at 120°C (DMTA)	Peak tan δ: 116°C (240°F)



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Toray MicroPly™ SC72A

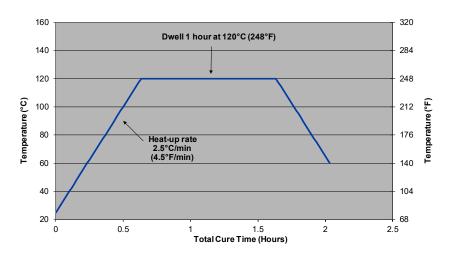


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MATRIX PROPERTIES

Property	Condition	Method	Results			
Flexural Strength	RTD	CRAG 200	50 MPa	7.3 ksi		
Flexural Modulus	RTD	CRAG 200	2.6 GPa	0.6 Msi		
These properties were achieved with a 1 hour at 120°C (248°F) cure of a 2 mm thick sample of SC72A						

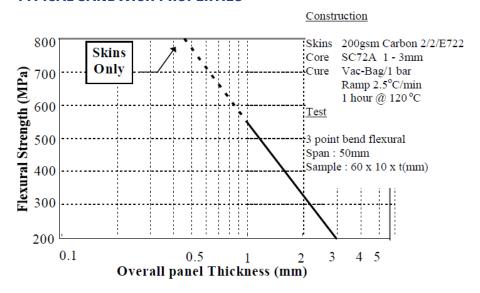
INITIAL MINIMUM CURE SCHEDULE



CURING CYCLE

- ► 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





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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: 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.

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