

## PRODUCT DATA SHEET

### DESCRIPTION

Toray MicroPly™ TC248SF is a toughened epoxy surface film designed to provide molded components with smooth, pin-free, sandable surfaces that require minimal preparation for painting. TC248SF is typically cured between 120°C - 135°C (248°F - 275°F), although alternative cure schedules are possible.

### FEATURES

- ▶ Smooth, pin-free, sandable surface with minimum preparation for painting
- ▶ Excellent surface finish from autoclave processing
- ▶ Variable cure schedule—1hour at 120°C-135°C (248°F-275°F)
- ▶ Good tack and drape
- ▶ Toughened system
- ▶ Compatible with a range of Toray prepregs

### PRODUCT TYPE

120°C-135°C (248°F-275°F) Flexible Cure System

Toughened Epoxy Surfacing Film

### TYPICAL APPLICATIONS

- ▶ Composite surfacing
- ▶ Autoclave cure
- ▶ Solid laminate structure

### SHELF LIFE

**Out Life:** 30 days at 20°C (68°F)

**Frozen Storage Life:** 12 months at -18°C (0°F)

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

### PRODUCT DETAILS

Film Width	1.25m (50")
Weight (gsm/psf)	175gsm/0.036 psf
Carrier	Non-Woven Polyester
Roll Quantity	50 sqm/538 sf



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**MicroPly™**

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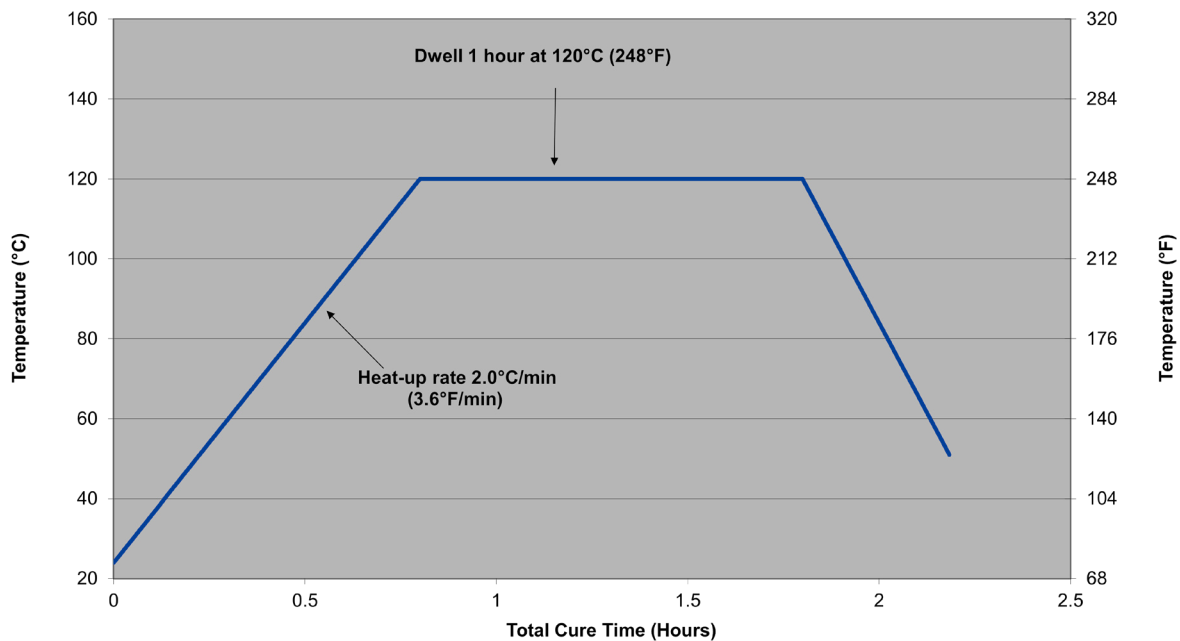
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### TYPICAL CURE PROFILE

120°C (248°F) Cure Temperatures		
Ramp	2.0°C (3.6°F)/min to 120°C (248°F)	Dwell for 1 hour
Cool	3.0°C (5.4°F)/min to below 60°C (140°F)	Followed by demold
<b>Total time: 2 hours 10 minutes</b>		

### CURE SCHEDULE

Initial Minimum 120°C (248°F) Cure Schedule



### PROCESSING

#### To avoid moisture condensation

Following removal from cold storage, allow surface film to reach room temperature before opening the polythene bag. Typically, the thaw time for a full roll of material will be 4 to 6 hours.

Cut film and prepreg to size. If needed the film can be butt joined or overlapped (recommended 10mm) but the number of overlaps should be minimized where possible.

After preparing the mold tool with release agent, lay-up the surface film into the mold with the resin side against the tool surface, i.e. the scrim-side will be in contact with the following layer of prepreg.

For complex shapes, applying a vacuum debulk after lay-up of the surface film will help to ensure good contact with the tool surface and optimise air removal. Use a P3 (pin pricked) release film and apply a vacuum of 948 mbar (28" Hg) for 10 minutes.

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Lay up the remainder of the laminate in line with design instructions, taking care not to distort the prepreg. If necessary, the tack of the prepreg may be increased by gentle warming with hot air. For complex shapes, the lay-up should be vacuum debulked at regular intervals as described above.

For the final cure cycle, use of a non-perforated release film on the prepreg surface trimmed to within 25-30mm of prepreg edge is recommended for the cure cycle, a vacuum bag should be installed using standard techniques.

### Exotherm

In certain circumstances, e.g the production of thick section laminates, rapid heating rates or highly insulating masters, Toray prepregs can undergo exothermic heating. A rapid temperature rise can lead to component degradation in extreme cases. Where this is considered likely, a cure incorporating an intermediate dwell is recommended to mitigate the risk. Note that the risk of thermal runaway increases with lay-up thickness and cure temperature.

## HANDLING SAFETY

Observe established precautions for handling epoxy resins and fibrous materials. Ensure adequate ventilation, wear gloves, eye-protection and protective clothing.

For further information, refer to the Safety Data Sheet.