

DESCRIPTION

TenCate 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 TenCate's high temperature TC420 and EX-1505 prepreg resin systems.

FEATURES

- › **Compatible with TC420 prepregs**
- › **Excellent high temperature properties**
- › **Post curable for higher T_g**

PRODUCT TYPE

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

TYPICAL APPLICATIONS

- › High temperature potting
- › Ablatives

SHELF LIFE

Out Life: Up to 7 days at ambient

Frozen Storage Life: 6 months at -18°C (<0°F)

Out life is the maximum time allowed at ambient temperature before cure.* Ambient is 18–22°C (65–72°F)

* Out life tested by handling and cure evaluation. Users may need to separately evaluate out life limits on thicker, more complex parts.

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



More information:

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NEAT RESIN MECHANICAL PROPERTIES

Properties	Condition	Method	Results	
Flatwise Tensile Strength - Cure 1	RTD	ASTM C297	8.3 MPa	1.21 ksi
Flatwise Tensile Strength - Cure 2	RTD	ASTM C297	8.3 MPa	1.21 Msi
Flatwise Tensile Strength - Cure 3	ETD ₁	ASTM C297	4.6 MPa	0.67 ksi
Flatwise Tensile Strength - Cure 4	ETD ₂	ASTM C297	4.5 MPa	0.65 ksi

ETD₁ = 232°C (450°F)

ETD₂ = 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.
- › Optional post cure continue heating at 2°C/min (3°F/min) for 60 minutes at 232°C (450°F).