

## PRODUCT DATA SHEET

### DESCRIPTION

Toray MicroPly™ TCF4050 core splice adhesive is a cyanate ester-based core splice with flatwise tensile strength up to 260°C (500°F). This product has been developed to be compatible with the high temperature Toray TC420 and Toray EX-1505 prepreg resin systems.

### FEATURES

- ▶ **Compatible with TC420 prepregs**
- ▶ **Excellent high temperature properties**
- ▶ **Post curable for higher T<sub>g</sub>**

### PRODUCT TYPE

177°C (350°F) Cure, Cyanate Ester Core Splice Adhesive

### TYPICAL APPLICATIONS

- ▶ High temperature potting
- ▶ Ablatives

### SHELF LIFE

<b>Out Life:</b>	7 days out life ≤ 21°C (70°F) and ≤ 60% RH
<b>Frozen Storage Life:</b>	6 months at ≤ -18°C (≤ 0°F)

Out life is the maximum time allowed at 21°C (70°F) or below and 60% or less RH before cure, after a single frozen storage cycle in the original unopened packaging at -18°C (0°F) or below for a period not exceeding the frozen storage life noted above.

### TYPICAL NEAT RESIN PROPERTIES

Density	1.11 g/cc (69 pcf)
Cure Temperature	177°C (350°F). 232°C (450°F) post cure.
Expansion	2–4 times



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**MicroPly™**

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### MECHANICAL PROPERTIES

Property	Condition	Method	Results	
Flatwise Tensile Strength - Cure 1	RTD	ASTM C 297	8.3 MPa	1.21 ksi
Flatwise Tensile Strength - Cure 2	RTD	ASTM C 297	8.3 MPa	1.21 Msi
Flatwise Tensile Strength - Cure 3	ETD <sub>1</sub>	ASTM C 297	4.6 MPa	0.67 ksi
Flatwise Tensile Strength - Cure 4	ETD <sub>2</sub>	ASTM C 297	4.5 MPa	0.65 ksi

ETD<sub>1</sub> = 232°C (450°F)  
 ETD<sub>2</sub> = 260°C (500°F)

Cure 1. 177°C (350°F)  
 Cure 2. After 60 min 232°C (450°F) post cure  
 Cure 3. With 232°C (450°F) post cure  
 Cure 4. With 260°C (500°F) post cure

### TYPICAL CURE PARAMETERS

- ▶ 2°C/min (3°F/min) to 82°C (180°F), hold for 90 minutes.
- ▶ 2°C/min (3°F/min) to 177°C (350°F), hold for 2 hours.
- ▶ For optional post cure, continue heating at 2°C/min (3°F/min) for 60 minutes at 232°C (450°F).